



TECHNICAL SUPPORT DOCUMENT

MIDWEST SUBREGIONAL MODELING:

EMISSIONS INVENTORY

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Section 1 Introduction

A new emissions inventory was prepared to support the latest round of subregional modeling. The purpose of the modeling is to provide an updated 1-hour attainment demonstration for the severe ozone nonattainment area in southeast Wisconsin, northeast Illinois, and northwest Indiana. This document provides a summary of the new inventory.

The inventory includes gridded, hourly estimates of speciated volatile organic compounds (VOC), oxides of nitrogen (NO_x), and carbon monoxide (CO) for the modeling episodes for the entire modeling domain. The four modeling episodes are:

June 22 - 28, 1991
July 14 - 21, 1991
June 13 - 25, 1995
July 7 - 18, 1995

A map of the modeling domain (Grid M) is shown in Figure 1. Grid resolution consisted of both 4 and 12 km throughout the modeling domain. The emissions data were processed with the EMS-95 emissions model to generate the photochemical model-ready emissions input files (LADCO, 1999).

The new inventory (Base12) builds on other inventories (Base10 and Base11v2), which were developed for previous subregional modeling. Base10 was developed in December 1998 to support a modeling study to assess the effect of USEPA's NO_x SIP call (LADCO, 1999a). The inventory was based primarily on the following data files provided by USEPA in mid-December 1998:

egu07.tar.gz	2007 point source EGU
negu95.tar.gz	1995 base non-EGU
egu96.tar.gz	1996 base EGU
bude.tar.gz	2007 budget EGU
area95.tar.gz	1995 base area
areagrow.tar.gz	growth and control for 2007 area
new07.tar.gz	2007 mobile VMT and MOBILE5a inputs
new95.tar.gz	1995 mobile VMT and MOBILE5a inputs
negucntl.tar.gz	non-EGU budget controls
negu07.tar.gz	non-EGU 2007 growth and controls

These files provide the basic information needed to derive emissions for a 1995 base year inventory, a 2007 Clean Air Act inventory, and a 2007 SIP call inventory. A few revisions to these data were provided by the Lake Michigan States, such as modified area source data for Illinois. Day-specific temperatures from the RAMS3a meteorological modeling were used in the calculation of motor vehicle and biogenic

emissions. Biogenic emissions were based on USEPA's BEIS2 model. Base11v2¹ was developed in September - October 1999 to support the initial modeling (Round 1) for the 1-hour attainment demonstration (LADCO, 1999b). The following updates were made to this inventory:

Point Sources	1996 state periodic emissions inventories and 2007 emissions inventories for IL, IN, WI 1996 state periodic emissions inventory for MO
Area Sources	1996 state periodic emissions inventories and 2007 emissions inventories for IL, IN, WI Area source temporal profiles ²
Motor Vehicles	1996 and 2007 transportation network data (e.g., VMT, speed, and vehicle mix) for IL, IN, MI, MO, WI Motor vehicle temporal profiles

The new inventory (Base12) was developed in December 1999 to support the final modeling (Round 2) for the 1-hour attainment demonstration (LADCO, 1999c). The following updates were made to this inventory:

Point Sources	1996 base year data for IL, MI, WI 1996 base year data for IA, KY, MO, TN Growth and control information for IL, IN, MI, WI
Area Sources	1996 base year data for IL, IN, WI Revisions to the 1996 base year "other area source" emissions for KY ³ Growth data for IL, IN, WI Control information for IL, IN, WI

¹ The first version of Base11 was completed in September 1999. The second version (Base11v2) was prepared to correct a few problems with the first inventory (e.g., stack height errors in Illinois and Wisconsin, problems with the 'stackfix' program, no Illinois controls in SR3, and emission rate errors at several non-utilities in Illinois and Michigan).

² Based on Gwen Judson's review of the existing area source temporal profiles, revisions were made for railroads, construction equipment, and farm equipment. Day-of-week VMT factors were supplied by each MPO/DOT. Hour-of-day VMT factors were developed based on traffic count data supplied by Wisconsin.

³ As noted by Kentucky in their comments to USEPA on the NOx SIP Call inventory, the small stationary combustion area source emissions are "grossly overestimated". To correct this problem, LADCO recalculated the emissions for this source category using a population-based emission factor consistent with other states. The revised area source emissions for Kentucky were reduced from 232 to 75 TPD.

Alternative nonroad control factors for all states, except IL
Alternative temporal profile for motorboats

Motor Vehicles	Corrections to the VMT data for IL, IN, MI, WI Corrections in the seasonal adjustment factors for IL and MI Vehicle mix profile for IL HDDV NOx adjustment Use of higher trip lengths in MOBILE5b (i.e., 6.1 v. 5 miles) Use of 1996 emission factors in MOBILE5b
Biogenics	Isoprene emissions in the Ozarks reduced by factor of 2

The basis for the elements in the new inventory (Base12) is summarized in Table 1. The 1996 base, 2007 base, and Round 2 strategy/sensitivity Base12 inventories are addressed in more detail in the following sections.

Section 2 1996 Base Emissions

The base year inventory is used to both support base year (performance evaluation) modeling and future year (control strategy) modeling. The base year modeling needs emissions representative of the modeling episode dates to produce concentration estimates which can be compared to the actual observed concentrations⁴. The strategy modeling needs a base inventory which can be grown to the future year of interest and controlled to reflect particular control strategies. For the purposes of this study, the assumed base year is 1996. The 1996 base year data are summarized in the attached tables and figures:

- | | |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Table 2 | (a) Weekday/Saturday/Sunday point source emissions (1996 base year)
(b) Weekday/Saturday/Sunday area source emissions (1996 base year)
(c) Weekday/Saturday/Sunday motor vehicle emissions (1996 base year) ⁵ |
| Figure 2 | Pie chart of VOC and NOx emissions for Grid M and Lake Michigan severe nonattainment area |
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(a) Point sources
(b) Area sources
(c) Mobile sources
(d) Biogenic sources |

Point and Area Sources: Emissions rates for point and area sources were either provided by USEPA or the States, as indicated in Table 1.

Mobile Sources: Emissions rates for on-road mobile sources were calculated by EMS-95 based on the activity level (i.e., vehicle miles traveled [VMT]) and the MOBILE5b emission factor model. The source of the VMT data is summarized in Table 1. The

⁴ For the two 1991 episodes, the 1996 base emissions had to be "backcast" to reflect 1991 conditions. The backcast factors were developed by comparing the 1991 LMOP inventory and the 1996 base inventory. The factors were; elevated NOx x 1.3; low-level NOx x 0.7; and low-level VOC x 1.6. For the two 1995 episodes, the 1996 base emissions were used as is.

⁵ Point and area source emissions were developed for a typical summer weekday, Saturday, and Sunday. Day-specific motor vehicle and biogenic emissions were developed based on the meteorological conditions for the specific modeling days.

inputs for the MOBILE5b model include vehicle speed and vehicle mix data. The speeds in Base12 (and Base11v2) are generally greater than those in the previous version of the inventory (Base10). According to the MOBILE5b emission factor-speed curves, greater speeds result in less ROG and more NOx emissions, especially above 55 mph. Thus, there are more NOx emissions in the new inventory due to the new, faster speeds. The vehicle mix distribution for the new inventory reflects a lower percentage of LDGV, and a higher percentage of LDGT1 and LDGT2. This change is consistent with the increase in new vehicle sales of SUV's and small trucks.

One other change in Base12 is to include the excess NOx emissions produced by heavy-duty diesel vehicles (HDDV) as the result of built-in "defeat" devices. These excess emissions were estimated by applying a processor supplied by USEPA which calculates adjustment factors to the HDDV portion of the VMT (USEPA, 1999). The calculation is a two-part process. First, adjustment factors are established by link for the heavy duty vehicles. The factors are matched to the individual links based on the FHWA area(urban/rural) and facility types by speed. Second, after each link is assigned a road/speed specific adjustment factor, then emissions are calculated normally within EMS-95. The calculation is simply multiplication of the link specific adjustment factor and the emissions factor from MOBILE5b for HDDV times the hourly HDDV VMT. This processing is done with a modified version of the 'master.sas' processor called 'master.hddv.sas'. The approximate increase on the Grid M NOx base year inventory is 250 TPD.

Biogenic Sources: Day-specific biogenic emissions were calculated using USEPA's BEIS2 model. Biogenic isoprene emissions in Base12 were cut in half in the Ozarks based on preliminary analysis of the OZIE field data. Comparisons of emissions estimates and measured concentrations, and comparisons of modeled and measured concentrations indicate that the BEIS2 isoprene emissions in the Ozarks are overestimated by about a factor of 2 (LADCO, 1999e).

Modeling Adjustments: Spatial, temporal, and chemical species processing by EMS-95 is necessary to provide the model-ready emissions files needed by the photochemical model.

County-level point source emissions are spatially distributed based on stack (or facility) coordinates, and county-level area source emissions based on surrogates, such as population or land use. Mobile and biogenic source emissions are calculated by EMS-95 for each grid cell and, thus, are already spatially distributed.

Daily average point source emissions are temporally allocated to individual hours using the reported operating schedule information, and daily average area source emissions by means of representative hourly profiles. Mobile and biogenic source emissions are calculated by EMS-95 for each hour and, thus, are already temporally allocated.

An important change in the assumed hourly profiles for Base12 was made for recreational marine vessels (motorboats). The previous motorboat temporal profile assumed that weekend activity was five times greater than weekday activity. After further review, however, it was unclear whether the state emissions data for this source category was for a summer weekday or an average summer day. If the emissions are average summer day, then the "factor of 5" would incorrectly inflate the weekend emissions. In addition, although there is greater activity on weekends compared weekdays, there is some question about the validity of the "factor of 5" difference, which is based on limited studies. Consequently, a decision was made to use a "factor of 2", rather than a "factor of 5", as the weekend adjustment for this source category.

The speciation profiles in EMS-95 were obtained from the latest version of USEPA's SPECIATE data base.

Inventory Evaluation: A top-down evaluation of the 1996 base inventory was performed using ambient ozone precursor data collected from Photochemical Assessment Monitoring Stations (PAMS) in the Lake Michigan region (LADCO, 2000a). The evaluation included comparisons of monitored and emissions VOC:NOx ratios, the relative amounts of individual VOC species, and the reactivity of the VOC compounds. Although the evaluation is not complete, the preliminary results are encouraging and suggest that the regional inventory is appropriate for use in the modeling.

Section 3 2007 Strategy Emissions

Two rounds of future year control strategy modeling were performed to support the updated 1-hour attainment demonstration:

Round 1

- SR1 CAA controls
- SR2 CAA controls + 0.25 utilities
- SR3 CAA controls + 0.25 utilities + SIP Call non-utilities
- SR4 CAA controls + 0.25 utilities + Tier II/Low S motor vehicles
- SR5 CAA controls + 0.20 utilities
- SR6 CAA controls + 0.15 utilities + SIP Call non-utilities
- SR7 CAA controls + 0.25 utilities + SIP Call non-utilities
(IL,IN,WI) (IL,IN,WI)

Round 2

- SR1 CAA controls⁶
- SR8 CAA controls + 0.25 utilities + 0.25 utilities + Tier II/Low S
(IL,IN,WI) (KY,MO,TN)
- SR9 CAA controls + 0.20 utilities + 0.25 utilities + Tier II/Low S
(IL,IN,WI) (KY,MO,TN)
- SR10 CAA controls + 0.20 utilities + 0.25 utilities + SIP Call non-utilities⁷ + Tier II/Low S
(IL,IN,WI) (KY,MO,TN) (IL,IN,WI)
- SR11 CAA controls + 0.15 utilities + 0.25 utilities + SIP Call non-utilities + Tier II/Low S
(IL,IN,WI) (KY,MO,TN) (IL,IN,WI)
- SR12 CAA controls + 0.15 utilities + SIP Call non-utilities + Tier II/Low S (same as SIP Call)

In Round 2, Michigan utilities and non-utilities were modeled at their State rule [e.g., 0.25/65% utilities] in SR8 - SR11, and Indiana non-utilities were modeled at their State rule in SR10 - SR11.

The following sensitivity runs were also modeled as part of Round 2:

- SR1a CAA controls + Tier II/Low S
- SR1b CAA controls w/ boundary conditions based on 0.25 utilities
- SR1c CAA controls w/ boundary conditions based on SIP Call (utilities and non-utilities)
- SR8a SR8 w/ 0.25 utilities (IA)
- SR12a SR12 w/ -25% utility NOx reduction
- SR12b SR12 w/ -25% VOC reduction (Lake Michigan area only)

⁶ CAA controls include Title IV, RFP/ROP (15% plans, "9% by '99"), NLEV, and RFG-II. Assuming NOx substitution, SR8 - SR12 may include much of the remaining ROP requirement (24% by 2007).

⁷ Non-utility SIP Call controls are: Non-EGU boilers and turbines (-60%), Stationary internal combustion engines (-90%), Cement manufacturing plants (-30%).

Following the completion of these runs, several changes to the emissions were identified and five additional strategy runs (SR13 - SR17) were performed. SR13 and SR15 reflect a "0.25 utility" control scenario (similar to SR8), while SR14, SR16, and SR17 reflect a "0.15 utility" control scenario (similar to SR12). The additional runs incorporate the following changes relative to SR8 and SR12:

0.25 SCENARIO

SR8

Point Sources: IL, IN, MI, WI, KY, MO, TN EGUs @ 0.25
MI nonEGU @ state rule

Motor Vehicle: Tier II/Low S

SR13 Changes

Point Sources: TVA sources @ 0.15
(Paradise 1-3; Allen 1-3; Cumberland 1-2; Kingston Stacks 1 and 2)
New ROG controls in IL (ERMS rule)
IN non-utility sources @ proposed State rule
WI @ proposed State rule
MO @ State rule

Motor Vehicle: Increased VMT growth scenario for SE WI (high plus 7%)
Proposed diesel sulfur rule (-0.1%)

Low-Level Emissions: Reduce CO emissions by 12.5% (due to Low S and nonroad controls)

Boundary Conditions: New point source file (W MO @ 0.35, OTC States @
(CAA12 file) SIP Call, TVA sources in AL, TN @ 0.15, Texas sources reduced by 50%)
Reduce low-level NOx emissions by 6.5% (due to Tier II/Low S and nonroad controls)

Note: except for these specific changes, the boundary conditions reflect CAA controls

SR15 Changes

Point Sources: WI @ revised state rule

Motor Vehicle: WI with NOx I/M cut-points
(base12v4) Revised CATS network data
Updated MOBILE5 inputs for IL, WI
Corrected MOBILE5 inputs for OH

0.15 SCENARIO

SR12

Point Sources: EGUs @ 0.15 (SIP Call)
NonEGUs @ SIP Call

Motor Vehicle: Tier II/Low S

SR14 Changes

Point Sources: TVA sources @ 0.15
(Paradise 1-3; Allen 1-3; Cumberland 1-2; Kingston Stacks 1 and 2)
New ROG controls in IL (ERMS rule)
WI @ proposed State rule
MO @ State rule
IC engines @ CAA

Motor Vehicle: Increased VMT growth scenario for SE WI (high plus 7%)
Proposed diesel sulfur rule (-0.1%)

Low-Level Emissions: Reduce CO emissions by 12.5% (due to Low S and nonroad controls)

Boundary Conditions: New point source file (W MO @ 0.35, OTC States @
(CAA12 file) SIP Call, TVA sources in AL, TN @ 0.15, Texas sources reduced by
50%)
Reduce low-level NOx emissions by 6.5% (due to Tier II/Low S and
nonroad controls)

Note: except for these specific changes, the boundary conditions reflect CAA controls

SR16 Changes

Point Sources: WI @ revised state rule

Motor Vehicle: WI with NOx I/M cut-points
(base12v4) Revised CATS network data
Updated MOBILE5 inputs for IL, WI
Corrected MOBILE5 inputs for OH

SR17 Changes

Point Sources: WI @ revised state rule
Eastern MO EGU and nonEGU @ SIP Call

Motor Vehicle: WI with NOx I/M cut-points
(base12v4) Revised CATS network data
Updated MOBILE5 inputs for IL, WI
Corrected MOBILE5 inputs for OH

This section will focus on the emissions for the Round 2 modeling. The 2007 year inventories are summarized in the attached tables and figure:

- Table 3 Domain-wide total point, area, motor vehicle, and biogenic emissions
- Table 4 (a) Weekday/Saturday/Sunday point source emissions (SR1)
(b) Weekday/Saturday/Sunday area source emissions (SR1)
(c) Weekday/Saturday/Sunday motor vehicle emissions (SR1)
(d) Weekday/Saturday/Sunday motor vehicle emissions (SR1a)
- Table 5 (a) Weekday/Saturday/Sunday point source emissions (SR8)
(b) Weekday/Saturday/Sunday point source emissions (SR9)
(c) Weekday/Saturday/Sunday point source emissions (SR10)
(d) Weekday/Saturday/Sunday point source emissions (SR11)
(e) Weekday/Saturday/Sunday point source emissions (SR12)
(f) Weekday/Saturday/Sunday point source emissions (SR13)
(g) Weekday/Saturday/Sunday point source emissions (SR14)
(h) Weekday/Saturday/Sunday point source emissions (SR15)
(i) Weekday/Saturday/Sunday point source emissions (SR16)
(j) Weekday/Saturday/Sunday point source emissions (SR17)
(k) Weekday/Saturday/Sunday motor vehicle emissions (SR13-4)
(l) Weekday/Saturday/Sunday motor vehicle emissions (SR15-17)
- Table 6 Control measures
- Figure 5 Bar chart showing the VOC and NOx emissions by strategy

Point and Area Sources: Future year point and area source emissions for 2007 (i.e., the statutory attainment date for the severe nonattainment counties in the Lake Michigan area) were prepared by projecting the 1996 base emissions using growth and control factors provided by USEPA or the States, as indicated in Table 1.

Motor Vehicles: Similar to the base year emissions, the future year emissions rates for on-road mobile sources were calculated in EMS-95 based on the activity level (i.e., vehicle miles traveled [VMT]) and the MOBILE5b emission factor model. The source of the VMT data is summarized in Table 1. MOBILE5b reflects most, but not all, Federal and State control measures. Separate adjustments were made to reflect Tier II/Low S controls and CO emission reduction credits.

Two approaches were used to model the Tier II/Low S controls. First, in the initial inventory (Base11v2), across-the-board control factors (4% for VOC and 18% for NOx) were applied to the motor vehicle emissions (see USEPA, 1999b). Second, in the new inventory (Base12), the new Tier II/Low S control factors were derived based on the "multiplicative adjustment factors" (MAFs) (USEPA, 1999c). These MAF's reflect the difference between MOBILE5 and MOBILE6, the effect of air conditioner usage, and the effect of the proposed Tier II/Low S program. For now, only the Tier II/Low S effects are included in the modeling analysis. (This will be done by calculating ratios of the 2007 baseline and 2007 control MAF's.) A later analysis may be performed which incorporates the other effects (i.e., MOBILE5 v. MOBILE6, and air conditioner usage).

Credit for CO emission reductions for nonroad and motor vehicle sources was included in SR13 - SR17. The CO credits were estimated to be 40% for Federal nonroad controls and 15% for Tier II/Low S controls (LADCO, 2000b). The CO credits were accounted for by applying an adjustment factor to the low-level emissions file. A net adjustment factor of -12.5% was calculated based on the control factors identified above and the relative amounts of nonroad (about 5%) and motor vehicle (about 70%) emissions in the regional inventory.

Credit for USEPA's proposed heavy-duty engine and vehicle standards and proposed highway diesel S rule was included in SR13 - SR17. Both VOC and NOx low-level (anthropogenic) emissions were reduced by 0.1% based on information provided in USEPA's May 2000 Regulatory Impact Analysis.

Section 4 Quality Assurance Activities

To enhance the reliability of the modeling inventory, several quality assurance activities were performed by the state inventory contacts, the emissions modelers, and the photochemical modelers. A summary of these activities is provided below.

Emissions Quality Assurance Plan: A standardized set of data and file checks are documented in LADCO's Draft Emissions QA Plan (LADCO, 1999f). The plan identifies the quality assurance procedures to be followed by the state inventory contacts. Each State attempted to comply with these procedures before providing their updated emissions data to LADCO for the current modeling study. The quality assurance procedures to be followed by the emissions modelers include the review and analysis of the many EMS-95 reports discussed below.

Emission Reports: EMS-95 performs a number of checks and generates several reports, as documented in the EMS-95 User's Guide (LADCO, 1999a). The QA checks, which are listed in Table 7, include for point sources, for example, duplicate or missing keys (stid, cyid, fcid, stkid, dvid, prid, polid), missing UTM coordinates and mismatched UTM zone, missing or invalid FIPS state and county codes, missing facility name missing or invalid SIC, and missing or out-of-range stack parameters. The reports include tabular summaries of the state- and county-level emissions for point, area, and mobile sources; and various spatial plots of emissions.

Review by Photochemical Modelers: The photochemical modelers review the emissions files by generating a spatial plot for each source sector using the SAIPLLOT software⁸. The plots are examined for anomalies in the spatial patterns (e.g., missing or misplaced emissions). The domainwide emission totals listed on these plots are also compared to the EMS-95 emission reports for each source sector. These spatial and emissions total checks here found no problem with the EMS-95 emissions files.

Stack Parameters: Alpine Geophysics discovered an error in the exit velocities for many point sources in a previous version of the modeling inventory (Alpine, 1999). A review of the data files found that there was a units problem with the calculated volume flow rates, which was corrected in Base11v2 and Base12 for Grid M. This review, however, raised questions about the reliability of all stack parameters. To help prioritize the States' review of their stack parameters, a summary report was prepared which identified stacks with the highest volume flow rates, highest ratio of emissions to volume

⁸ Two additional checks by the photochemical modelers which should be considered are: (1) generating time series emissions plots for each source sector and comparing to EMS-95 reports; and (2) generating a list (and map) of PiG sources and comparing to the EMS-95 PiG reports.

flow rates, lowest ratio of emissions to volume flow rates, and highest exit velocities. The new point source files supplied by the Lake Michigan States reflect many corrected stack parameters.

Further review of the stack file identified a number of stacks with very low emissions, and physical and effective stack heights which place them in the elevated point source file. To reduce the number of stacks in the elevated point source file (and to address concerns about the reasonableness of the assumed stack parameters), a stack was reassigned to the low-level point source file if the following conditions were met: ROG plus NOx emissions < 0.75 TPD; physical stack height < 33 m; and effective stack height > 100 m. This reassignment, which was implemented using a program known as 'stackfix', affected only about 2 - 4% of the point source ROG and NOx emissions, and reduced by about half the number of stacks in the elevated point source file. This fix was applied in both Base11v2 and Base12.

Plume-in-Grid (PiG) Sources: Of the approximately 1850 stacks in the elevated point source file, 134 were flagged as PiG sources for the photochemical grid modeling. A special program was written to ensure that the same stacks were treated as PiG for all modeling runs. These 134 stacks were selected based on magnitude of NOx emissions (i.e., the top 100 ranked stacks) and location (i.e., 34 of the next top ranked stacks in the Lake Michigan and St. Louis areas). A list of the PiG stacks is provided in Table 8.

Section 5 References

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- USEPA, 1999c, "Development of On-Highway Inventory Adjustment Factors Used in the Tier 2 Final Rule Air Quality Analysis", October 18, 1999
- USEPA, 2000a, e-mail from Doug Solomon, USEPA, OAQPS, March 1, 2000
- USEPA, 2000b, e-mail from Craig Harvey, USEPA, OTAQ, March 1, 2000
- WDNR, 2000, e-mail from Dennis Koepke, WDNR, February 18, 2000

Table 1. Overview of New (Base12) Inventory

Point Sources (Electrical Generating Units [EGUs])

IL, IN, WI, MO: 1996 state periodic emissions inventories, with base12 updates for IL, WI
 2007 base inventories, with base12 updates for IL, WI
 2007 SIP Call inventories, with base12 updates for IL, WI

MI: 2007 State rule inventory

Other States: 1996 inventory (based on CEM data) supplied by USEPA (SIP Call inventory)⁹,
 with base12 updates for IA, KY, TN
 2007 base inventory (1996 data with IPM growth factors, and CAA control)
 supplied by USEPA (SIP Call inventory)
 2007 SIP Call inventory (1996 data with IPM growth factors, and CAA plus SIP
 Call controls) supplied by USEPA (SIP Call inventory)

Point Sources (nonEGUs)

IL, IN, MI, WI: 1996 state periodic emissions inventories, with base12 updates for IL, MI, WI
 2007 growth and control factors, with base12 updates for IL, MI, WI
 2007 SIP Call control factors, with base12 updates for IL, WI

IN, MI; 2007 State rule control factors

MO: 1996 state periodic emissions inventory, with base12 updates

Other States: 1995 non-EGU point source data supplied by USEPA (SIP Call inventory), with
 base12 updates for IA, KY, TN
 2007 growth factors supplied by USEPA (SIP Call inventory)
 2007 base and SIP Call control factors supplied by USEPA (SIP Call inventory)

Area Sources

IL, IN, MI, WI: 1996 state periodic emissions inventories, with base12 updates for IL, IN, WI
 2007 growth factors, with base12 updates for IL, IN, WI
 2007 control factors, with base12 updates for IL, IN, WI

Other States: 1995 area source data supplied by USEPA (SIP Call inventory), with revised
 stationary source combustion NOx emissions for KY

All States: Alternative nonroad 2007 control factors for all states, except IL
 Updated temporal profiles, including alternative temporal profile for motorboats

Motor Vehicles

IL, IN, MI, MO, WI: Updated 1996 and 2007 transportation network data (e.g., VMT, speed, and
 vehicle mix), with base12 updates and corrections

Other States: 1995 and 2007 VMT supplied by USEPA (SIP Call inventory)

All States: MOBILE5b input files supplied by USEPA (as part of Tier II/Low S and HDDV
 adjustments), with IL, WI state-specific data
 Use of 1996 emission factors in MOBILE5b
 HDDV NOx adjustment supplied by USEPA
 Tier II/Low S control factors supplied by USEPA
 Use of higher trip lengths in MOBILE5b (i.e., 6.1 v. 5 miles)
 Updated seasonal and temporal profiles (day-of-week, hour-of-day)
 Day-specific temperatures from RAMS3a

Biogenic Sources

Biogenic emissions from BEIS2, with isoprene emissions in Ozarks (southeast MO) reduced by a factor
 of two and day-specific temperature from RAMS3a

⁹

These files were provided by USEPA in mid-December 1998 via their web site and reflect the version of the "final" SIP Call inventory as it existed at that time. Since then, USEPA requested and received a number of corrections to that inventory. When the Round 2 modeling began, USEPA had yet to release another version of the SIP Call inventory. Consequently, the December 1998 version of the SIP Call inventory is used for the current subregional modeling analysis.

Table 2a

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptemis
 Date: 910718 Case: gridm_95_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.5354	16.73	17.27	72.05	12.24	84.29
17	Illinois	8.5622	318.09	326.65	871.82	442.87	1314.69
18	Indiana	5.4082	258.15	263.56	1095.82	277.88	1373.70
19	Iowa	0.4639	10.16	10.62	79.29	65.13	144.42
21	Kentucky	3.9175	404.53	408.45	1112.63	137.40	1250.03
26	Michigan	4.3643	236.88	241.25	556.98	256.12	813.10
27	Minnesota	0.0000	3.63	3.63	0.00	0.18	0.18
29	Missouri	2.1379	111.42	113.56	344.76	98.45	443.22
37	North Carolina	0.1120	21.60	21.72	51.47	26.64	78.11
39	Ohio	2.3333	341.57	343.90	544.23	193.99	738.22
45	South Carolina	0.0000	0.06	0.06	0.00	0.10	0.10
47	Tennessee	2.3748	458.80	461.17	825.39	246.43	1071.82
51	Virginia	0.0000	0.26	0.26	0.00	0.52	0.52
54	West Virginia	0.0000	13.73	13.73	0.00	18.46	18.46
55	Wisconsin	2.5515	104.43	106.98	289.63	91.99	381.62
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7610	2335.15	2367.91	5844.08	1876.36	7720.44

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptemis
 Date: 910713 Case: gridm_95_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.4903	12.01	12.50	65.99	12.24	78.23
17	Illinois	7.7834	186.63	194.42	797.52	394.23	1191.75
18	Indiana	4.9344	113.10	118.03	1003.39	262.09	1265.48
19	Iowa	0.4249	10.16	10.59	72.61	65.13	137.75
21	Kentucky	3.5877	314.33	317.92	1019.04	133.51	1152.54
26	Michigan	4.0533	123.29	127.34	513.32	223.37	736.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.07	0.07
29	Missouri	2.1065	83.11	85.22	344.30	95.04	439.34
37	North Carolina	0.1025	7.74	7.85	47.14	26.48	73.62
39	Ohio	2.1369	201.37	203.51	498.42	170.52	668.94
45	South Carolina	0.0000	0.02	0.02	0.00	0.09	0.09
47	Tennessee	2.1749	282.84	285.01	755.91	226.03	981.94
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	11.79	11.79	0.00	17.44	17.44
55	Wisconsin	2.3490	104.43	106.78	265.46	91.97	357.43
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		30.1438	1485.93	1516.08	5383.11	1726.28	7109.39

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptemis
 Date: 910714 Case: gridm_95_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.4679	6.38	6.84	62.98	12.22	75.19
17	Illinois	7.4927	152.41	159.90	761.30	381.69	1143.00
18	Indiana	4.6898	93.71	98.40	949.71	254.04	1203.75
19	Iowa	0.4055	10.16	10.57	69.30	65.13	134.44
21	Kentucky	3.4241	285.84	289.27	972.62	130.97	1103.59
26	Michigan	3.9112	73.20	77.11	491.83	193.65	685.48
27	Minnesota	0.0000	0.01	0.01	0.00	0.07	0.07
29	Missouri	2.1065	52.24	54.34	344.30	94.75	439.05
37	North Carolina	0.0979	7.40	7.50	44.99	26.48	71.48
39	Ohio	2.0395	176.77	178.81	475.70	168.79	644.48
45	South Carolina	0.0000	0.01	0.01	0.00	0.09	0.09
47	Tennessee	2.0757	254.24	256.31	721.45	216.11	937.56
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	11.78	11.78	0.00	17.04	17.04
55	Wisconsin	2.2485	104.43	106.67	253.47	91.96	345.43
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		28.9594	1263.66	1292.62	5147.65	1661.06	6808.71

Table 2b

Area Source Emissions by State

Non-Road Emissions are all records with ASCT = 22XXXXXXXXX

File Used For Summary: ems_run.areaemis

Date: 910718 Case: motboat2x

State FIPS ID	State	ROG Non-Road Emissions (Tons/Day)	ROG Other Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Non-Road Emissions (Tons/Day)	NOX Other Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	16.24	95.41	111.65	20.73	12.638	33.37
17	Illinois	468.72	845.59	1314.30	494.77	60.520	555.29
18	Indiana	188.38	802.39	990.76	291.50	80.616	372.11
19	Iowa	32.74	153.96	186.70	42.81	30.042	72.86
21	Kentucky	123.72	470.91	594.63	195.64	74.897	270.54
26	Michigan	302.01	620.47	922.48	226.19	142.755	368.95
27	Minnesota	2.97	10.67	13.64	2.83	0.697	3.52
29	Missouri	88.88	302.20	391.08	113.61	13.878	127.49
37	North Carolina	12.75	39.57	52.32	12.00	2.030	14.03
39	Ohio	155.87	631.65	787.52	308.68	60.982	369.66
47	Tennessee	176.18	500.89	677.07	227.21	38.734	265.95
51	Virginia	2.73	14.96	17.69	4.85	0.885	5.74
54	West Virginia	4.56	10.57	15.13	10.49	1.506	11.99
55	Wisconsin	140.29	278.24	418.52	186.46	82.271	268.73
75	Canada	0.32	2.26	2.58	0.59	0.163	0.75
99	Off Shore	0.00	0.00	0.00	0.00	0.000	0.00
		=====	=====	=====	=====	=====	=====
		1716.35	4779.74	6496.08	2138.37	602.612	2740.99

Area Source Emissions by State

Non-Road Emissions are all records with ASCT = 22XXXXXXXXX

File Used For Summary: ems_run.areaemis

Date: 910713 Case: motboat2x

State FIPS ID	State	ROG Non-Road Emissions (Tons/Day)	ROG Other Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Non-Road Emissions (Tons/Day)	NOX Other Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	25.71	61.31	87.02	13.72	4.507	18.23
17	Illinois	760.09	438.26	1198.35	351.99	34.004	385.99
18	Indiana	311.37	802.39	1113.75	220.08	80.616	300.69
19	Iowa	52.85	93.58	146.42	27.86	9.818	37.68
21	Kentucky	189.40	313.62	503.02	140.36	24.991	165.35
26	Michigan	519.46	430.06	949.52	119.84	75.805	195.64
27	Minnesota	4.95	6.36	11.31	1.93	0.282	2.22
29	Missouri	144.34	189.78	334.12	71.80	5.765	77.57
37	North Carolina	21.64	25.22	46.87	4.84	1.653	6.49
39	Ohio	235.01	405.76	640.78	247.31	23.722	271.03
47	Tennessee	276.29	334.42	610.70	127.95	20.292	148.24
51	Virginia	4.44	11.68	16.12	3.48	0.486	3.96
54	West Virginia	6.68	7.06	13.74	8.83	0.988	9.82
55	Wisconsin	230.12	152.98	383.10	134.98	31.704	166.68
75	Canada	0.58	1.41	1.99	0.56	0.121	0.68
99	Off Shore	0.00	0.00	0.00	0.00	0.000	0.00
		=====	=====	=====	=====	=====	=====
		2782.92	3273.89	6056.81	1475.54	314.755	1790.29

Area Source Emissions by State

Non-Road Emissions are all records with ASCT = 22XXXXXXXXX

File Used For Summary: ems_run.areaemis

Date: 910714 Case: motboat2x

State FIPS ID	State	ROG Non-Road Emissions (Tons/Day)	ROG Other Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Non-Road Emissions (Tons/Day)	NOX Other Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	24.88	47.54	72.42	10.78	1.797	12.58
17	Illinois	734.73	289.82	1024.55	260.54	25.166	285.71
18	Indiana	303.07	217.36	520.43	191.03	4.608	195.64
19	Iowa	51.02	71.00	122.01	20.87	2.926	23.80
21	Kentucky	183.37	245.61	428.98	118.82	8.356	127.18
26	Michigan	509.12	336.00	845.12	83.22	51.412	134.63
27	Minnesota	4.79	4.72	9.50	1.45	0.143	1.60
29	Missouri	140.07	144.66	284.73	54.02	3.051	57.07
37	North Carolina	21.13	18.85	39.99	2.68	1.527	4.20
39	Ohio	226.38	318.29	544.66	217.88	11.298	229.18
47	Tennessee	267.88	258.40	526.28	96.94	14.066	111.01
51	Virginia	4.31	9.97	14.28	2.99	0.353	3.35
54	West Virginia	6.53	5.17	11.70	8.32	0.816	9.13
55	Wisconsin	220.87	104.35	325.22	90.05	14.848	104.90
75	Canada	0.57	1.12	1.69	0.48	0.107	0.59
99	Off Shore	0.00	0.00	0.00	0.00	0.000	0.00
		=====	=====	=====	=====	=====	=====
		2698.73	2072.86	4771.59	1160.09	140.475	1300.56

Table 2c

Motor Vehicle Emissions by State

File Used For Summary: ems_run.mveerfg

Date: 910718 Case: gridm_95_hddv

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	33.87	9.19	43.07	51.32	51.32
17	Illinois	418.93	213.73	632.66	1410.10	1410.10
18	Indiana	336.51	153.22	489.73	597.78	597.78
19	Iowa	49.92	27.04	76.95	96.61	96.61
21	Kentucky	217.69	89.83	307.52	434.14	434.14
26	Michigan	387.23	187.42	574.64	882.22	882.22
27	Minnesota	6.27	2.95	9.21	9.45	9.45
29	Missouri	134.73	43.76	178.49	282.04	282.04
37	North Carolina	26.64	6.10	32.74	64.56	64.56
39	Ohio	324.27	159.73	484.00	600.15	600.15
47	Tennessee	274.55	82.84	357.39	593.98	593.98
51	Virginia	13.90	3.40	17.30	22.00	22.00
54	West Virginia	9.42	4.03	13.44	16.42	16.42
55	Wisconsin	172.32	80.65	252.97	445.62	445.62
75	Canada	97.37	65.95	163.32	174.37	174.37
99	Off Shore	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		2503.60	1129.84	3633.44	5680.74	5680.74

Motor Vehicle Emissions by State

File Used For Summary: ems_run.mveerfg

Date: 910713 Case: gridm_95_hddv

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	31.05	8.582	39.64	47.16	47.16
17	Illinois	385.86	126.503	512.36	1342.17	1342.17
18	Indiana	300.49	104.733	405.22	553.60	553.60
19	Iowa	45.37	14.044	59.42	90.53	90.53
21	Kentucky	196.33	76.363	272.69	399.29	399.29
26	Michigan	336.58	82.431	419.01	738.68	738.68
27	Minnesota	5.87	1.560	7.43	8.91	8.91
29	Missouri	121.53	33.553	155.09	259.23	259.23
37	North Carolina	24.15	6.289	30.44	59.23	59.23
39	Ohio	289.38	98.703	388.08	556.81	556.81
47	Tennessee	250.44	83.556	334.00	544.20	544.20
51	Virginia	12.65	3.180	15.83	20.23	20.23
54	West Virginia	8.52	2.932	11.46	15.19	15.19
55	Wisconsin	171.58	40.613	212.19	425.83	425.83
75	Canada	90.04	29.179	119.21	167.06	167.06
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		2269.85	712.221	2982.07	5228.11	5228.11

Motor Vehicle Emissions by State

File Used For Summary: ems_run.mveerfg

Date: 910714 Case: gridm_95_hddv

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	26.98	7.614	34.59	41.23	41.23
17	Illinois	344.04	126.856	470.90	1186.27	1186.27
18	Indiana	261.17	95.111	356.28	483.40	483.40
19	Iowa	39.44	14.275	53.72	78.74	78.74
21	Kentucky	170.38	63.671	234.05	349.77	349.77
26	Michigan	276.24	87.838	364.08	641.07	641.07
27	Minnesota	4.99	1.584	6.58	7.72	7.72
29	Missouri	106.08	30.064	136.15	226.77	226.77
37	North Carolina	20.88	5.676	26.55	51.71	51.71
39	Ohio	251.14	88.579	339.72	486.69	486.69
47	Tennessee	217.22	74.051	291.27	475.50	475.50
51	Virginia	10.92	2.776	13.70	17.68	17.68
54	West Virginia	7.40	2.426	9.83	13.31	13.31
55	Wisconsin	149.43	44.021	193.45	386.21	386.21
75	Canada	75.94	31.261	107.20	144.66	144.66
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1962.26	675.804	2638.07	4590.71	4590.71

Table 3. Emissions Summary (tons per day)

ROG	Point-	Point-	Area-	Area-	Motor	Anthropogenic		Total
	EGU	NonEGU	Nonroad	Other	Vehicle	Biogenic	Subtotal	
96bas	32	2335	1716	4780	3633	30816	12496	43312
SR1	40	1865	1167	4410	2897	30816	10379	41195
SR8	37	1774	1167	4410	2671	30816	10059	40875
SR9	37	1774	1167	4410	2671	30816	10059	40875
SR10	37	1774	1167	4410	2671	30816	10059	40875
SR11	37	1774	1167	4410	2671	30816	10059	40875
SR12	37	1774	1167	4410	2671	30816	10059	40875
SR13	37	1771	1167	4410	2671	30816	10056	40872
SR14	37	1771	1167	4410	2671	30816	10056	40872
SR15	37	1771	1167	4410	2687	30816	10072	40888
SR16	37	1771	1167	4410	2687	30816	10072	40888
SR17	37	1771	1167	4410	2687	30816	10072	40888
SR1a	40	1865	1167	4410	2671	30816	10153	40969
SR8a	37	1774	1167	4410	2671	30816	10059	40875
SR12a	37	1774	1167	4410	2671	30816	10059	40875
SR12b						30816	9709	40525
NOx	Point-	Point-	Area-	Area-	Motor	Anthropogenic		Total
	EGU	NonEGU	Nonroad	Other	Vehicle	Biogenic	Subtotal	
96bas	5844	1876	2138	602	5681	2000	16141	18141
SR1	5014	2146	1748	734	4089	2000	13731	15731
SR8	3066	2056	1748	734	3351	2000	10955	12955
SR9	2865	2055	1748	734	3351	2000	10753	12753
SR10	2863	1967	1748	734	3351	2000	10663	12663
SR11	2662	1966	1748	734	3351	2000	10461	12461
SR12	1878	1670	1748	734	3351	2000	9381	11381
SR13	3033	2047	1748	734	3359	2000	10921	12921
SR14	2080	1822	1748	734	3359	2000	9743	11743
SR15	3044	2047	1748	734	3230	2000	10803	12803
SR16	2092	1822	1748	734	3230	2000	9626	11626
SR17	2027	1806	1748	734	3230	2000	9545	11545
SR1a	5014	2146	1748	734	3351	2000	12993	14993
SR8a	3022	2056	1748	734	3351	2000	10911	12911
SR12a	1408	1670	1748	734	3351	2000	8911	10911
SR12b	1878	1670	1748	734	3351	2000	9381	11381

Note, there are two problems with the SR1 emissions: (1) CAA ROG controls were inadvertently omitted in Michigan; point source ROG emissions should actually be less by 90 TPD; and (2) some nonutility NOx emission sources were inadvertently omitted in Kentucky; point source NOx emissions should actually be greater by 12 tons per day.

Table 4a

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910718 Case: gridm_07caa_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.8003	7.60	8.40	70.57	17.10	87.67
17	Illinois	8.4195	361.38	369.80	721.79	460.13	1181.92
18	Indiana	6.3084	193.72	200.02	1107.28	304.74	1412.02
19	Iowa	1.1442	4.05	5.19	88.08	87.37	175.45
21	Kentucky	4.2952	272.36	276.66	787.50	125.52	913.02
26	Michigan	7.2578	237.04	244.30	625.50	256.35	881.85
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.1379	118.05	120.19	344.76	100.43	445.19
37	North Carolina	0.1402	16.18	16.32	21.11	36.16	57.27
39	Ohio	1.7305	167.74	169.47	404.11	228.62	632.73
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	4.7868	320.51	325.30	519.57	386.82	906.39
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	323.60	116.95	440.55
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		39.8595	1865.57	1905.43	5013.87	2146.12	7159.99

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910713 Case: gridm_07caa_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7330	6.20	6.93	64.63	17.10	81.73
17	Illinois	7.6450	206.58	214.22	660.04	408.72	1068.76
18	Indiana	5.7559	79.36	85.11	1013.86	287.47	1301.33
19	Iowa	1.0479	4.05	5.10	80.67	87.37	168.03
21	Kentucky	3.9336	230.81	234.74	721.20	122.13	843.33
26	Michigan	6.7033	123.44	130.14	576.07	223.61	799.68
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.1065	88.31	90.42	344.30	96.86	441.17
37	North Carolina	0.1284	5.84	5.96	19.33	35.94	55.27
39	Ohio	1.5849	90.57	92.16	370.09	197.93	568.01
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	4.3838	224.04	228.43	475.83	363.26	839.10
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	296.58	116.93	413.50
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		36.6342	1220.08	1256.72	4622.61	1981.02	6603.63

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910714 Case: gridm_07caa_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6995	4.96	5.65	61.69	17.06	78.75
17	Illinois	7.3592	167.13	174.49	630.08	394.76	1024.83
18	Indiana	5.4707	68.04	73.51	958.43	278.95	1237.39
19	Iowa	1.0001	4.05	5.05	76.99	87.37	164.36
21	Kentucky	3.7543	221.09	224.84	688.32	117.73	806.05
26	Michigan	6.4403	73.26	79.70	551.72	193.88	745.60
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.1065	56.79	58.90	344.30	96.57	440.88
37	North Carolina	0.1226	5.71	5.83	18.45	35.94	54.39
39	Ohio	1.5126	75.89	77.40	353.22	195.51	548.73
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	4.1840	209.51	213.70	454.14	350.84	804.99
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	283.18	116.91	400.09
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		35.1496	1047.30	1082.44	4420.51	1908.70	6329.21

Table 4b

Area Source Emissions by State

Non-Road Emissions are all records with ASCT = 22XXXXXXXX

File Used For Summary: ems_run.areacntl

Date: 910718 Case: gridm1

State FIPS ID	State	ROG Non-Road Emissions (Tons/Day)	ROG Other Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Non-Road Emissions (Tons/Day)	NOX Other Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	11.73	92.33	104.05	16.73	19.255	35.99
17	Illinois	294.01	787.75	1081.76	444.53	55.809	500.34
18	Indiana	132.70	797.34	930.04	198.96	89.586	288.54
19	Iowa	22.20	138.11	160.31	28.68	35.649	64.32
21	Kentucky	93.37	438.36	531.73	168.96	98.940	267.90
26	Michigan	210.89	525.76	736.65	205.09	204.071	409.16
27	Minnesota	2.00	10.02	12.02	1.96	0.870	2.83
29	Missouri	62.71	254.27	316.98	78.67	15.351	94.02
37	North Carolina	7.98	32.43	40.41	10.54	2.411	12.95
39	Ohio	98.68	498.22	596.90	223.16	82.897	306.05
47	Tennessee	122.98	506.60	629.57	205.22	52.201	257.42
51	Virginia	1.72	17.03	18.75	3.58	1.079	4.65
54	West Virginia	3.10	9.27	12.37	9.16	1.975	11.14
55	Wisconsin	103.15	300.49	403.64	152.66	73.596	226.25
75	Canada	0.30	2.26	2.56	0.48	0.163	0.65
99	Off Shore	0.00	0.00	0.00	0.00	0.000	0.00
		=====	=====	=====	=====	=====	=====
		1167.52	4410.23	5577.76	1748.37	733.852	2482.22

Area Source Emissions by State

Non-Road Emissions are all records with ASCT = 22XXXXXXXX

File Used For Summary: ems_run.areacntl

Date: 910713 Case: gridm1

State FIPS ID	State	ROG Non-Road Emissions (Tons/Day)	ROG Other Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Non-Road Emissions (Tons/Day)	NOX Other Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	16.72	61.96	78.68	10.79	6.242	17.03
17	Illinois	413.29	407.95	821.23	307.98	31.601	339.58
18	Indiana	199.73	797.34	997.07	144.40	89.586	233.99
19	Iowa	33.03	88.96	121.99	17.15	11.450	28.60
21	Kentucky	124.82	294.68	419.50	123.14	31.724	154.87
26	Michigan	338.45	355.04	693.49	132.38	91.730	224.11
27	Minnesota	3.09	6.12	9.21	1.16	0.339	1.50
29	Missouri	96.20	168.76	264.95	50.77	6.299	57.07
37	North Carolina	12.07	22.20	34.27	4.43	1.913	6.34
39	Ohio	126.23	311.12	437.36	175.15	30.694	205.84
47	Tennessee	162.71	336.35	499.06	122.74	25.189	147.93
51	Virginia	2.45	13.54	15.99	2.42	0.560	2.98
54	West Virginia	4.03	6.54	10.57	8.04	1.246	9.29
55	Wisconsin	152.49	163.84	316.34	109.09	28.848	137.94
75	Canada	0.54	1.41	1.95	0.47	0.121	0.59
99	Off Shore	0.00	0.00	0.00	0.00	0.000	0.00
		=====	=====	=====	=====	=====	=====
		1685.85	3035.82	4721.67	1210.11	357.543	1567.65

Area Source Emissions by State

Non-Road Emissions are all records with ASCT = 22XXXXXXXX

File Used For Summary: ems_run.areacntl

Date: 910714 Case: 2007sipcall

State FIPS ID	State	ROG Non-Road Emissions (Tons/Day)	ROG Other Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Non-Road Emissions (Tons/Day)	NOX Other Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	15.92	49.42	65.34	8.091	1.904	10.00
17	Illinois	387.99	267.16	655.14	221.795	23.532	245.33
18	Indiana	192.60	168.09	360.69	120.448	5.008	125.46
19	Iowa	31.84	69.92	101.76	13.163	3.196	16.36
21	Kentucky	118.94	231.00	349.94	103.176	9.319	112.50
26	Michigan	328.09	264.95	593.04	96.809	52.136	148.95
27	Minnesota	2.98	4.58	7.55	0.859	0.162	1.02
29	Missouri	92.79	132.40	225.19	38.166	3.270	41.44
37	North Carolina	11.61	17.57	29.18	2.547	1.747	4.29
39	Ohio	118.39	235.77	354.16	150.060	13.288	163.35
47	Tennessee	155.16	256.09	411.26	96.401	16.080	112.48
51	Virginia	2.34	11.47	13.81	2.011	0.387	2.40
54	West Virginia	3.92	4.86	8.78	7.669	1.004	8.67
55	Wisconsin	143.18	110.59	253.77	74.156	13.932	88.09
75	Canada	0.53	1.12	1.65	0.397	0.107	0.50
99	Off Shore	0.00	0.00	0.00	0.000	0.000	0.00
		=====	=====	=====	=====	=====	=====
		1606.26	1825.00	3431.25	935.749	145.072	1080.82

Table 4c

Motor Vehicle Emissions by State

File Used For Summary: ems_run.mveerfg

Date: 910718 Case: gridm_07_hddv

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	26.69	10.786	37.47	44.92	44.92
17	Illinois	283.00	107.039	390.04	824.47	824.47
18	Indiana	305.84	108.138	413.98	479.64	479.64
19	Iowa	47.06	19.860	66.92	67.02	67.02
21	Kentucky	200.52	57.417	257.94	319.75	319.75
26	Michigan	299.41	106.469	405.88	642.48	642.48
27	Minnesota	4.31	1.721	6.03	7.50	7.50
29	Missouri	79.25	27.927	107.17	179.04	179.04
37	North Carolina	30.24	7.923	38.16	53.99	53.99
39	Ohio	273.42	105.332	378.76	422.64	422.64
47	Tennessee	311.32	83.868	395.19	461.50	461.50
51	Virginia	10.64	3.368	14.00	18.54	18.54
54	West Virginia	8.93	3.450	12.38	12.94	12.94
55	Wisconsin	152.51	57.272	209.79	380.08	380.08
75	Canada	97.37	65.950	163.32	174.37	174.37
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		2130.52	766.523	2897.04	4088.87	4088.87

Motor Vehicle Emissions by State

File Used For Summary: ems_run.mveerfg

Date: 910713 Case: gridm_07_hddv

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	24.45	9.653	34.10	41.41	41.41
17	Illinois	263.69	70.009	333.70	777.24	777.24
18	Indiana	277.91	76.211	354.12	440.05	440.05
19	Iowa	44.05	11.049	55.10	61.87	61.87
21	Kentucky	181.41	49.092	230.50	293.31	293.31
26	Michigan	264.04	51.557	315.60	535.79	535.79
27	Minnesota	4.14	0.972	5.11	6.99	6.99
29	Missouri	72.02	20.980	93.00	164.04	164.04
37	North Carolina	27.43	7.913	35.34	49.64	49.64
39	Ohio	249.57	66.012	315.58	387.73	387.73
47	Tennessee	283.57	83.002	366.57	424.79	424.79
51	Virginia	9.69	3.062	12.75	17.05	17.05
54	West Virginia	8.17	2.463	10.63	11.88	11.88
55	Wisconsin	153.45	31.678	185.13	359.74	359.74
75	Canada	90.04	29.179	119.21	167.06	167.06
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1953.62	512.832	2466.46	3738.59	3738.59

Motor Vehicle Emissions by State

File Used For Summary: ems_run.mveerfg

Date: 910714 Case: gridm_07_hddv

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	21.27	8.468	29.74	36.18	36.18
17	Illinois	236.55	68.587	305.14	690.78	690.78
18	Indiana	241.69	68.383	310.07	384.28	384.28
19	Iowa	38.06	10.676	48.74	53.98	53.98
21	Kentucky	158.27	41.068	199.34	256.19	256.19
26	Michigan	216.87	53.584	270.45	463.44	463.44
27	Minnesota	3.52	0.956	4.48	6.06	6.06
29	Missouri	62.91	18.510	81.42	143.51	143.51
37	North Carolina	23.74	7.058	30.80	43.33	43.33
39	Ohio	216.88	58.898	275.78	338.62	338.62
47	Tennessee	246.50	71.850	318.35	370.92	370.92
51	Virginia	8.40	2.641	11.04	14.88	14.88
54	West Virginia	7.13	2.040	9.17	10.38	10.38
55	Wisconsin	133.65	33.386	167.03	323.05	323.05
75	Canada	75.94	31.261	107.20	144.66	144.66
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1691.39	477.365	2168.75	3280.25	3280.25

Table 4d

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910718 Case: gridm_07_tier2

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	23.72	10.663	34.38	36.00	36.00
17	Illinois	255.82	105.539	361.36	699.82	699.82
18	Indiana	271.96	106.826	378.79	381.54	381.54
19	Iowa	41.81	19.627	61.44	53.11	53.11
21	Kentucky	180.15	56.635	236.78	258.52	258.52
26	Michigan	265.34	105.319	370.66	503.49	503.49
27	Minnesota	3.83	1.702	5.54	6.05	6.05
29	Missouri	69.60	27.458	97.06	143.17	143.17
37	North Carolina	26.98	7.828	34.80	43.94	43.94
39	Ohio	250.01	104.372	354.38	358.87	358.87
47	Tennessee	273.19	82.597	355.79	360.89	360.89
51	Virginia	9.46	3.331	12.79	15.08	15.08
54	West Virginia	7.93	3.410	11.34	10.26	10.26
55	Wisconsin	136.57	56.567	193.14	306.15	306.15
75	Canada	97.37	65.950	163.32	174.37	174.37
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1913.75	757.822	2671.57	3351.26	3351.26

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910713 Case: gridm_07_tier2

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	21.73	9.542	31.27	33.19	33.19
17	Illinois	238.35	68.986	307.33	660.62	660.62
18	Indiana	247.16	75.276	322.43	350.24	350.24
19	Iowa	39.14	10.917	50.05	49.02	49.02
21	Kentucky	162.98	48.430	211.41	237.25	237.25
26	Michigan	233.91	50.969	284.88	418.83	418.83
27	Minnesota	3.68	0.960	4.64	5.62	5.62
29	Missouri	63.26	20.618	83.88	131.30	131.30
37	North Carolina	24.47	7.819	32.29	40.43	40.43
39	Ohio	228.13	65.417	293.55	329.26	329.26
47	Tennessee	248.83	81.751	330.58	332.27	332.27
51	Virginia	8.62	3.028	11.65	13.88	13.88
54	West Virginia	7.26	2.434	9.69	9.42	9.42
55	Wisconsin	137.25	31.269	168.52	289.39	289.39
75	Canada	90.04	29.179	119.21	167.06	167.06
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1754.80	506.595	2261.40	3067.79	3067.79

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910714 Case: gridm_07_tier2

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	18.91	8.371	27.28	29.00	29.00
17	Illinois	213.68	67.600	281.28	585.39	585.39
18	Indiana	214.94	67.547	282.49	305.90	305.90
19	Iowa	33.82	10.550	44.37	42.78	42.78
21	Kentucky	142.20	40.510	182.71	207.26	207.26
26	Michigan	192.17	52.989	245.16	363.32	363.32
27	Minnesota	3.13	0.945	4.07	4.88	4.88
29	Missouri	55.26	18.190	73.45	114.86	114.86
37	North Carolina	21.18	6.973	28.16	35.29	35.29
39	Ohio	198.29	58.363	256.65	287.63	287.63
47	Tennessee	216.31	70.764	287.07	290.19	290.19
51	Virginia	7.47	2.611	10.08	12.11	12.11
54	West Virginia	6.33	2.016	8.35	8.23	8.23
55	Wisconsin	119.49	32.968	152.46	260.31	260.31
75	Canada	75.94	31.261	107.20	144.66	144.66
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1519.12	471.659	1990.78	2691.84	2691.84

Table 5a

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910718 Case: gridm_07sr8_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4195	361.38	369.80	393.41	452.48	845.90
18	Indiana	6.3084	193.72	200.02	568.81	304.74	873.54
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	461.97	137.39	599.36
26	Michigan	7.2482	146.18	153.43	419.07	240.07	659.14
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	21.11	36.16	57.27
39	Ohio	1.6905	167.74	169.43	400.24	228.62	628.86
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	274.75	324.65	599.40
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	187.02	115.88	302.89
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0734	1774.67	1811.75	3066.71	2056.17	5122.88

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910713 Case: gridm_07sr8_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6450	206.58	214.22	359.31	401.72	761.03
18	Indiana	5.7559	79.36	85.11	520.71	287.47	808.18
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	423.15	133.50	556.65
26	Michigan	6.6945	89.32	96.02	387.08	207.86	594.94
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	19.33	35.94	55.27
39	Ohio	1.5482	90.57	92.12	366.54	197.93	564.47
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	251.62	301.09	552.71
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	171.51	115.86	287.37
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0984	1185.90	1220.00	2824.72	1891.77	4716.48

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910714 Case: gridm_07sr8_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3592	167.13	174.49	343.06	388.07	731.13
18	Indiana	5.4707	68.04	73.51	487.77	278.95	766.72
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	403.90	130.96	534.86
26	Michigan	6.4320	56.70	63.14	371.34	183.37	554.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	18.45	35.94	54.39
39	Ohio	1.4776	75.89	77.36	349.83	195.51	545.35
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	240.15	288.67	528.83
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	163.81	115.85	279.67
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7378	1030.67	1063.41	2696.62	1826.86	4523.48

Table 5b

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910718 Case: gridm_07sr9 base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4195	361.38	369.80	335.04	451.63	786.66
18	Indiana	6.3084	193.72	200.02	461.29	304.74	766.03
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	461.97	137.39	599.36
26	Michigan	7.2482	146.18	153.43	419.07	240.07	659.14
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	21.11	36.16	57.27
39	Ohio	1.6905	167.74	169.43	400.24	228.62	628.86
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	274.75	324.65	599.40
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	151.30	115.49	266.79
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0734	1774.67	1811.75	2865.10	2054.93	4920.03

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910713 Case: gridm_07sr9 base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6450	206.58	214.22	305.85	400.94	706.78
18	Indiana	5.7559	79.36	85.11	422.25	287.47	709.72
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	423.15	133.50	556.65
26	Michigan	6.6945	89.32	96.02	387.08	207.86	594.94
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	19.33	35.94	55.27
39	Ohio	1.5482	90.57	92.12	366.54	197.93	564.47
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	251.62	301.09	552.71
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	138.79	115.47	254.26
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0984	1185.90	1220.00	2640.07	1890.60	4530.67

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910714 Case: gridm_07sr9 base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3592	167.13	174.49	292.03	387.33	679.36
18	Indiana	5.4707	68.04	73.51	393.79	278.95	672.75
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	403.90	130.96	534.86
26	Michigan	6.4320	56.70	63.14	371.34	183.37	554.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	18.45	35.94	54.39
39	Ohio	1.4776	75.89	77.36	349.83	195.51	545.35
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	240.15	288.67	528.83
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	132.58	115.47	248.05
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7378	1030.67	1063.41	2520.39	1825.73	4346.11

Table 5c

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910718 Case: gridm_07sr10_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4141	360.97	369.38	333.15	405.95	739.10
18	Indiana	6.3084	193.72	200.02	461.29	283.65	744.94
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	461.97	137.39	599.36
26	Michigan	7.2482	146.18	153.43	419.07	240.07	659.14
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	21.11	36.16	57.27
39	Ohio	1.6905	167.74	169.43	400.24	228.62	628.86
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	274.75	324.65	599.40
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	151.30	94.07	245.36
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0681	1774.27	1811.33	2863.21	1966.74	4829.96

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910713 Case: gridm_07sr10_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6396	206.17	213.81	303.96	355.26	659.22
18	Indiana	5.7559	79.36	85.11	422.25	266.68	688.93
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	423.15	133.50	556.65
26	Michigan	6.6945	89.32	96.02	387.08	207.86	594.94
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	19.33	35.94	55.27
39	Ohio	1.5482	90.57	92.12	366.54	197.93	564.47
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	251.62	301.09	552.71
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	138.79	94.05	232.84
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0930	1185.49	1219.58	2638.19	1802.71	4440.90

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910714 Case: gridm_07sr10_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3539	166.72	174.08	290.14	341.65	631.80
18	Indiana	5.4707	68.04	73.51	393.79	258.32	652.11
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	403.90	130.96	534.86
26	Michigan	6.4320	56.70	63.14	371.34	183.37	554.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	18.45	35.94	54.39
39	Ohio	1.4776	75.89	77.36	349.83	195.51	545.35
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	240.15	288.67	528.83
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	132.58	94.04	226.63
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7324	1030.26	1063.00	2518.50	1737.99	4256.50

Table 5d

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910718 Case: gridm_07sr11_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4141	360.97	369.38	274.77	405.10	679.87
18	Indiana	6.3084	193.72	200.02	353.77	283.65	637.42
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	461.97	137.39	599.36
26	Michigan	7.2482	146.18	153.43	419.07	240.07	659.14
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	21.11	36.16	57.27
39	Ohio	1.6905	167.74	169.43	400.24	228.62	628.86
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	274.75	324.65	599.40
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	115.58	93.68	209.25
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0681	1774.27	1811.33	2661.60	1965.50	4627.10

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910713 Case: gridm_07sr11_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6396	206.17	213.81	250.50	354.48	604.98
18	Indiana	5.7559	79.36	85.11	323.78	266.68	590.47
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	423.15	133.50	556.65
26	Michigan	6.6945	89.32	96.02	387.08	207.86	594.94
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	19.33	35.94	55.27
39	Ohio	1.5482	90.57	92.12	366.54	197.93	564.47
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	251.62	301.09	552.71
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	106.07	93.66	199.73
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0930	1185.49	1219.58	2453.54	1801.54	4255.08

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910714 Case: gridm_07sr11_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3539	166.72	174.08	239.12	340.91	580.03
18	Indiana	5.4707	68.04	73.51	299.82	258.32	558.14
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	403.90	130.96	534.86
26	Michigan	6.4320	56.70	63.14	371.34	183.37	554.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	18.45	35.94	54.39
39	Ohio	1.4776	75.89	77.36	349.83	195.51	545.35
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	240.15	288.67	528.83
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	101.35	93.66	195.01
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7324	1030.26	1063.00	2342.27	1736.86	4079.13

Table 5e

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910718 Case: gridm_07sipcall_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4141	360.97	369.38	274.77	405.10	679.87
18	Indiana	6.3084	193.72	200.02	353.77	210.65	564.42
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	277.53	130.72	408.25
26	Michigan	7.2482	146.18	153.43	274.08	240.07	514.15
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.1379	118.05	120.19	104.90	89.72	194.62
37	North Carolina	0.1198	16.18	16.30	9.63	23.00	32.63
39	Ohio	1.6905	167.74	169.43	132.24	149.97	282.20
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	164.85	218.47	383.32
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	9.27	9.27
55	Wisconsin	2.8385	123.59	126.43	115.58	93.68	209.25
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		36.8823	1774.26	1811.15	1878.62	1669.79	3548.41

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910713 Case: gridm_07sipcall_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6396	206.17	213.81	250.50	354.48	604.98
18	Indiana	5.7559	79.36	85.11	323.78	194.43	518.21
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	254.24	126.83	381.07
26	Michigan	6.6945	89.32	96.02	254.29	207.86	462.15
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.1065	88.31	90.42	104.37	85.68	190.05
37	North Carolina	0.1097	5.84	5.95	8.82	22.78	31.61
39	Ohio	1.5482	90.57	92.12	121.10	133.32	254.42
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	150.97	203.71	354.68
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	8.07	8.07
55	Wisconsin	2.6120	123.58	126.20	106.07	93.66	199.73
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		33.9072	1185.49	1219.40	1731.00	1528.95	3259.95

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910714 Case: gridm_07sipcall_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3539	166.72	174.08	239.12	340.91	580.03
18	Indiana	5.4707	68.04	73.51	299.82	186.09	485.90
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	242.69	124.42	367.11
26	Michigan	6.4320	56.70	63.14	244.60	183.37	427.97
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.1065	56.79	58.90	104.37	85.34	189.71
37	North Carolina	0.1047	5.71	5.81	8.42	22.78	31.20
39	Ohio	1.4776	75.89	77.36	115.58	130.91	246.49
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	144.09	192.35	336.45
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	7.72	7.72
55	Wisconsin	2.4997	123.58	126.08	101.35	93.66	195.01
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.5467	1030.26	1062.81	1649.74	1465.63	3115.38

Table 5f

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910718 Case: gridm_07sr13_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4206	357.92	366.34	393.41	452.48	845.90
18	Indiana	6.3084	193.72	200.02	568.81	295.22	864.03
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	431.34	137.39	568.73
26	Michigan	7.2482	146.18	153.43	419.07	240.07	659.14
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	21.11	36.16	57.27
39	Ohio	1.6905	167.74	169.43	400.24	228.62	628.86
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	206.94	324.65	531.58
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	251.68	115.99	367.67
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0745	1771.21	1808.29	3032.93	2046.77	5079.70

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910713 Case: gridm_07sr13_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6429	200.41	208.05	359.31	401.72	761.03
18	Indiana	5.7559	79.36	85.11	520.71	278.33	799.04
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	395.11	133.50	528.60
26	Michigan	6.6945	89.32	96.02	387.08	207.86	594.94
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	19.33	35.94	55.27
39	Ohio	1.5482	90.57	92.12	366.54	197.93	564.47
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	189.52	301.09	490.61
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	230.72	115.97	346.69
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0963	1179.73	1213.83	2793.78	1882.73	4676.51

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcctl

Date: 910714 Case: gridm_07sr13_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3571	159.32	166.68	343.06	388.07	731.13
18	Indiana	5.4707	68.04	73.51	487.77	270.00	757.77
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	377.13	130.96	508.09
26	Michigan	6.4320	56.70	63.14	371.34	183.37	554.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	18.45	35.94	54.39
39	Ohio	1.4776	75.89	77.36	349.83	195.51	545.35
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	180.88	288.67	469.55
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	220.33	115.95	336.28
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7357	1022.86	1055.60	2667.09	1818.00	4485.10

Table 5g

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910718 Case: gridm_07sr14_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4153	357.51	365.92	276.13	432.54	708.67
18	Indiana	6.3084	193.72	200.02	353.77	253.87	607.64
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	277.53	130.72	408.25
26	Michigan	7.2482	146.18	153.43	274.08	240.07	514.15
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	9.63	23.00	32.63
39	Ohio	1.6905	167.74	169.43	132.24	159.51	291.75
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	164.85	249.97	414.83
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.41	16.41
55	Wisconsin	2.8385	123.59	126.43	251.68	115.99	367.67
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0692	1770.80	1807.87	2080.25	1821.66	3901.91

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910713 Case: gridm_07sr14_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6376	200.00	207.64	251.85	381.92	633.77
18	Indiana	5.7559	79.36	85.11	323.78	237.65	561.43
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	254.24	126.83	381.07
26	Michigan	6.6945	89.32	96.02	254.29	207.86	462.15
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	8.82	22.78	31.61
39	Ohio	1.5482	90.57	92.12	121.10	142.87	263.97
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	150.97	226.43	377.40
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.21	15.21
55	Wisconsin	2.6120	123.58	126.20	230.72	115.97	346.69
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0910	1179.32	1213.41	1921.25	1672.50	3593.75

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910714 Case: gridm_07sr14_base12

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3518	158.91	166.26	240.47	368.34	608.82
18	Indiana	5.4707	68.04	73.51	299.82	229.31	529.13
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	242.69	124.42	367.11
26	Michigan	6.4320	56.70	63.14	244.60	183.37	427.97
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	8.42	22.78	31.20
39	Ohio	1.4776	75.89	77.36	115.58	140.45	256.04
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	144.09	215.07	359.16
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	220.33	115.95	336.28
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7303	1022.45	1055.18	1834.32	1609.23	3443.54

Table 5h

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910718 Case: gridm_07sr15_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4206	357.92	366.34	393.41	452.48	845.90
18	Indiana	6.3084	193.72	200.02	568.81	295.22	864.03
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	431.34	137.39	568.73
26	Michigan	7.2482	146.18	153.43	419.07	240.07	659.14
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	21.11	36.16	57.27
39	Ohio	1.6905	167.74	169.43	400.24	228.62	628.86
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	206.94	324.65	531.58
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.61	16.61
55	Wisconsin	2.8385	123.59	126.43	263.12	116.22	379.34
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0745	1771.21	1808.29	3044.38	2046.99	5091.37

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910713 Case: gridm_07sr15_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6429	200.41	208.05	359.31	401.72	761.03
18	Indiana	5.7559	79.36	85.11	520.71	278.33	799.04
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	395.11	133.50	528.60
26	Michigan	6.6945	89.32	96.02	387.08	207.86	594.94
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	19.33	35.94	55.27
39	Ohio	1.5482	90.57	92.12	366.54	197.93	564.47
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	189.52	301.09	490.61
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.40	15.40
55	Wisconsin	2.6120	123.58	126.20	241.21	116.19	357.40
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0963	1179.73	1213.83	2804.27	1882.95	4687.22

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910714 Case: gridm_07sr15_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3571	159.32	166.68	343.06	388.07	731.13
18	Indiana	5.4707	68.04	73.51	487.77	270.00	757.77
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	377.13	130.96	508.09
26	Michigan	6.4320	56.70	63.14	371.34	183.37	554.70
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	18.45	35.94	54.39
39	Ohio	1.4776	75.89	77.36	349.83	195.51	545.35
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	180.88	288.67	469.55
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	230.34	116.18	346.52
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7357	1022.86	1055.60	2677.10	1818.23	4495.33

Table 5i

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910718 Case: gridm_07sr16_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4153	357.51	365.92	276.13	432.54	708.67
18	Indiana	6.3084	193.72	200.02	353.77	253.87	607.64
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	277.53	130.72	408.25
26	Michigan	7.2482	146.18	153.43	274.08	240.07	514.15
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	169.07	100.43	269.50
37	North Carolina	0.1198	16.18	16.30	9.63	23.00	32.63
39	Ohio	1.6905	167.74	169.43	132.24	159.51	291.75
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	164.85	249.97	414.83
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.41	16.41
55	Wisconsin	2.8385	123.59	126.43	263.12	116.22	379.34
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0692	1770.80	1807.87	2091.70	1821.88	3913.58

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910713 Case: gridm_07sr16_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6376	200.00	207.64	251.85	381.92	633.77
18	Indiana	5.7559	79.36	85.11	323.78	237.65	561.43
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	254.24	126.83	381.07
26	Michigan	6.6945	89.32	96.02	254.29	207.86	462.15
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	168.61	96.87	265.47
37	North Carolina	0.1097	5.84	5.95	8.82	22.78	31.61
39	Ohio	1.5482	90.57	92.12	121.10	142.87	263.97
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	150.97	226.43	377.40
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.21	15.21
55	Wisconsin	2.6120	123.58	126.20	241.21	116.19	357.40
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0910	1179.32	1213.41	1931.74	1672.73	3604.46

Point Source Emissions by State
 Utility Sources are all records with SCC = 101XXXXX or 201XXXXX
 File Used For Summary: ems_run.ptcctl
 Date: 910714 Case: gridm_07sr16_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3518	158.91	166.26	240.47	368.34	608.82
18	Indiana	5.4707	68.04	73.51	299.82	229.31	529.13
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	242.69	124.42	367.11
26	Michigan	6.4320	56.70	63.14	244.60	183.37	427.97
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	168.61	96.58	265.18
37	North Carolina	0.1047	5.71	5.81	8.42	22.78	31.20
39	Ohio	1.4776	75.89	77.36	115.58	140.45	256.04
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	144.09	215.07	359.16
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	230.34	116.18	346.52
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7303	1022.45	1055.18	1844.33	1609.45	3453.78

Table 5j

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910718 Case: gridm_07sr17_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7911	7.60	8.39	71.30	17.10	88.40
17	Illinois	8.4153	357.51	365.92	276.13	432.54	708.67
18	Indiana	6.3084	193.72	200.02	353.77	253.87	607.64
19	Iowa	1.3477	4.03	5.37	99.97	72.72	172.69
21	Kentucky	3.7910	272.62	276.41	277.53	130.72	408.25
26	Michigan	7.2482	146.18	153.43	274.08	240.07	514.15
27	Minnesota	0.0000	4.37	4.37	0.00	0.22	0.22
29	Missouri	2.3236	118.05	120.38	104.43	84.25	188.69
37	North Carolina	0.1198	16.18	16.30	9.63	23.00	32.63
39	Ohio	1.6905	167.74	169.43	132.24	159.51	291.75
45	South Carolina	0.0000	0.02	0.02	0.00	0.17	0.17
47	Tennessee	2.1950	320.25	322.44	164.85	249.97	414.83
51	Virginia	0.0000	0.54	0.54	0.00	0.97	0.97
54	West Virginia	0.0000	3.33	3.33	0.00	16.41	16.41
55	Wisconsin	2.8385	123.59	126.43	263.12	116.22	379.34
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		37.0692	1770.80	1807.87	2027.06	1805.70	3832.77

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910713 Case: gridm_07sr17_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.7245	6.20	6.92	65.30	17.10	82.39
17	Illinois	7.6376	200.00	207.64	251.85	381.92	633.77
18	Indiana	5.7559	79.36	85.11	323.78	237.65	561.43
19	Iowa	1.2342	4.03	5.26	91.56	72.72	164.28
21	Kentucky	3.4719	231.03	234.50	254.24	126.83	381.07
26	Michigan	6.6945	89.32	96.02	254.29	207.86	462.15
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	88.31	90.60	103.97	80.69	184.66
37	North Carolina	0.1097	5.84	5.95	8.82	22.78	31.61
39	Ohio	1.5482	90.57	92.12	121.10	142.87	263.97
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	2.0102	223.78	225.79	150.97	226.43	377.40
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.19	2.19	0.00	15.21	15.21
55	Wisconsin	2.6120	123.58	126.20	241.21	116.19	357.40
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		34.0910	1179.32	1213.41	1867.11	1656.55	3523.65

Point Source Emissions by State

Utility Sources are all records with SCC = 101XXXXX or 201XXXXX

File Used For Summary: ems_run.ptcntl

Date: 910714 Case: gridm_07sr17_base12v4

State FIPS ID	State	ROG Utility Emissions (Tons/Day)	ROG Non-Util Emissions (Tons/Day)	ROG Total Emissions (Tons/Day)	NOX Utility Emissions (Tons/Day)	NOX Non-Util Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	0.6915	4.96	5.65	62.32	17.06	79.38
17	Illinois	7.3518	158.91	166.26	240.47	368.34	608.82
18	Indiana	5.4707	68.04	73.51	299.82	229.31	529.13
19	Iowa	1.1779	4.03	5.20	87.38	72.72	160.10
21	Kentucky	3.3136	221.31	224.62	242.69	124.42	367.11
26	Michigan	6.4320	56.70	63.14	244.60	183.37	427.97
27	Minnesota	0.0000	0.01	0.01	0.00	0.09	0.09
29	Missouri	2.2922	56.79	59.09	103.97	80.40	184.37
37	North Carolina	0.1047	5.71	5.81	8.42	22.78	31.20
39	Ohio	1.4776	75.89	77.36	115.58	140.45	256.04
45	South Carolina	0.0000	0.01	0.01	0.00	0.16	0.16
47	Tennessee	1.9186	209.25	211.16	144.09	215.07	359.16
51	Virginia	0.0000	0.00	0.00	0.00	0.10	0.10
54	West Virginia	0.0000	2.17	2.17	0.00	14.85	14.85
55	Wisconsin	2.4997	123.58	126.08	230.34	116.18	346.52
75	Canada	0.0000	35.10	35.10	0.00	7.96	7.96
99	Off Shore	0.0000	0.00	0.00	0.00	0.00	0.00
		=====	=====	=====	=====	=====	=====
		32.7303	1022.45	1055.18	1779.69	1593.27	3372.97

Table 5k

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910718 Case: gridm_07_plus7

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	23.72	10.663	34.38	36.00	36.00
17	Illinois	255.82	105.539	361.36	699.82	699.82
18	Indiana	271.96	106.826	378.79	381.54	381.54
19	Iowa	41.81	19.627	61.44	53.11	53.11
21	Kentucky	180.15	56.635	236.78	258.52	258.52
26	Michigan	265.34	105.319	370.66	503.49	503.49
27	Minnesota	3.83	1.702	5.54	6.05	6.05
29	Missouri	69.60	27.458	97.06	143.17	143.17
37	North Carolina	26.98	7.828	34.80	43.94	43.94
39	Ohio	250.01	104.372	354.38	358.87	358.87
47	Tennessee	273.19	82.597	355.79	360.89	360.89
51	Virginia	9.46	3.331	12.79	15.08	15.08
54	West Virginia	7.93	3.410	11.34	10.26	10.26
55	Wisconsin	139.74	57.319	197.06	313.80	313.80
75	Canada	97.37	65.950	163.32	174.37	174.37
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1916.92	758.574	2675.49	3358.91	3358.91

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910713 Case: gridm_07_plus7

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	21.73	9.542	31.27	33.19	33.19
17	Illinois	238.35	68.986	307.33	660.62	660.62
18	Indiana	247.16	75.276	322.43	350.24	350.24
19	Iowa	39.14	10.917	50.05	49.02	49.02
21	Kentucky	162.98	48.430	211.41	237.25	237.25
26	Michigan	233.91	50.969	284.88	418.83	418.83
27	Minnesota	3.68	0.960	4.64	5.62	5.62
29	Missouri	63.26	20.618	83.88	131.30	131.30
37	North Carolina	24.47	7.819	32.29	40.43	40.43
39	Ohio	228.13	65.417	293.55	329.26	329.26
47	Tennessee	248.83	81.751	330.58	332.27	332.27
51	Virginia	8.62	3.028	11.65	13.88	13.88
54	West Virginia	7.26	2.434	9.69	9.42	9.42
55	Wisconsin	139.96	31.738	171.70	295.89	295.89
75	Canada	90.04	29.179	119.21	167.06	167.06
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1757.51	507.064	2264.57	3074.29	3074.29

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910714 Case: gridm_07_plus7

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	18.91	8.371	27.28	29.00	29.00
17	Illinois	213.68	67.600	281.28	585.39	585.39
18	Indiana	214.94	67.547	282.49	305.90	305.90
19	Iowa	33.82	10.550	44.37	42.78	42.78
21	Kentucky	142.20	40.510	182.71	207.26	207.26
26	Michigan	192.17	52.989	245.16	363.32	363.32
27	Minnesota	3.13	0.945	4.07	4.88	4.88
29	Missouri	55.26	18.190	73.45	114.86	114.86
37	North Carolina	21.18	6.973	28.16	35.29	35.29
39	Ohio	198.29	58.363	256.65	287.63	287.63
47	Tennessee	216.31	70.764	287.07	290.19	290.19
51	Virginia	7.47	2.611	10.08	12.11	12.11
54	West Virginia	6.33	2.016	8.35	8.23	8.23
55	Wisconsin	121.61	33.426	155.04	265.61	265.61
75	Canada	75.94	31.261	107.20	144.66	144.66
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1521.24	472.117	1993.36	2697.13	2697.13

Table 51

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910718 Case: gridm_07_base12v4

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	23.72	10.663	34.38	36.00	36.00
17	Illinois	271.26	128.940	400.20	631.02	631.02
18	Indiana	271.96	106.826	378.79	381.54	381.54
19	Iowa	41.81	19.627	61.44	53.11	53.11
21	Kentucky	180.15	56.635	236.78	258.52	258.52
26	Michigan	266.06	105.536	371.59	504.37	504.37
27	Minnesota	3.83	1.702	5.54	6.05	6.05
29	Missouri	69.60	27.458	97.06	143.17	143.17
37	North Carolina	26.98	7.828	34.80	43.94	43.94
39	Ohio	241.44	98.307	339.75	332.89	332.89
47	Tennessee	273.19	82.597	355.79	360.89	360.89
51	Virginia	9.46	3.331	12.79	15.08	15.08
54	West Virginia	7.93	3.410	11.34	10.26	10.26
55	Wisconsin	126.73	57.104	183.84	278.40	278.40
75	Canada	97.37	65.950	163.32	174.37	174.37
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1911.51	775.912	2687.42	3229.60	3229.60

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910713 Case: gridm_07_base12v4

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	21.73	9.542	31.27	33.19	33.19
17	Illinois	248.08	82.572	330.65	588.66	588.66
18	Indiana	247.16	75.276	322.43	350.24	350.24
19	Iowa	39.14	10.917	50.05	49.02	49.02
21	Kentucky	162.98	48.430	211.41	237.25	237.25
26	Michigan	233.13	50.842	283.98	417.93	417.93
27	Minnesota	3.68	0.960	4.64	5.62	5.62
29	Missouri	63.26	20.618	83.88	131.30	131.30
37	North Carolina	24.47	7.819	32.29	40.43	40.43
39	Ohio	220.48	62.368	282.85	305.56	305.56
47	Tennessee	248.83	81.751	330.58	332.27	332.27
51	Virginia	8.62	3.028	11.65	13.88	13.88
54	West Virginia	7.26	2.434	9.69	9.42	9.42
55	Wisconsin	123.18	30.527	153.71	254.73	254.73
75	Canada	90.04	29.179	119.21	167.06	167.06
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1742.04	516.263	2258.31	2936.57	2936.57

Motor Vehicle Emissions by State
 File Used For Summary: ems_run.mveerfg
 Date: 910714 Case: gridm_07_base12v4

State FIPS ID	State	HC Exhaust Emissions (Tons/Day)	HC Evap Emissions (Tons/Day)	HC Total Emissions (Tons/Day)	NOX Exhaust Emissions (Tons/Day)	NOX Total Emissions (Tons/Day)
5	Arkansas	18.91	8.371	27.28	29.00	29.00
17	Illinois	216.55	79.269	295.82	512.45	512.45
18	Indiana	214.94	67.547	282.49	305.90	305.90
19	Iowa	33.82	10.550	44.37	42.78	42.78
21	Kentucky	142.20	40.510	182.71	207.26	207.26
26	Michigan	189.25	52.396	241.64	359.81	359.81
27	Minnesota	3.13	0.945	4.07	4.88	4.88
29	Missouri	55.26	18.190	73.45	114.86	114.86
37	North Carolina	21.18	6.973	28.16	35.29	35.29
39	Ohio	191.60	55.812	247.41	266.91	266.91
47	Tennessee	216.31	70.764	287.07	290.19	290.19
51	Virginia	7.47	2.611	10.08	12.11	12.11
54	West Virginia	6.33	2.016	8.35	8.23	8.23
55	Wisconsin	101.49	31.023	132.52	216.70	216.70
75	Canada	75.94	31.261	107.20	144.66	144.66
99	Off Shore	0.00	0.000	0.00	0.00	0.00
		=====	=====	=====	=====	=====
		1494.39	478.239	1972.63	2551.06	2551.06

Table 6. Control Measures

NOx RUN 96bas	UTILITY	NONUTILITY	NONROAD/OTHER AREA	MOTOR VEHICLE
SR1	* Title IV controls (Phase 1) * Title IV controls (Phases 1 and 2 for all boiler types) * 250 ton PSD, NSPS * RACT and NSR in non-waiver areas	* RACT at major sources in non-waiver areas * RACT at major sources in non-waiver areas * 250 ton PSD, NSPS * NSR in non-waiver areas	* Fed RFG - Phase I' * Fed Phase II small engine standards * Fed Marine engine standards * Fed HDV (≥50 hp) standards-Phase I * Fed RFG - Phase II' * Fed locomotive standards (in. Rebuilds) * HC engine 4 gm standard	* Fed RFG - Phase 1' * Enhanced I/M' * Basic I/M' * Tier I LDV and HDV standards * Fed RFG - Phase II' * Enhanced I/M' * Basic I/M' * Clean fuel fleets' * National LEV * HDV 3 gm standard
SR8	* SR1 plus 0.25 lb/MMBTU (IL, IN, WI, KY, MO, TN), and State rule (MI)	* SR1 plus State rule (MI)	Same as SR1	* SR1 plus Tier II/Low S
SR9	* SR1 plus 0.20 lb/MMBTU (IL, IN, WI), 0.25 lb/MMBTU (KY, MO, TN), and State rule (MI)	* SR1 plus State rule (MI)	Same as SR1	* SR1 plus Tier II/Low S
SR10	* SR1 plus 0.20 lb/MMBTU (IL, IN, WI), 0.25 lb/MMBTU (KY, MO, TN), and State rule (MI)	* SR1 plus SR12 (IL, WI), and State rule (IN, MI)	Same as SR1	* SR1 plus Tier II/Low S
SR11	* SR1 plus 0.15 lb/MMBTU (IL, IN, WI), 0.25 lb/MMBTU (KY, MO, TN), and State rule (MI)	* SR1 plus SR12 (IL, WI), and State rule (IN, MI)	Same as SR1	* SR1 plus Tier II/Low S
SR12	* 0.15 lb/MMBTU in 22 affected States	* 60% large boilers, turbines 90% large I.C. engines 30% large cement plants	Same as SR1	* SR1 plus Tier II/Low S

SR13	* SR1 plus 0.25 lb/MMBTU (IL, IN, KY, TN), and State rule (MI, MO, WI)	* SR1 plus State rule (MI, IN)	Same as SR1	* SR1 plus Tier II/Low S
SR14	* 0.15 lb/MMBTU in 20 affected States * State rule (WI, MO)	* 60% large boilers, turbines 30% large cement plants	Same as SR1	* SR1 plus Tier II/Low S
SR15	* SR1 plus 0.25 lb/MMBTU (IL, IN, KY, TN), and State rule (MI, MO, WI)	* SR1 plus State rule (MI, IN)	Same as SR1	* SR1 plus Tier II/Low S
SR16	* 0.15 lb/MMBTU in 20 affected States * State rule (WI, MO)	* 60% large boilers, turbines 30% large cement plants	Same as SR1	* SR1 plus Tier II/Low S
SR17	* 0.15 lb/MMBTU in 21 affected States * State rule (WI)	* 60% large boilers, turbines 30% large cement plants	Same as SR1	* SR1 plus Tier II/Low S
VOC 96bas	* CTG and Non-CTG RACT at major sources in NA areas * NSR LAER and Offsets in NA areas		* Fed RFG - Phase I ¹	* Fed RFG - Phase 1 ¹ * Enhanced I/M ¹ * Basic I/M ¹
SR1	Same as 96bas		* Fed Phase II small engine standards * Fed Marine engine standards * Fed HDV (>=50 hp) standards-Phase1 * Fed RFG - Phase II ¹ * C/C solvent and arch. coating controls * Stage I, II in NA areas * Autobody, degreasing, and dry cleaning controls in NA areas	* Tier I LDV and HDV standards * Fed RFG - Phase II ¹ * 9.0 RVP fuel elsewhere in domain * Enhanced I/M ¹ * Basic I/M ¹ * Clean fuel fleets ¹
SR8 - SR17	Same as SR1		Same as SR1	* SR1 plus Tier II/Low S

Table 7. EMS-95 Standardized QA Checks

Point Sources

ptqafac.sas

Performs the following checks on the point source ASCII facility foundation file.

- a. duplicate or missing keys (stid, cyid, fcid)
- b. missing UTM coordinates and mismatched UTM zone
- c. missing or invalid FIPS state and county codes
- d. missing facility name

ptqadev.sas

Performs the following checks on the point source ASCII device foundation file.

- a. duplicate, missing, or invalid keys (stid, cyid, fcid, stkid, dvid)
- b. missing or invalid SIC
- c. missing or invalid FIPS state and county codes

ptqastk.sas

Performs the following checks on the point source ASCII stack foundation file.

- a. duplicate, missing, or invalid keys (stid, cyid, fcid, stkid)
- b. missing UTM coordinates
- c. missing or out-of-rang stack parameters

ptqaproc.sas

Performs the following checks on the point source ASCII process foundation file

- a. duplicate, missing, or invalid keys (stid, cyid, fcid, stkid, dvid, prid)
- b. missing or invalid FIPS state and county codes
- c. missing or invalid SCC

ptqaemis.sas

Performs the following checks on the point source ASCII emission foundation file.

- a. duplicate, missing, or invalid keys (stid, cyid, fcid, stkid, dvid, prid, polid)
- b. invalid emissions estimate temporal basis
- c. missing or invalid actual emissions estimates and/or control efficiencies
- d. missing or invalid FIPS state and county codes

qarept.sas

Generates QA/QC reports.

Area Sources

arqatprl.sas

Performs the following checks on the area source ASCII temporal foundation file.

- a. duplicate or missing keys (stid, cyid, fcid)
- b. missing or invalid FIPS state and county codes

arqaemis.sas

Performs the following checks on the area source ASCII emissions foundation file.

- a. duplicate, missing, or invalid keys (stid, cyid, asct, polid)
- b. invalid emissions estimate temporal basis
- c. missing or invalid actual emissions estimates and/or control efficiencies
- d. missing or invalid FIPS state and county codes

qarept.sas

Generates QA/QC reports.

Mobile Sources

mvqaonim.sas

Performs the following checks on the motor vehicle on-network i/m program factors ASCII file

- a. duplicate and/or missing keys (stid, cyid, linkid)
- b. missing vmt (imvmt)
- c. invalid state and/or county id code
- d. state id, county id and link id in ONNETIM file with no match in ONNET file

mvqaovmt.sas

Performs the following checks on the motor vehicle on-network vmt ASCII file

- a. duplicate and/or missing keys (stid, cyid, linkid)
- b. missing and/or invalid vmt values (must be greater than 0)
- c. invalid FIPS state code
- d. invalid state and/or county id code
- e. state id, county id, and link id in ONNETVMT file with no match in ONNET file
- f. missing link id (linkid) or invalid vmt (H for hourly or D for daily)

mvqavmix.sas

Performs the following checks on the motor vehicle network vehicle mix ASCII file

- a. duplicate and/or missing keys (stid, cyid, areatype, factype, linkid, hour)
- b. stateid, county id, link id in NETVMIX file with no match in ONNET file
- c. missing and/or invalid vehicle mix values (must be greater than 1)
- d. missing areatype and facetype if linkid is supplied

mvqafvmt.sas

Performs the following checks on the motor vehicle county vmt ASCII foundation file

- a. duplicate and/or missing keys (stid, cyid, areatype, facetype)

mvqavmtp.sas

Performs the following checks on the motor vehicle off-network vmt for public land 1/4 sections ASCII foundation file

- a. duplicate and/or missing keys (stid, cyid, polyid, areatype, factype)
- b. missing polygon id
- c. missing and/or invalid vehicle vmt values (must not be equal to 0)
- d. out-of-range average speed (2.5 to 65 mph)
- e. invalid vehicle mix values (must be equal to 1)

mvqaadj.sas

Performs the following checks on the motor vehicle seasonal and daily vmt adjustment factors ASCII foundation file

- a. duplicate and/or missing keys (stid, cyid, polyid, areatype, factype)
- b. missing vmt values for 7 days of the week and all 12 months of the year
- c. missing daily fractional value when at least one day's value is present
- d. missing monthly values when values for at least one month in the year is present

mvqacomm.sas

Performs the following checks on the motor vehicle network vehicle mix, county vmt, off-network vmt for public land 1/4 sections, and seasonal and daily vmt adjustment factors ASCII foundation files

- a. invalid FIPS state code, state id, or county id
- b. area type and facility type with no match in AREAFAC file
- c. facility type with no match in FACCLAS file
- d. facility type is supplied if area type is given

10:50 Friday, December 10, 1999 1

STCY FCID	STKID	STK HEIGHT	PLUME	NOX/FPD	COUNTY	FACILITY NAME
471613399	2	635.00	1076	277.40	Stewart	CUMBERLAND
211771378	3	800.00	1846	191.48	Muhlenberg	PARADISE
471613399	1	635.00	1076	188.84	Stewart	CUMBERLAND
211771378	2	600.00	995	150.16	Muhlenberg	PARADISE
211771378	1	600.00	995	116.05	Muhlenberg	PARADISE
17179179801AAA	0018	500.00	1231	113.76	Tazewell	COM ED - POWERTON GENERAT
18 7700001	2	983.00	1769	95.15	Jefferson	INDIANA-KENTUCKY ELECTRIC
1814700020	1	1038.00	3701	91.51	Spencer	INDIANA MICHIGAN POWER-RO
17 21021814AAB	0007	613.00	1790	87.70	Christian	COM ED - KINCAID GENERATI
17157157851AAA	0001	605.00	1433	84.95	Randolph	ILLINOIS POWER CO.-BALDWI
18 7700001	1	983.00	1769	83.03	Jefferson	INDIANA-KENTUCKY ELECTRIC
291432167	2	800.00	1223	77.61	New Madrid	NEW MADRID
291432167	1	800.00	1271	77.33	New Madrid	NEW MADRID
18 2900002	2	400.00	1012	73.40	Dearborn	AMERICAN ELECTRIC POWER-T
39 256019	1	573.00	1202	73.25	Clermont	W H ZIMMER
39 12850	2	800.00	1273	68.85	Adams	J M STUART
55 59230006260	S10	450.00	1187	63.65	Kenosha	WIS ELECTRIC POWER PLEASA
39 612832	7	800.00	1400	63.21	Hamilton	MIAMI FORT
1812700002	1	480.00	708	62.64	Porter	NIPSCO - BAILLY STATION
17157157851AAA	0002	605.00	1419	61.58	Randolph	ILLINOIS POWER CO.-BALDWI
18 5100013	1	500.00	1979	59.05	Gibson	PSI ENERGY - GIBSON
39 12850	1	800.00	1273	55.35	Adams	J M STUART
39 12850	3	800.00	1273	52.88	Adams	J M STUART
17135135803AAA	0001	500.00	1473	50.19	Montgomery	CENTRAL ILLINOIS PUBLIC S
39 16031	2	900.00	1412	50.13	Adams	KILLEN STATION
18 9100021	4	505.00	1335	49.16	La Porte	NIPSCO - MICHIGAN CITY
211271353	BSU2	826.00	1079	43.71	Lawrence	BIG SANDY
291832107	2	600.00	1415	43.55	St. Charles	SIoux
47 13396	1	800.00	1444	40.58	Anderson	BULL RUN
18 7300008	1	500.00	1263	38.38	Jasper	NIPSCO - SCHAFER STATION
261391710	3	647.00	1551	38.38	Ottawa	J H CAMPBELL
1817300002	3	500.00	504	37.62	Warrick	SIGECO-WARRICK PWR PLANT-
21 411356	1	581.00	751	36.94	Carroll	GHENT
18 5100013	3	500.00	792	35.70	Gibson	PSI ENERGY - GIBSON
5 636641	1	1000.00	1961	35.05	Independence	INDEPENDENCE
55117460033090	S11	550.00	919	35.05	Sheboygan	WIS PWR & LIGHT EDGEWATER
1816700021	1	450.00	1621	34.61	Vigo	PSI ENERGY - WABASH RIVER
1815300005	2	704.00	772	34.55	Sullivan	HOOSIER ENERGY RURAL ELEC
261151733	1	805.00	2160	33.51	Monroe	MONROE
471573393	2	400.00	832	32.58	Shelby	ALLEN
291832107	1	600.00	1415	31.62	St. Charles	SIoux
211616041	2	805.00	1267	30.80	Mason	H L SPURLOCK
5 636641	2	1000.00	1961	29.59	Independence	INDEPENDENCE
471630003	13132	165.00	239	29.53	Sullivan	EASTMAN, TENN. CO
261391710	2	400.00	1422	29.06	Ottawa	J H CAMPBELL
17135135803AAA	0002	500.00	1473	28.80	Montgomery	CENTRAL ILLINOIS PUBLIC S
261151733	2	805.00	2160	28.63	Monroe	MONROE
37 212706	1	392.00	666	27.91	Buncombe	ASHEVILLE
18 2900002	1	400.00	1034	27.86	Dearborn	AMERICAN ELECTRIC POWER-T
55 21111003090	S11	500.00	1231	27.62	Columbia	WIS PWR & LIGHT COLUMBIA
21 411356	3	663.00	2149	26.90	Carroll	GHENT
39 612832	8	800.00	1400	26.79	Hamilton	MIAMI FORT
261631740	3	425.00	936	26.65	Wayne	RIVER ROUGE
471573393	1	400.00	832	25.95	Shelby	ALLEN
21 411356	4	663.00	2149	25.36	Carroll	GHENT
471573393	3	400.00	832	25.08	Shelby	ALLEN
55 21111003090	S12	650.00	1277	24.26	Columbia	WIS PWR & LIGHT COLUMBIA
17197197809AAO	0017	550.00	1188	24.08	Will	COM ED - JOLIET GENERATIN
261151733	3	805.00	2160	24.00	Monroe	MONROE
17 57057801AAA	0001	500.00	530	23.79	Fulton	CENTRAL ILLINOIS LIGHT CO
291630001	00001	250.00	849	23.73	Pike	HOLNAM INC
37 212706	2	392.00	700	23.56	Buncombe	ASHEVILLE
1812500002	3	615.00	895	23.37	Pike	IPALCO-PETERSBURG
391410671010028	73674	475.00	354	23.01	Ross	MEAD CORPORATION
211836823	W1	600.00	674	22.82	Ohio	D B WILSON
261151733	4	805.00	2160	22.70	Monroe	MONROE
21 591374	1	650.00	1066	22.67	Daviess	ELMER SMITH
261631740	1	425.00	1014	22.58	Wayne	RIVER ROUGE
212236071	1	760.00	853	22.21	Trimble	TRIMBLE COUNTY
21 156018	2	650.00	1179	21.74	Boone	EAST BEND
39 12850	4	800.00	1273	21.15	Adams	J M STUART
29 990002	00003	250.00	132	20.99	Jefferson	RIVER CEMENT COMPANY
1815300005	1	704.00	772	20.74	Sullivan	HOOSIER ENERGY RURAL ELEC

21 411356	2	663.00	1883	20.46	Carroll	GHEWT
18 5100013	4	500.00	1979	20.13	Gibson	PSI ENERGY - GIBSON
261476034	1	665.00	1556	19.54	St. Clair	BELLE RIVER
261476034	2	665.00	1556	19.51	St. Clair	BELLE RIVER
1812500002	2	621.00	681	19.31	Pike	IPALCO-PETERSBURG
18 5100013	2	500.00	1979	19.20	Gibson	PSI ENERGY - GIBSON
211111364	4	630.00	867	18.93	Jefferson	MILL CREEK
191156664	101	610.00	1669	18.89	Louisa	LOUISA
1812500002	4	615.00	908	18.86	Pike	IPALCO-PETERSBURG
17157157851AAA	0013	605.00	1447	18.77	Randolph	ILLINOIS POWER CO.-BALDWI
211111364	3	630.00	845	18.56	Jefferson	MILL CREEK
17197197809AAO	0016	550.00	1188	18.54	Will	COM ED - JOLIET GENERATIN
55 79241007690	S14	557.00	969	18.51	Milwaukee	WIS ELECTRIC POWER OAK CR
17119119020AAE	0001	350.00	932	18.33	Madison	ILLINOIS POWER CO.-WOOD R
211271353	BSU1	826.00	960	18.18	Lawrence	BIG SANDY
21 911381	C3	350.00	708	18.14	Hancock	K C COLEMAN
17143143805AAG	0001	503.00	618	17.55	Peoria	CENTRAL ILLINOIS LIGHT CO
1816500001	1	500.00	1137	17.51	Vermillion	PSI ENERGY - CAYUGA
26 781477	27	292.00	544	17.42	Alpena	LAFARGE CORP
17143143805AAG	0002	503.00	676	17.08	Peoria	CENTRAL ILLINOIS LIGHT CO
211671355	3	564.00	1273	16.60	Mercer	E W BROWN
1816500001	2	500.00	1137	16.56	Vermillion	PSI ENERGY - CAYUGA
39 252830	6	452.00	1352	16.37	Clermont	WALTER C BECKJORD
1817300001	4	499.00	578	16.32	Warrick	SIGECO - F.B.CULLEY GENER
261631745	9A	562.00	1107	16.00	Wayne	TRENTON CHANNEL
17155155010AAA	0001	277.00	1007	15.61	Putnam	ILLINOIS POWER CO.-HENNEP
261471743	5	425.00	918	15.55	St. Clair	ST CLAIR
29 712103	3	700.00	1419	15.10	Franklin	LABADIE
29 996155	1	700.00	1669	14.44	Jefferson	RUSH ISLAND
17197197810AAK	0013	349.00	794	14.28	Will	COM ED - WILL COUNTY GENE
18 7300008	5	500.00	592	14.28	Jasper	NIPSCO -SCHAFER STATION
17197197810AAK	0007	349.00	794	13.14	Will	COM ED - WILL COUNTY GENE
18 7300008	6	500.00	592	12.46	Jasper	NIPSCO -SCHAFER STATION
18 8900003	1	186.00	997	12.19	Lake	AMOCO OIL COMPANY, WHITIN
29 996155	2	700.00	1669	11.67	Jefferson	RUSH ISLAND
17197197810AAK	0011	500.00	1113	10.65	Will	COM ED - WILL COUNTY GENE
18 7300008	2	500.00	1315	10.64	Jasper	NIPSCO -SCHAFER STATION
17 97097190AAC	0018	450.00	823	10.45	Lake	COM ED - WAUKEGAN GENERAT
29 712103	4	700.00	1419	9.31	Franklin	LABADIE
29 712103	1	700.00	1419	9.05	Franklin	LABADIE
55117460033090	S12	550.00	1051	8.70	Sheboygan	WIS PWR & LIGHT EDGEWATER
55 79241007690	S13	454.00	900	8.47	Milwaukee	WIS ELECTRIC POWER OAK CR
17197197810AAK	0009	448.00	890	8.29	Will	COM ED - WILL COUNTY GENE
29 712103	2	700.00	1419	8.29	Franklin	LABADIE
18 8900210	3	456.00	1019	7.93	Lake	COMMONWEALTH EDISON
17197197090AAI	0167	200.00	510	7.91	Will	UNO-VEN COMPANY
18 8900316	136	225.00	522	7.85	Lake	Inland Steel Company
18 8900316	137	225.00	523	7.85	Lake	Inland Steel Company
18 8900121	301	163.00	627	7.76	Lake	U S STEEL CO GARY WORKS
17 31031600AMI	0007	450.00	978	7.70	Cook	COM ED - FISK GENERATING
17 31031600AIN	0012	378.00	936	7.70	Cook	COM ED - CRAWFORD GENERAT
17 97097190AAC	0016	336.00	552	6.05	Lake	COM ED - WAUKEGAN GENERAT
17 31031012A8I	0044	251.00	457	5.89	Cook	CPC INTERNATIONAL INC.
261211695	4	650.00	1383	5.59	Muskegon	B C COBB
18 8900117	1	236.00	1197	5.56	Lake	NIPSCO - D. H. MITCHELL S
261211695	5	650.00	1383	5.51	Muskegon	B C COBB
17 63063806AAF	0001	400.00	2100	5.50	Grundy	COM ED - COLLINS GENERATI
1812700001	13	255.00	462	5.35	Porter	BETHLEHEM STEEL CORP.
55 79241007800	S12	400.00	490	4.81	Milwaukee	WIS ELECTRIC POWER VALLEY
17 97097190AAC	0021	450.00	840	4.71	Lake	COM ED - WAUKEGAN GENERAT
17 31031600AIN	0010	388.00	872	4.45	Cook	COM ED - CRAWFORD GENERAT

ENDFILE

Figure 1

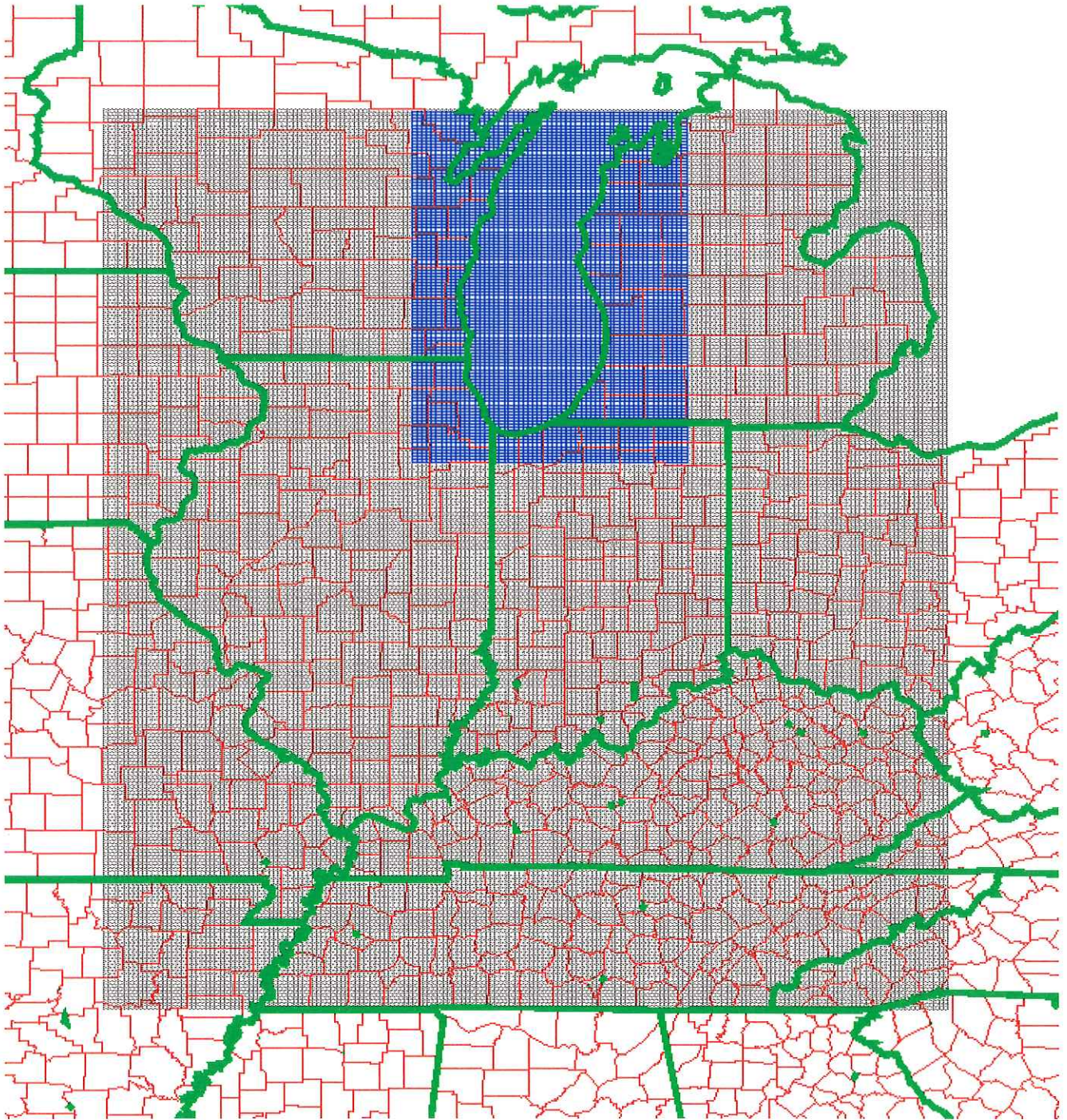
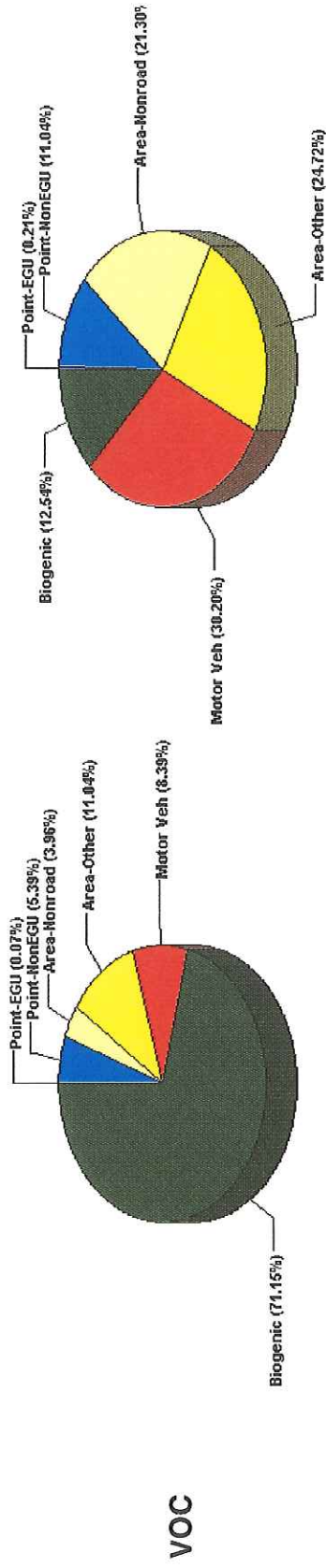
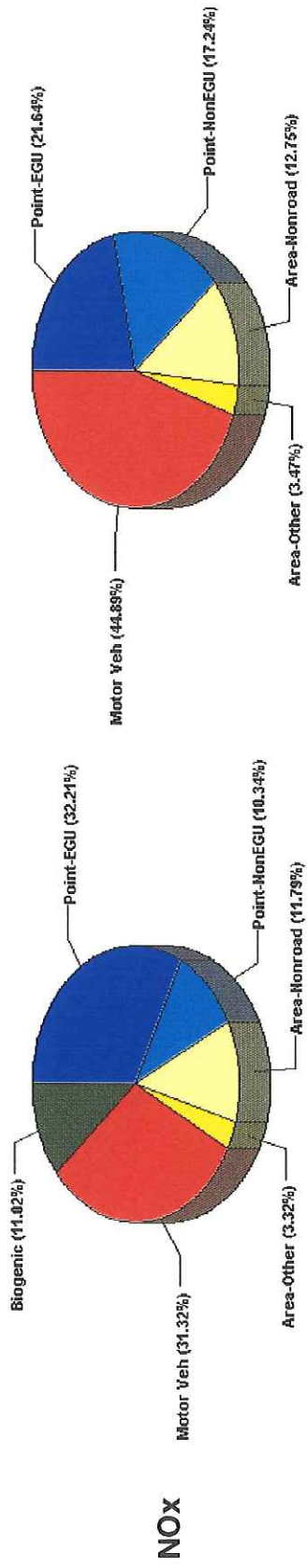


Figure 2



Grid M



Severe NA Area

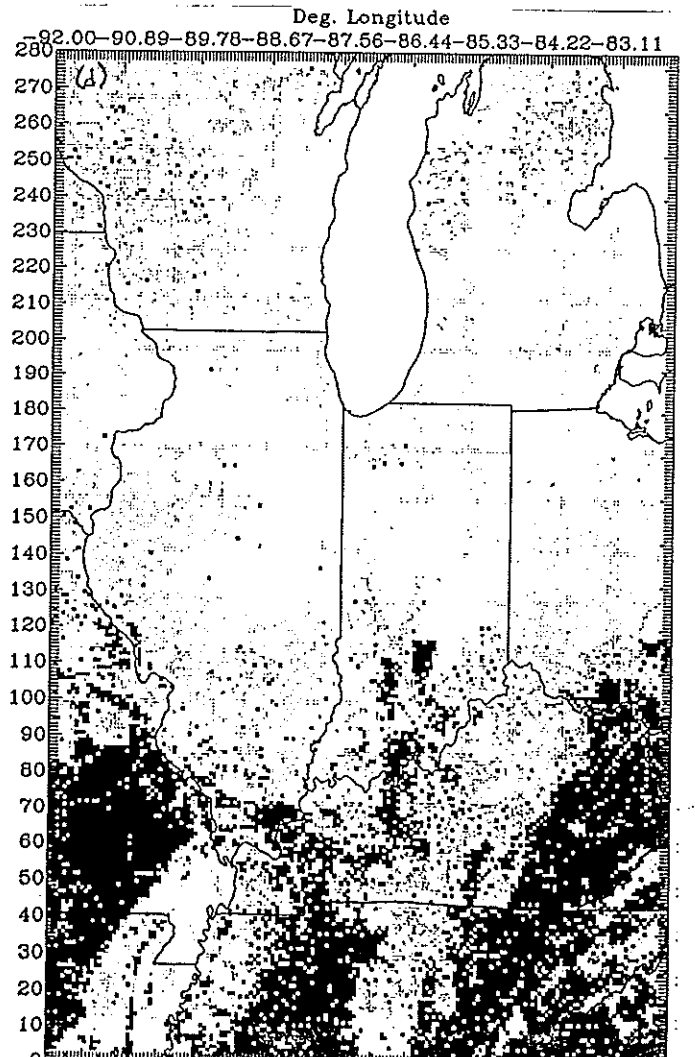
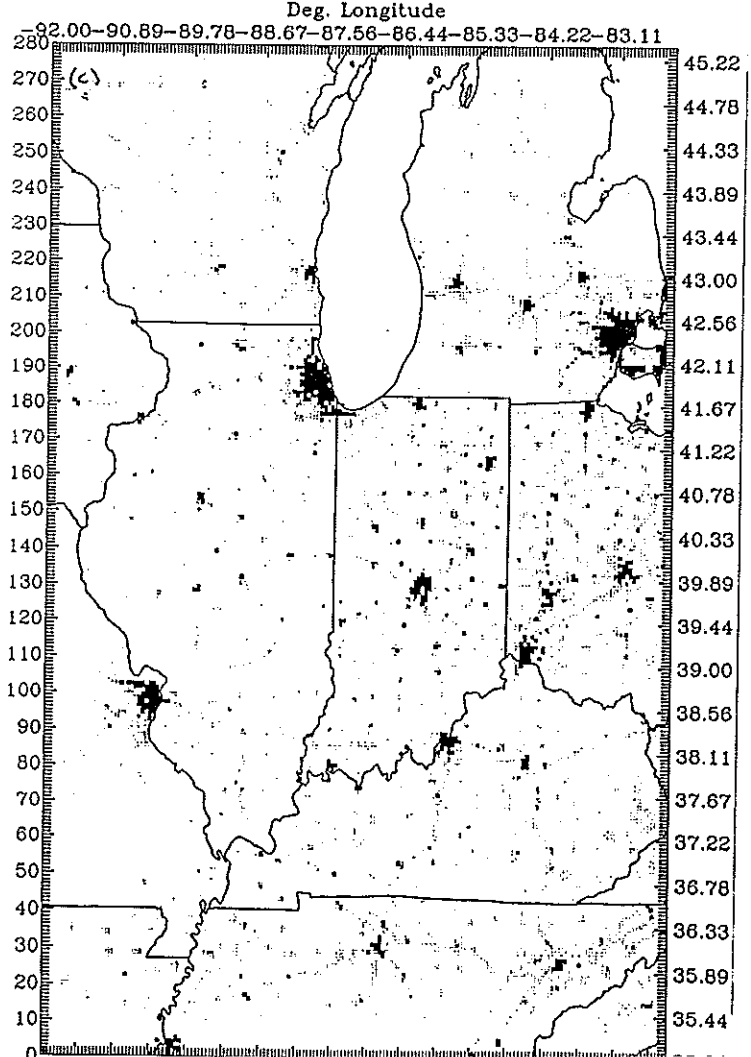
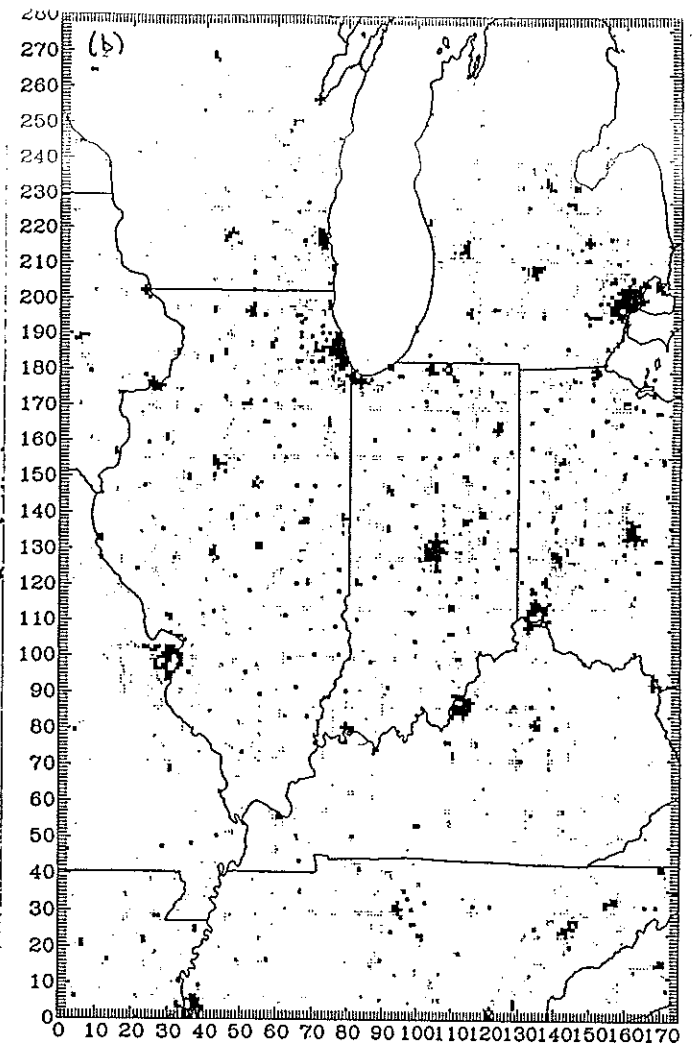
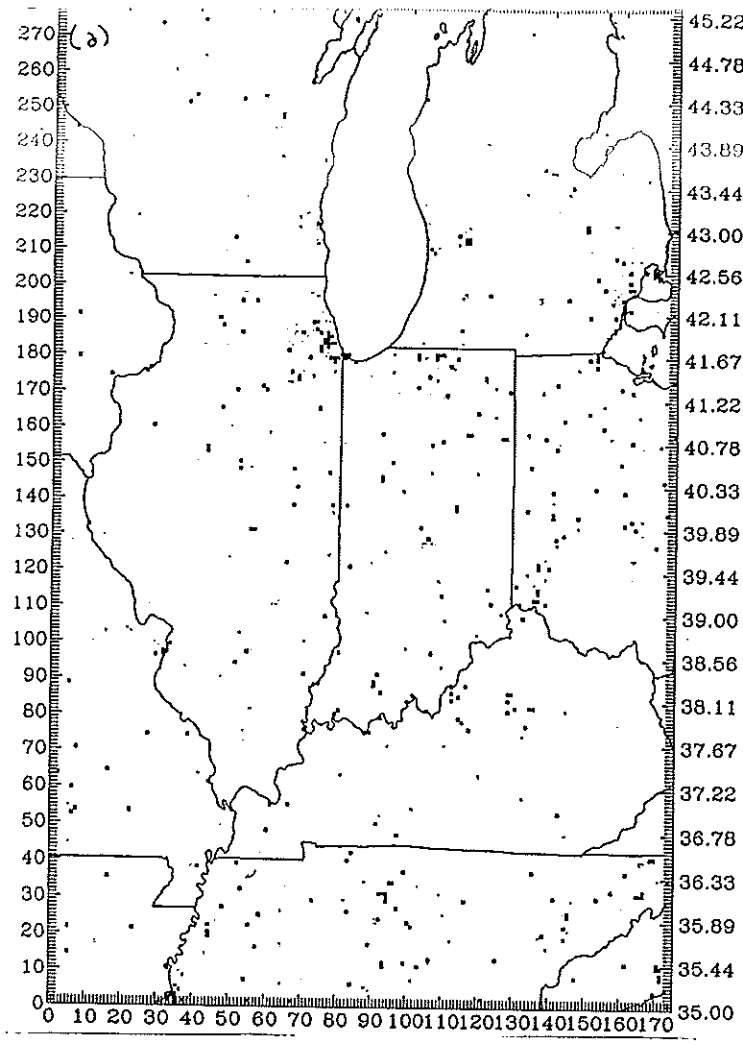


Figure 3

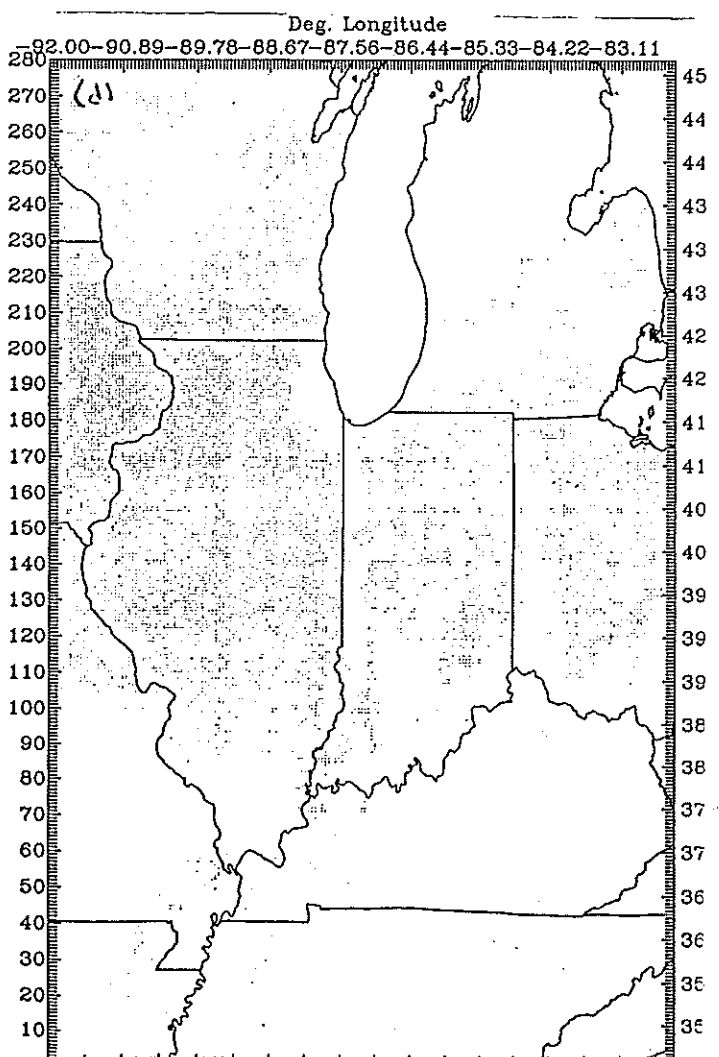
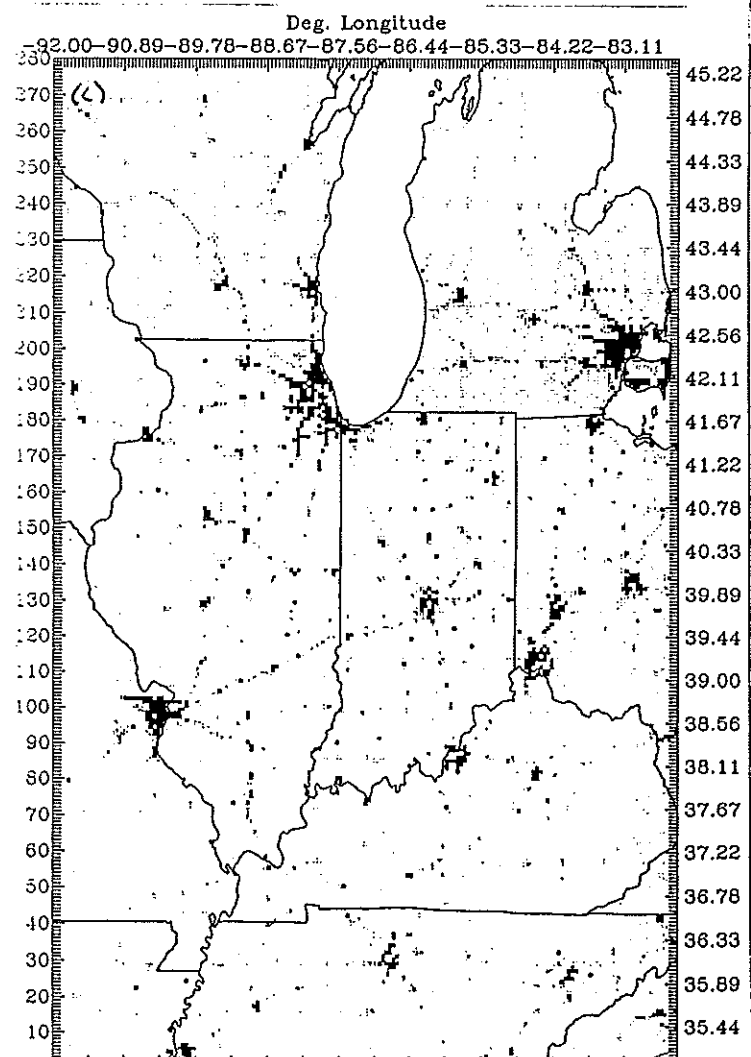
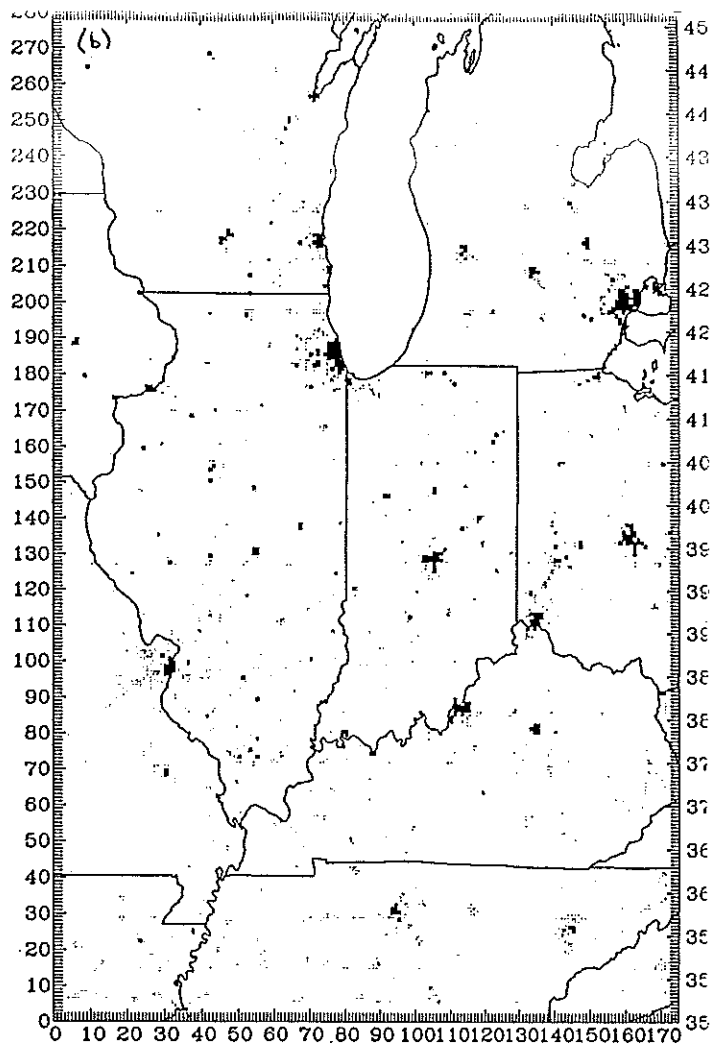
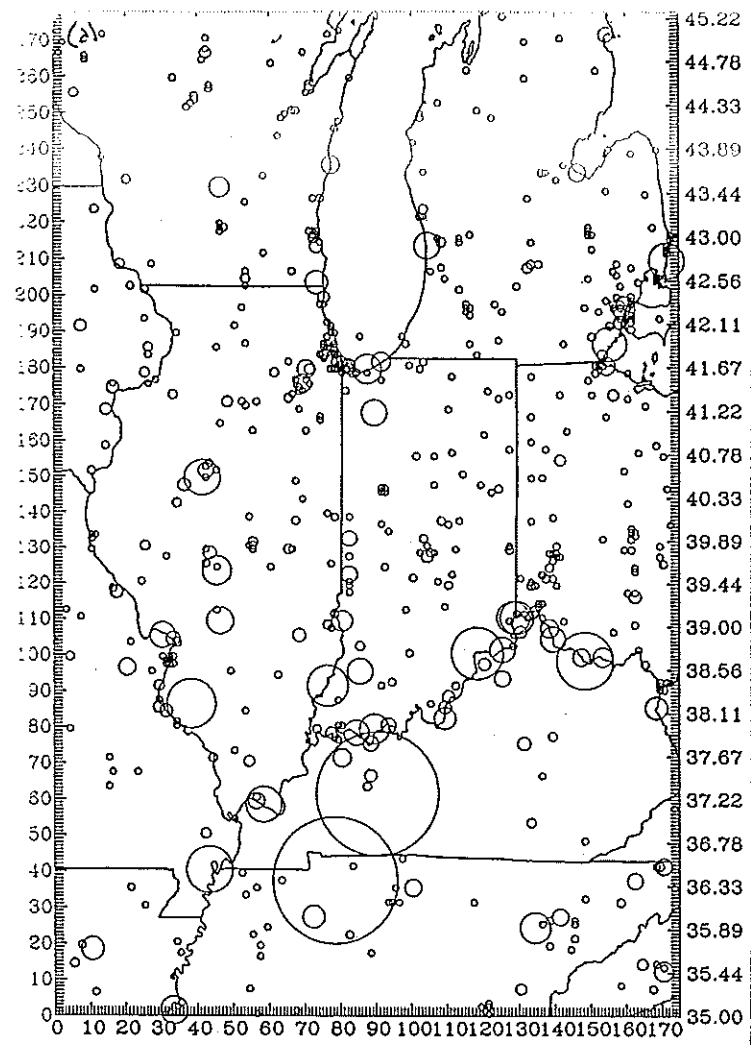


Figure 4

Figure 5

