Progress Energy

Serial: NPD-NRC-2010-055
July 14, 2010

10 CFR 52.79

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

SHEARON HARRIS NUCLEAR POWER PLANT, UNITS 2 AND 3
DOCKET NOS. 52-022 AND 52-023
RESPONSE TO SUPPLEMENTAL REQUEST FOR ADDITIONAL INFORMATION CONCERNING ANALYSIS OF EMISSIONS TO SUPPORT GENERAL CONFORMITY

Reference: Letter from Donald Palmrose (NRC) to John Elnitsky (PEC), dated June 14, 2010, "Supplemental Request for Additional Information Concerning Analysis of Emissions to Support General Conformity for the Shearon Harris Nuclear Power Plant, Units 2 and 3, Combined Licenses Application"

Ladies and Gentlemen:

Progress Energy Carolinas, Inc. (PEC) hereby submits our response to the Nuclear Regulatory Commission's (NRC) supplemental request for additional information provided in the referenced letter.

A response to the NRC request is addressed in Enclosure 1. An attachment to the response is provided on the attached CD and has been prepared in accordance with NRC electronic submittal guidance. A pre-flight report is included as Enclosure 2 which identifies that the file does not pass pre-flight, but is deemed acceptable for the reasons stated in the enclosure.

If you have any further questions, or need additional information, please contact Bob Kitchen at (919) 546-6992, or me at (727) 820-4481.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on July 14, 2010.

Sincerely,

John Elnitsky
Vice President
New Generation Programs & Projects

Enclosures/Attachment

cc : U.S. NRC Region II, Regional Administrator (without attached CD)
U.S. NRC Resident Inspector, SHNPP Unit 1 (without attached CD)
Mr. Brian Hughes, U.S. NRC Project Manager (without attached CD)
Dr. Donald Palmrose, U.S. NRC Environmental Project Manager
Ms. Laura Boothe, NC Division of Air Quality Environmental Program Supervisor

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bc (without attached CD):

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File: NGPP (Dana Rose)

Shearon Harris Nuclear Power Plant Units 2 and 3
Response to NRC Supplemental Request for Additional Information Concerning Analysis of Emissions to Support General Conformity, dated June 14, 2010

NRC RAI #	Progress Energy RAI #	Progress Energy Response
Supplement to 2.7-2	H-0618	Response enclosed – see following pages

NRC Letter No.: HAR Emissions Supplemental RAI

NRC Letter Date: June 14, 2010

NRC Review of Environmental Report

NRC RAI #: Supplement to 2.7-2

Text of NRC RAI:

A June 14, 2010 letter from Don Palmrose (NRC) to John Elnitsky (PEC) noted our previous response to RAI 2.7-2 made on July 6, 2009 and requested PEC provide the following:

An updated analysis of emissions previously submitted to the NRC (ADAMS accession number ML091950669) for each appropriate class of Clean Air Act criteria pollutants for the years of building the HAR Units 2 and 3 in support of the revised projected in-service dates. The response to the supplemental RAI should also clearly present:

- The basis for the analysis and the quantity of the emissions released in tons/yr and tons/day.
- A statement indicating which of the six methods for demonstrating conformity the analysis would support and how the analysis supports that method. For example, two methods that may be applicable are:
    - PEC could update the analysis and use it in discussions with DAQ to have all building-related emissions (whether the emissions are related to NRC, U.S. Army Corps of Engineers (USACE), or State regulated activities) be included in a revision of the SIP. The State of North Carolina could then make a written commitment to EPA to revise the SIP to include the emissions. If this method is pursued, the NRC requests a time table be provided indicating how PEC will work with the DAQ to complete this method.
    - The updated analysis could provide a breakdown of the emissions by the corresponding regulatory basis. For example, separating the emissions due to solely NRC-regulated activities from the other emissions. PEC would then commit to fully offset for these NRC-regulated activity emissions during the time frame of building HAR Units 2 and 3. The NRC would include this commitment for mitigation as a licensing condition if the HAR Units 2 and 3 COL application is approved. Note that if this method of determining conformity is selected, the analysis may need to also separate the emissions from other Federally-regulated activities (e.g., for the USACE to support its general conformity determination).

PGN RAI ID #: H-0618

PGN Response to NRC RAI:

The emission estimates associated with the construction of HAR Units 2 and 3 (HAR) were analyzed for two scenarios, namely an "Early Start" Scenario (i.e., for construction occurring during the calendar years 2011 – 2017) and a "Late Start" Scenario (i.e., for construction occurring during the calendar years 2018 – 2024). Estimates of the construction related air emissions during each year of construction of the HAR facility for both the Early Start and

the Late Start scenarios were based on the projected construction activities during each year of construction. The Early Start Scenario was assumed to occur during the period 2011 through 2017, with the peak year of construction being 2013 and the Late Start Scenario was assumed to occur during the period 2018 through 2024, with the peak year of construction being 2020. A summary of the construction related emissions for each year of construction is provided in Table 1 for the Early Start Scenario and Table 2 for the Late Start Scenario. These tables present three categories of activities; namely construction equipment, onsite trucks used during construction (i.e., cement mix trucks and delivery trucks), and onsite rail emissions. The basis of the calculations used to obtain these estimates, including the types and numbers of equipment that will be used, and the assumptions regarding the use of the construction equipment throughout the period of construction, are provided in a technical memorandum (338884-TMEM-100, Rev 2). A copy of this technical memorandum is provided as an attachment to this response (Attachment 001).

During the year of peak construction (2013) for the Early Start Scenario, air emissions are estimated (based on the ton/day emission estimates, 5 days/week and 52 weeks/year construction) to be as follows:

Pollutant	2013 emissions (tons/yr)
NOx	523
VOC	42
CO	185

During the year of peak construction (2020) for the Late Start Scenario, air emissions are estimated (based on the ton/day emission estimates, 5 days/week and 52 weeks/year construction) to be as follows:

Pollutant	2020 emissions (tons/yr)
NOx	286
VOC	29
CO	83

It is noted that there is a significant reduction in emissions for the Late Start Scenario when compared to the Early Start Scenario. The reason for this reduction is that the emissions associated with the equipment in the Late Start Scenario are based on the "fleet average" emissions associated with newer generation equipment that would be used in the Late Start Scenario vs. the Early Start Scenario. The makeup of the EPA-defined fleet averages of equipment used in each scenario is based on specific distributions of vehicle and equipment age (for each calendar year), as derived from the databases that are built into the Mobile6.2 and NONROAD2008 emissions models.

The emissions of NOx and CO during the construction period will each exceed 100 tons/year for the Early Start scenario, and only the emissions of NOx will exceed 100 tons/year for the Late Start scenario. Therefore, a conformity analysis and demonstration will be required to demonstrate that the construction of the plant will conform to the requirements of North Carolina's State Implementation Plan (SIP) for Ozone (Early and Late Start scenarios) and Carbon Monoxide (Early Start scenario only). Specific conformity requirements and demonstrations will have to be evaluated and discussed with the North

Carolina Department of Environment and Natural Resources (NCDENR) prior to the commencement of construction.

PEC plans to provide the updated analysis that is provided in this response to the North Carolina Division of Air Quality (NCDAQ) for discussion purposes, and to request that all construction-related emissions be included in a revision to the state implementation plan (SIP). Once NCDAQ approves or otherwise endorses the proposed revision, based on the information provided in this response, PEC will request that the State of North Carolina make a written commitment to EPA to revise the SIP to include the construction emissions from this project. PEC will also request that NCDAQ provide a proposed schedule and a letter of commitment to EPA for incorporating the revisions to the SIP. It is noted that the schedule for these items is beyond PEC's control and we anticipate that NCDAQ will need to review the construction emissions information prior to making any estimates on schedule.

Table 1
Summary of Construction Related Emissions (Ton/Day) - Early Start Scenario
HAR Units 2 and 3

Daily Emissions for Winter 2011 (tons/day)

Activities	**CO**	**VOC**	**NO_X**
Construction Equipment	0.42	0.084	1.12
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00076	0.00014	0.0013
Total, Construction Emissions, tons/day	0.44	0.090	1.21

Daily Emissions for Summer 2011 (tons/day)

Activities	**CO**	**VOC**	**NO_X**
Construction Equipment	0.42	0.084	1.12
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00071	0.00014	0.0012
Total, Construction Emissions, tons/day	0.44	0.090	1.21

Daily Emissions for Winter 2012 (tons/day)

Activities	**CO**	**VOC**	**NO_X**
Construction Equipment	0.38	0.079	1.03
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00066	0.00013	0.0011
Total, Construction Emissions, tons/day	0.39	0.085	1.12

Table 1 (Continued)

Daily Emissions for Summer 2012 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.38	0.079	1.03
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00062	0.00013	0.0011
Total, Construction Emissions, tons/day	0.39	0.085	1.12

Daily Emissions for Winter 2013 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.69	0.15	1.91
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0032	0.00084	0.0066
Total, Construction Emissions, tons/day	0.71	0.16	2.01

Daily Emissions for Summer 2013 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.69	0.15	1.91
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0030	0.00082	0.0061
Total, Construction Emissions, tons/day	0.71	0.16	2.01

Daily Emissions for Winter 2014 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.64	0.14	1.74
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0028	0.00080	0.0056
Total, Construction Emissions, tons/day	0.66	0.15	1.84

Table 1 (Continued)

Daily Emissions for Summer 2014 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.64	0.14	1.74
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0027	0.00079	0.0052
Total, Construction Emissions, tons/day	0.66	0.15	1.84

Daily Emissions for Winter 2015 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.57	0.13	1.54
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0025	0.00076	0.0049
Total, Construction Emissions, tons/day	0.59	0.14	1.63

Daily Emissions for Summer 2015 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.57	0.13	1.54
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0023	0.00075	0.0045
Total, Construction Emissions, tons/day	0.59	0.14	1.6

Daily Emissions for Winter 2016 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.33	0.074	0.88
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0016	0.00053	0.0030
Total, Construction Emissions, tons/day	0.34	0.081	0.97

Table 1 (Continued)

Daily Emissions for Summer 2016 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.33	0.074	0.88
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0015	0.00052	0.0029
Total, Construction Emissions, tons/day	0.34	0.081	0.97

Daily Emissions for Winter 2017 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.11	0.029	0.33
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00031	0.00011	0.00055
Total, Construction Emissions, tons/day	0.13	0.035	0.42

Daily Emissions for Summer 2017 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.11	0.029	0.33
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00030	0.00011	0.00052
Total, Construction Emissions, tons/day	0.13	0.035	0.42

Notes:

(1) Delivery and concrete mix trucks.

(2) Includes emissions from delivery trucks during normal operation and idling.

Table 2
Summary of Construction Related Emissions (Ton/Day) - Late Start Scenario
HAR Units 2 and 3

Daily Emissions for Winter 2018 (tons/day)

Activities	**CO**	**VOC**	**NO_X**
Construction Equipment	0.20	0.054	0.60
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00027	0.00011	0.0005
Total, Construction Emissions, ton/day	0.22	0.061	0.69

Daily Emissions for Summer 2018 (tons/day)

Activities	**CO**	**VOC**	**NO_X**
Construction Equipment	0.20	0.054	0.60
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00026	0.00010	0.0004
Total, Construction Emissions, ton/day	0.22	0.061	0.69

Daily Emissions for Winter 2019 (tons/day)

Activities	**CO**	**VOC**	**NO_X**
Construction Equipment	0.17	0.052	0.55
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00025	0.00010	0.0004
Total, Construction Emissions, ton/day	0.19	0.059	0.64

Table 2 (Continued)

Daily Emissions for Summer 2019 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.17	0.052	0.55
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00024	0.00010	0.0004
Total, Construction Emissions, ton/day	0.19	0.059	0.64

Daily Emissions for Winter 2020 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.31	0.10	1.01
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0014	0.00067	0.0025
Total, Construction Emissions, ton/day	0.32	0.11	1.10

Daily Emissions for Summer 2020 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.31	0.10	1.01
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0014	0.00067	0.0023
Total, Construction Emissions, ton/day	0.32	0.11	1.10

Daily Emissions for Winter 2021 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.27	0.095	0.93
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0013	0.00066	0.0022
Total, Construction Emissions, ton/day	0.29	0.10	1.02

Table 2 (Continued)

Daily Emissions for Summer 2021 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.27	0.095	0.93
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0012	0.00066	0.0021
Total, Construction Emissions, ton/day	0.29	0.10	1.02

Daily Emissions for Winter 2022 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.24	0.091	0.87
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0012	0.00064	0.0019
Total, Construction Emissions, ton/day	0.26	0.098	0.96

Daily Emissions for Summer 2022 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.24	0.091	0.87
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0012	0.00064	0.0018
Total, Construction Emissions, ton/day	0.26	0.098	0.96

Daily Emissions for Winter 2023 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.13	0.054	0.50
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0008	0.00046	0.0012
Total, Construction Emissions, ton/day	0.14	0.060	0.59

Table 2 (Continued)

Daily Emissions for Summer 2023 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.13	0.054	0.50
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0008	0.00045	0.0012
Total, Construction Emissions, ton/day	0.14	0.060	0.59

Daily Emissions for Winter 2024 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.047	0.021	0.20
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00016	0.00010	0.00023
Total, Construction Emissions, ton/day	0.064	0.028	0.29

Daily Emissions for Summer 2024 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.047	0.021	0.20
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00016	0.00010	0.00022
Total, Construction Emissions, ton/day	0.064	0.028	0.29

Notes:

(1) Delivery and concrete mix trucks.

(2) Includes emissions from delivery trucks during normal operation and idling.

Associated HAR COL Application Revisions:

No COLA revisions have been identified associated with this response.

Attachments/Enclosures:

001 Attachment ER SUP 2.7-2A.pdf: Tech Memo Number 338884-TMEM-100, Revision 2, "Construction Related Emissions Analysis HAR Units 2 and 3" (see attached CD)

Tech Memo Approval Form

Tech Memo Number: 338884-TMEM-100

Revision: 2

Project: 338884

Review Date: 6/28/10

Tech Memo Title:
Construction Related Emissions Analysis HAR Units 2 and 3

Revision History:

Revision Number	Description	Approval Date	Affected Pages
0	Initial Submittal	04/23/2009	All
1	Tech Memo revised to provide additional detail for conformity determination.	06/22/2009	All
2	Tech Memo revised to include Early Start and Late Start construction scenarios	07/6/2010	All

Document Review and Approval

Originator:	Jonathan L. Subacz	7/6/2010
	Name/Position	Date
	SIGNATURE ON FILE WITH DCRM	
	Signature	
Reviewer	George C. Howroyd/Task Lead	7/6/2010
	Name/Position	Date
	SIGNATURE ON FILE WITH DCRM	
	Signature	
Project Manager:	Lorin Young/Project Manager	7/6/2010
	Name/Position	Approval Date
	SIGNATURE ON FILE WITH DCRM	
	Signature	

Construction Related Emissions Analysis HAR Units 2 and 3

PREPARED FOR:	PEC COLA Project File
PREPARED BY:	Ronald Vaughn/ATL
REVIEWED BY:	George Howroyd/ATL
COPIES:	Lorin Young/IDF
DATE:	7/06/2010
PROJECT NUMBER:	338884

Purpose

This analysis was designed to estimate the emissions associated with the construction of the proposed Harris Advanced Reactor Units 2 and 3 (HAR). The emission estimates associated with the construction of HAR Units 2 and 3 were analyzed for two scenarios, namely an "Early Start" Scenario (calendar years 2011 - 2017) and a "Late Start" Scenario (calendar year 2018 - 2024). The HAR site will be co-located with the existing Shearon Harris Nuclear Power Plant Unit 1 (HNP). The site is located in Wake County, North Carolina which is currently designated a maintenance area for ozone and carbon monoxide and in attainment for all other criteria pollutants. Because of the "maintenance" classification of Wake County, these emissions are being estimated to facilitate compliance with the U.S. Environmental Protection Agency's (USEPA) conformity regulations.

The USEPA has issued regulations on the applicability of, and procedures for, ensuring that federally funded activities comply with the Clean Air Act Amendments of 1990. The USEPA Final Conformity Rules require all federal agencies to ensure that any federal action resulting in emissions of criteria pollutants for which an area is designated as either non-attainment or maintenance conforms with the approved or promulgated state implementation plan (SIP) or federal implementation plan (FIP). Conformity means compliance with a SIP/FIP's purpose of attaining or maintaining the National Ambient Air Quality Standards (NAAQS). Specifically, this means ensuring that the proposed action will not: (1) cause or contribute to a new violation of the NAAQS, (2) contribute to any increase in the frequency or severity of violations of existing NAAQS, or (3) delay the timely attainment of any NAAQS interim milestone or other attainment milestone.

A list of the construction equipment that will be used on the project as well as a list of the assumptions regarding the use of this equipment has been used to develop an inventory of emissions for the construction phase of the project as described later in this document.

Emission Factor Estimating Models Used in the Analysis

The USEPA's MOBILE6.2 model was used to calculate emission factors for diesel-fueled on-road vehicles that will be used on the project site (i.e., concrete mix trucks and delivery trucks) during the construction of HAR Units 2 and 3. The MOBILE6.2 model was used to estimate emission factors for hydrocarbons, carbon monoxide, and oxides of nitrogen for diesel-fueled on-road construction vehicles used at the site during construction.

The USEPA's NONROAD2008 model was used to calculate emission factors for non-road diesel-fueled construction vehicles and equipment that will be used onsite during construction. The NONROAD2008 model was used to estimate emission factors for hydrocarbons, carbon monoxide, and oxides of nitrogen for a diverse collection of vehicles and equipment (i.e., all-terrain vehicles, construction equipment, and industrial equipment) that will be used during construction.

Rail emissions occurring onsite were estimated using an EPA recommended procedure for estimating emissions from locomotives.

Emissions Factors

The input parameters that were specified for the MOBILE6.2 model are provided in Table 1a for the Early Start Scenario and Table 1b for the Late Start Scenario and are consistent with guidance provided by the North Carolina Division of Air Quality (NC-DAQ) for estimating construction emissions in Wake County. NC-DAQ requested that the MOBILE6.2 input data match the input data that was used to generate the NC SIP. The emission factors for diesel-fueled motor vehicles were based on a typical work day during two seasons (winter and summer) and one speed (10 miles per hour (mph)). Copies of the MOBILE6.2 model input and output are provided in Appendix A-1 for both scenarios.

Table 1a
MOBILE6.2 Model Input Data
On-Road Vehicles Used on the Project Site During Construction (Early Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Calendar Year	2011 - 2017
Month, Winter	January
Month, Summer	July
Minimum Winter Temperature, °F	51.5
Maximum Winter Temperature, °F	51.5
Minimum Summer Temperature, °F	68.1
Maximum Summer Temperature, °F	88.9
Hourly Summer Temperatures, °F (00 – 23 hrs)	73, 73, 74, 77, 78, 81, 82, 85, 86, 89, 89, 88, 86, 86, 84, 81, 80, 77, 76, 75, 74, 73, 73, 73
Barometric Pressure, in. Hg	30

Table 1a
MOBILE6.2 Model Input Data
On-Road Vehicles Used on the Project Site During Construction (Early Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Hourly Summer Relative Humidity, % (00 – 23 hrs)	96, 96, 88, 80, 77, 68, 64, 54, 53, 50, 49, 51, 57, 60, 67, 70, 75, 82, 86, 90, 93, 94, 95, 96
Winter Fuel RVP, psi	14.25
Summer Fuel RVP, psi	7.8
Average Speed On-site, mph	10
Diesel Fuel Sulfur Content, ppm	15
Exhaust I/M Program	No
Vehicle Age, years	Default National Vehicle Mix
Stage II Refueling Emissions Inspection Program	No
Anti-tampering Inspection Program	No
Reformulated Gas	No

Table 1b
MOBILE6.2 Model Input Data
On-Road Vehicles Used on the Project Site During Construction (Late Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Calendar Year	2018 - 2024
Month, Winter	January
Month, Summer	July
Minimum Winter Temperature, °F	51.5
Maximum Winter Temperature, °F	51.5
Minimum Summer Temperature, °F	68.1
Maximum Summer Temperature, °F	88.9
Hourly Summer Temperatures, °F (00 – 23 hrs)	73, 73, 74, 77, 78, 81, 82, 85, 86, 89, 89, 88, 86, 86, 84, 81, 80, 77, 76, 75, 74, 73, 73, 73
Barometric Pressure, in. Hg	30
Hourly Summer Relative Humidity, % (00 – 23 hrs)	96, 96, 88, 80, 77, 68, 64, 54, 53, 50, 49, 51, 57, 60, 67, 70, 75, 82, 86, 90, 93, 94, 95, 96
Winter Fuel RVP, psi	14.25

Table 1b
MOBILE6.2 Model Input Data
On-Road Vehicles Used on the Project Site During Construction (Late Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Summer Fuel RVP, psi	7.8
Average Speed On-site, mph	10
Diesel Fuel Sulfur Content, ppm	15
Exhaust I/M Program	No
Vehicle Age, years	Default National Vehicle Mix
Stage II Refueling Emissions Inspection Program	No
Anti-tampering Inspection Program	No
Reformulated Gas	No

The input parameters for the NONROAD2008 model are provided in Table 2a for the Early Start scenario and Table 2b for Late Start scenario and are consistent with guidance provided by the North Carolina Division of Air Quality (NC-DAQ) for estimating construction emissions in Wake County. The emission factors for diesel-fueled vehicles and equipment were based on three scenarios, namely 300 – 600 horsepower (hp) crawlers with four 175 – 300 hp pump engines, 750 – 1000 hp crawlers (no external pumps), and 100 - 175 hp tractors/loaders/backhoes. Copies of the NONROAD2008 model input and output are provided in Appendix A-2 for both scenarios.

Additionally, the emission factors for rail operation were obtained from an EPA document entitled "Emission Factors for Locomotives," (EPA420-F-97-051, U.S. EPA December 1997) a copy of which is provided in Appendix A-3.

Table 2a
NONROAD2008 Model Input Data
Off-Road Construction Vehicles and Equipment (Early Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Calendar Year	2011 – 2017
300 Ton Link Belt Crawler	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Construction and Mining Equipment
Average Load Factor[1]	0.59

Table 2a
NONROAD2008 Model Input Data
Off-Road Construction Vehicles and Equipment (Early Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Available Power, hp	430
Crawler Hydraulic Pumps	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Commercial Equipment
Average Load Factor [1]	0.59
Available Power, hp	262
Large Equipment (greater than 750 hp)	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Construction and Mining Equipment
Average Load Factor [1]	0.59
Available Power, hp	750
Small Equipment (100 - 175 hp)	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Construction and Mining Equipment
Average Load Factor [1]	0.59
Available Power, hp	175
Oxygen Weight, %	0.00
Diesel Sulfur, %	0.30
Minimum Winter Temperature, °F	29
Maximum Winter Temperature, °F	61
Average Winter Temperature, °F	44
Minimum Summer Temperature, °F	72.6
Maximum Summer Temperature, °F	89.1
Average Summer Temperature, °F	80
Altitude of Region	Low
ETOH Blend, % Market	75.1
ETOH, Volume %	9.3

Table 2a
NONROAD2008 Model Input Data
Off-Road Construction Vehicles and Equipment (Early Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Region	Southeast
1 Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.	

Table 2b
NONROAD2008 Model Input Data
Off-Road Construction Vehicles and Equipment (Late Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Calendar Year	2018 - 2024
300 Ton Link Belt Crawler	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Construction and Mining Equipment
Average Load Factor[1]	0.59
Available Power, hp	430
Crawler Hydraulic Pumps	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Commercial Equipment
Average Load Factor [1]	0.59
Available Power, hp	262
Large Equipment (greater than 750 hp)	
Equipment Age, years	Default National Vehicle Mix
Fuel Type	Diesel
Application	Construction and Mining Equipment
Average Load Factor [1]	0.59
Available Power, hp	750
Small Equipment (100 - 175 hp)	
Equipment Age, years	Default National Vehicle Mix

Table 2b
NONROAD2008 Model Input Data
Off-Road Construction Vehicles and Equipment (Late Start Scenario)
HAR Units 2 and 3.

Model Parameter	Data Input
Fuel Type	Diesel
Application	Construction and Mining Equipment
Average Load Factor [1]	0.59
Available Power, hp	175
Oxygen Weight, %	0.00
Diesel Sulfur, %	0.30
Minimum Winter Temperature, °F	29
Maximum Winter Temperature, °F	61
Average Winter Temperature, °F	44
Minimum Summer Temperature, °F	72.6
Maximum Summer Temperature, °F	89.1
Average Summer Temperature, °F	80
Altitude of Region	Low
ETOH Blend, % Market	75.1
ETOH, Volume %	9.3
Region	Southeast

1 Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

Calculation of Emissions

Two spreadsheets; one for the Early Start scenario (calendar years 2011 - 2017) and one for the Late Start scenario (calendar years 2018 - 2024) were used to facilitate the calculation of total miles per year for each on-road vehicle that will be used on the project site (i.e., concrete mix trucks and delivery trucks), the total usage per day for each type of nonroad construction vehicle or unit (off-road diesel vehicles and equipment), and the associated emissions. The peak construction period for the Early Start scenario is scheduled to occur during calendar years 2013 and 2014 and the peak construction period for the Late Start scenario is scheduled to occur during the calendar years 2020 and 2021. The emission calculation spreadsheets used to estimate the construction emissions are provided in Appendix B of this technical memorandum, as follows:

Appendix	Title
B-1	Summary of Construction Related Emissions for Early Start Scenario

B-2	Calculation of Emissions from on-road and off-road diesel engines and vehicles used during construction for 2011 - 2017 during Early Start Scenario
B-3	Summary of Construction Related Emissions for Late Start Scenario
B-4	Calculation of Emissions from on-road and off-road diesel engines and vehicles used during construction for 2018-2024 during Late Start Scenario

On-Road Vehicles

On-road vehicle emissions that will be used on the project site during construction are calculated and detailed in the emission calculation spreadsheets in Appendix B-2 for the Early Start scenario and Appendix B-4 for the Late Start scenario. The assumptions used in the estimation of these emissions (both scenarios) are provided in Appendix C-2.

On-road construction vehicle emissions were calculated for each year of construction using a combination of hours of operation and onsite mileage for delivery trucks and concrete mix trucks. For example, the calculation for onsite delivery truck mileage for a typical day during calendar year 2013 is as follows:

= 25 trucks/day x 5 miles/truck/day

= 125 miles/day

In addition, it is assumed that forty percent of the delivery trucks visiting the site during construction will idle for less than one hour during each delivery. An example calculation for delivery truck idling for a typical day during calendar year 2013 is as follows:

= 25 trucks/day x 0.40 x 1 hour

= 10 hours/day

An example calculation for concrete mix truck operations for a typical day during calendar year 2013 is as follows:

= 30 trucks/day x 30 miles/truck/day

= 900 miles/day

After the daily mileage and idling time were calculated for each vehicle, criteria pollutant emissions were calculated using the emissions factors obtained from MOBILE6.2. An example calculation for winter carbon monoxide emissions for a typical day during year 2013 from delivery trucks (Heavy-Duty Diesel Vehicles (HDDV)) is as follows:

Daily Mileage for Delivery Trucks (HDDV) x Vehicle Emission Factor x Conversion Factor

= 125 miles/day x 2.71 grams/mile x 0.002205 lb/gram

= 0.75 lb/day

An example calculation for winter carbon monoxide emissions from idling delivery trucks is as follows:

Daily Idling Time for Delivery Trucks (HDDV) x Vehicle Emission Factor x Conversion Factor

= 10 hr/day x 12.0 grams/mile x 0.002205 lb/gram x 1 mile/hr

= 0.26 lb/day

Off-Road Vehicles

The off-road diesel vehicles spreadsheet (Tables 1.2 and 1.3 in each of the spreadsheets) calculates the total usage for five groups of equipment: Rail Delivery, 300 ton Link Belt Crawler, Crawler Hydraulic Pumps (each crawler was assumed to have four pumps), Large Equipment (greater than 750 horsepower), and Small Equipment (100 - 175 horsepower). The latter four groups were used as surrogates for similar equipment. A list of the construction equipment that will be used on the project is provided in Appendix C-1; however, it is noted that this equipment list was generated for Progress Energy's Levy Nuclear Plant and the equipment associated with excavation dewatering and marine construction will not be required for the Harris site and was therefore excluded from consideration. A list of assumptions regarding the use of this equipment on the project site is provided for each year of construction in Appendix C-2 (refer to Table 1 "Assumptions for HAR 2 and 3 Air Quality Conformity Determination" in the appendix).

The construction equipment identified in Appendix C-2 (excluding the dewatering and marine equipment as described above) is identified in the emission calculation spreadsheets in Appendix B-2 (Early Start) and Appendix B-4 (Late Start). The sections below describe the total usage calculations for the five groups of equipment that will be used at the project site.

The total daily usage calculation for Rail Delivery (calendar year 2013) is as follows:

= 5000 hp x 1 delivery/day x 4 hours/delivery

= 20,000 hp-hr/day

The total daily usage calculation for 300 ton Link Belt Crawlers (calendar year 2013) is as follows:

= 430 hp x 38 units x 6 hours/day

= 98,040 hp-hr/day

The total daily usage calculation for crawler hydraulic pumps (calendar year 2013) is as follows:

= 262 hp x 38 crawlers x 4 pumps/crawler x 6 hours/day

= 238,944 hp-hr/day

The total daily usage calculation for Large Equipment (calendar year 2013) is as follows:

= 750 hp x 81 units x 6 hours/day

= 364,500 hp-hr/day

The total daily usage calculation for Small Equipment (calendar year 2013) is as follows:

= 175 hp x 155 units x 6 hours/day

= 162,750 hp-hr/day

After the total usage was calculated for each group, criteria pollutant emissions were calculated using the emissions factors from the NONROAD2008 model. An example calculation for carbon monoxide emissions from Rail Delivery is as follows:

Total Daily Usage x Load Factor x Emission Factor x Conversion Factor x Activity Factor

= 20,000 hp-hr/day x 0.59 x 1.28 grams/hp-hr x 0.002205 lb/gram x 1.0

= 33.3 lb/day

An example calculation for carbon monoxide emissions from 300 ton Link Belt is as follows:

Total Daily Usage x Load Factor x Emission Factor x Conversion Factor x Activity Factor

= 98,040 hp-hr/day x 0.59 x 1.26 grams/hp-hr x 0.002205 lb/gram x 1.0

= 161 lb/day

The Activity Factors (defined for this analysis as the percentage of construction equipment that will be used during the identified year of construction) for construction equipment use during each year of construction are provided in Appendix C-2, Table 1 "Assumptions for HAR 2 and 3 Air Quality Conformity Determination".

Results

The results of the emissions estimates as described above are summarized in Appendices B-1 (Early Start Scenario) and B-3 (Late Start Scenario) and provided by individual years in Appendices B-2 (Early Start Scenario) and B-4 (Late Start Scenario). The results are provided for each year of the proposed construction schedule (2011 – 2017, Early Start Scenario and 2018 – 2024, Late Start Scenario) as well as for the winter and summer seasons. Table B.1 in Appendix B-1 and Appendix B-3 contains a summary of the calculated emissions.

It is noted that the emissions estimates provided in Table B.1 are temporary (due to the limited construction period) and representative of typical emissions, primarily as a result of the following assumptions:

1. Emission factors provided in EPA's MOBILE6.2 and NONROAD2008 emissions estimating models are generally considered to be conservative.
2. Off-road vehicle emissions are based on the assumption that all construction equipment will be operated simultaneously and continuously for 6 hours per day. It is likely that this will not occur and that actual emissions could be lower.

References

U.S. Environmental Protection Agency, 2004. Motor Vehicle Emission Factor. Office of Transportation and Air Quality. Available from EPA's web site - http:/epa.gov/otaq/otaq/m6.htm

U.S. Environmental Protection Agency, 2009. Nonroad Emissions Inventory Model. Office of Transportation and Air Quality. Available from EPA's web site - http://www.epa.gov/otaq/nonrdmdl.htm

U.S. Environmental Protection Agency, 2004. Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling (EPA420-P-04-005). Office of Transportation and Air Quality. Available from EPA's web site - http://www.epa.gov/otaq/nonrdmdl.htm

References

U.S. Environmental Protection Agency, 2004. Motor Vehicle Emission Factor. Office of Transportation and Air Quality. Available from EPA's web site - http:/epa.gov/otaq/otaq/m6.htm

U.S. Environmental Protection Agency, 2009. Nonroad Emissions Inventory Model. Office of Transportation and Air Quality. Available from EPA's web site - http://www.epa.gov/otaq/nonrdmdl.htm

U.S. Environmental Protection Agency, 2004. Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling (EPA420-P-04-005). Office of Transportation and Air Quality. Available from EPA's web site - http://www.epa.gov/otaq/nonrdmdl.htm

Appendix A-1
Mobile6.2 Model Input/Output

```
**********     Header Section     **********
MOBILE6 INPUT FILE
*Emission calcs for Progress Energy
*Project Location: Wake County, NC
*Min/max temp from Raleigh-Durham International Airport
*Fuel RVP from Appendix of Tech Descriptionof Toxics Module

POLLUTANTS          : CO NOX HC
PARTICULATES        : SO4 SO2 OCARBON ECARBON GASPM LEAD BRAKE TIRE
SPREADSHEET         :
RUN DATA

**********      Run Section      **********
EXPRESS HC AS VOC   :

**********    Scenario Section    **********

*Winter input values consisten with CO Maintenance Plan Update

SCENARIO RECORD     : Winter 2011 - 10 mph
CALENDAR YEAR       : 2011
EVALUATION MONTH    : 1
MIN/MAX TEMP        : 51.5 51.5
FUEL RVP            : 14.25
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Winter 2012 - 10 mph
CALENDAR YEAR       : 2012
EVALUATION MONTH    : 1
MIN/MAX TEMP        : 51.5 51.5
FUEL RVP            : 14.25
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Winter 2013 - 10 mph
CALENDAR YEAR       : 2013
EVALUATION MONTH    : 1
MIN/MAX TEMP        : 51.5 51.5
FUEL RVP            : 14.25
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Winter 2014 - 10 mph
CALENDAR YEAR       : 2014
EVALUATION MONTH    : 1
MIN/MAX TEMP        : 51.5 51.5
FUEL RVP            : 14.25
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Winter 2015 - 10 mph
CALENDAR YEAR       : 2015
EVALUATION MONTH    : 1
MIN/MAX TEMP        : 51.5 51.5
FUEL RVP            : 14.25
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Winter 2016 - 10 mph
CALENDAR YEAR       : 2016
EVALUATION MONTH    : 1
MIN/MAX TEMP        : 51.5 51.5
FUEL RVP            : 14.25
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial
```

```
SCENARIO RECORD    : Winter 2017 - 10 mph
CALENDAR YEAR      : 2017
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2018 - 10 mph
CALENDAR YEAR      : 2018
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2019 - 10 mph
CALENDAR YEAR      : 2019
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2020 - 10 mph
CALENDAR YEAR      : 2020
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2021 - 10 mph
CALENDAR YEAR      : 2021
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2022 - 10 mph
CALENDAR YEAR      : 2022
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2023 - 10 mph
CALENDAR YEAR      : 2023
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Winter 2024 - 10 mph
CALENDAR YEAR      : 2024
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial
```

```
SCENARIO RECORD    : Winter 2011 - Idle
CALENDAR YEAR      : 2011
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2012 - Idle
CALENDAR YEAR      : 2012
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2013 - Idle
CALENDAR YEAR      : 2013
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2014 - Idle
CALENDAR YEAR      : 2014
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2015 - Idle
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2016 - Idle
CALENDAR YEAR      : 2016
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2017 - Idle
CALENDAR YEAR      : 2017
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
```

```
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2018 - Idle
CALENDAR YEAR      : 2018
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2019 - Idle
CALENDAR YEAR      : 2019
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2020 - Idle
CALENDAR YEAR      : 2020
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2021 - Idle
CALENDAR YEAR      : 2021
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2022 - Idle
CALENDAR YEAR      : 2022
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2023 - Idle
CALENDAR YEAR      : 2023
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Winter 2024 - Idle
CALENDAR YEAR      : 2024
EVALUATION MONTH   : 1
MIN/MAX TEMP       : 51.5 51.5
FUEL RVP           : 14.25
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial
```

```
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

*Summer input values consistent with Raleigh-Durham-Chapel Hill, NC 8-Hour Ozone Redesignation and
Maintenance Plan

SCENARIO RECORD    : Summer 2011 - 10 mph
CALENDAR YEAR      : 2011
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Summer 2012 - 10 mph
CALENDAR YEAR      : 2012
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Summer 2013 - 10 mph
CALENDAR YEAR      : 2013
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Summer 2014 - 10 mph
CALENDAR YEAR      : 2014
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 10 arterial

SCENARIO RECORD    : Summer 2015 - 10 mph
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
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AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2016 - 10 mph
CALENDAR YEAR       : 2016
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2017 - 10 mph
CALENDAR YEAR       : 2017
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2018 - 10 mph
CALENDAR YEAR       : 2018
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2019 - 10 mph
CALENDAR YEAR       : 2019
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2020 - 10 mph
CALENDAR YEAR       : 2020
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2021 - 10 mph
CALENDAR YEAR       : 2021
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EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2022 - 10 mph
CALENDAR YEAR       : 2022
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2023 - 10 mph
CALENDAR YEAR       : 2023
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2024 - 10 mph
CALENDAR YEAR       : 2024
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 10 arterial

SCENARIO RECORD     : Summer 2011 - Idle
CALENDAR YEAR       : 2011
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
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57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2012 - Idle
CALENDAR YEAR      : 2012
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2013 - Idle
CALENDAR YEAR      : 2013
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2014 - Idle
CALENDAR YEAR      : 2014
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2015 - Idle
CALENDAR YEAR      : 2015
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2016 - Idle
CALENDAR YEAR      : 2016
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
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PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2017 - Idle
CALENDAR YEAR      : 2017
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2018 - Idle
CALENDAR YEAR      : 2018
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2019 - Idle
CALENDAR YEAR      : 2019
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2020 - Idle
CALENDAR YEAR      : 2020
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial

SCENARIO RECORD    : Summer 2021 - Idle
CALENDAR YEAR      : 2021
EVALUATION MONTH   : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY  : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES    : 30.0
MIN/MAX TEMP       : 68.1 88.9
FUEL RVP           : 7.8
PARTICLE SIZE      : 10.0
DIESEL SULFUR      : 15
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 2.5 arterial
```

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SCENARIO RECORD     : Summer 2022 - Idle
CALENDAR YEAR       : 2022
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 2.5 arterial

SCENARIO RECORD     : Summer 2023 - Idle
CALENDAR YEAR       : 2023
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 2.5 arterial

SCENARIO RECORD     : Summer 2024 - Idle
CALENDAR YEAR       : 2024
EVALUATION MONTH    : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
86. 86. 84. 81. 80. 77. 76. 75. 74. 73. 73. 73.
RELATIVE HUMIDITY   : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
BAROMETRIC PRES     : 30.0
MIN/MAX TEMP        : 68.1 88.9
FUEL RVP            : 7.8
PARTICLE SIZE       : 10.0
DIESEL SULFUR       : 15
PARTICULATE EF      : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED       : 2.5 arterial



END OF RUN
```

```
*******************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                  *
* Input file: C:\MOBILE6\MOBILE6\RUN\ACAM\PROGRESS.IN (file 1, run 1).        *
*******************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2011 - 10 mph
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D

                    Calendar Year:  2011
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3425    0.3941    0.1344              0.0357    0.0003    0.0020    0.0856    0.0053    1.0000
  ---------------------------------------------------------------------------------------------------------------------
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 Composite Emission Factors (g/mi):
     Composite VOC :      1.394     1.355     2.480     1.641     2.295     0.279     0.707     0.813      3.40     1.516
     Composite CO  :      16.34     17.80     25.22     19.68     26.17     1.649     1.336     4.062     31.20    17.453
     Composite NOX :      0.718     0.932     1.522     1.082     1.695     0.434     0.807     7.546      1.11     1.532
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2012 - 10 mph
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2012
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                    Nominal Fuel RVP:  14.3 psi
                       Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                      ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3321    0.4018    0.1370              0.0358    0.0003    0.0020    0.0857    0.0053    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :      1.270     1.229     2.262     1.492     2.125     0.231     0.647     0.752      3.40     1.386
     Composite CO  :      15.68     16.77     23.48     18.48     25.00     1.548     1.250     3.540     31.20    16.530
```

Composite NOX :	0.651	0.851	1.439	1.000	1.466	0.339	0.712	6.504	1.11	1.373

```
* # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2013 - 10 mph
* File 1, Run 1, Scenario 3.
* # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2013
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3228	0.4087	0.1394		0.0358	0.0003	0.0020	0.0859	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	1.172	1.145	2.120	1.393	1.957	0.208	0.602	0.719	3.40	1.292
Composite CO :	15.18	16.03	22.45	17.66	24.49	1.484	1.190	2.706	31.20	15.854
Composite NOX :	0.592	0.770	1.347	0.917	1.272	0.278	0.642	5.623	1.11	1.229

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2014 - 10 mph
* File 1, Run 1, Scenario 4.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2014
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3142	0.4149	0.1415		0.0358	0.0003	0.0021	0.0861	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	1.089	1.077	1.996	1.311	1.785	0.186	0.562	0.685	3.40	1.213
Composite CO :	14.74	15.42	21.62	16.99	23.68	1.420	1.138	2.397	31.20	15.304
Composite NOX :	0.540	0.703	1.267	0.847	1.070	0.227	0.581	4.790	1.11	1.098

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2015 - 10 mph
* File 1, Run 1, Scenario 5.
```

```
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2015
                          Month:  Jan.
                       Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                  Nominal Fuel RVP:  14.3 psi
                     Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3068	0.4203	0.1433		0.0358	0.0003	0.0021	0.0862	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	1.021	1.023	1.885	1.242	1.652	0.173	0.532	0.650	3.40	1.148
Composite CO :	14.36	14.92	20.94	16.45	23.45	1.371	1.102	2.096	31.20	14.864
Composite NOX :	0.495	0.648	1.198	0.788	0.931	0.192	0.533	4.158	1.11	0.995

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2016 - 10 mph
* File 1, Run 1, Scenario 6.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
```

```
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2016
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                    Nominal Fuel RVP:  14.3 psi
                       Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                       ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3001	0.4252	0.1450		0.0358	0.0003	0.0021	0.0863	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.966	0.976	1.774	1.179	1.549	0.152	0.486	0.630	3.40	1.091
Composite CO :	14.05	14.44	20.15	15.89	23.19	1.313	1.042	1.864	31.20	14.432
Composite NOX :	0.455	0.597	1.124	0.731	0.817	0.151	0.477	3.642	1.11	0.904

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2017 - 10 mph
* File 1, Run 1, Scenario 7.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
```

```
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                 Calendar Year:  2017
                         Month:  Jan.
                      Altitude:  Low
            Minimum Temperature:  51.5 (F)
            Maximum Temperature:  51.5 (F)
              Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:  14.3 psi
                   Weathered RVP:  14.3 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2942	0.4295	0.1464		0.0359	0.0003	0.0022	0.0864	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.921	0.938	1.680	1.127	1.448	0.137	0.462	0.612	3.40	1.043
Composite CO :	13.80	14.08	19.55	15.47	22.97	1.273	1.014	1.664	31.20	14.101
Composite NOX :	0.421	0.560	1.065	0.689	0.715	0.122	0.441	3.164	1.11	0.826

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2018 - 10 mph
* File 1, Run 1, Scenario 8.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
```

```
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2018
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                 <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2889    0.4333    0.1477              0.0360    0.0003    0.0022    0.0866    0.0051    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC  :     0.884     0.904     1.584     1.077     1.385     0.125     0.415     0.596      3.40     1.001
    Composite CO   :     13.58     13.69     18.84     15.00     22.80     1.243     0.951     1.461     31.20    13.748
    Composite NOX  :     0.392     0.529     1.004     0.650     0.636     0.100     0.390     2.711      1.11     0.755
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2019 - 10 mph
* File 1, Run 1, Scenario 9.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
```

```
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                    Calendar Year:  2019
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.2843    0.4365    0.1488              0.0361    0.0003    0.0022    0.0868    0.0051    1.0000
 ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC  :     0.854     0.880     1.515     1.041     1.303     0.119     0.389     0.583      3.40     0.968
    Composite CO   :     13.40     13.44     18.36     14.69     22.61     1.227     0.918     1.322     31.20     13.500
    Composite NOX  :     0.369     0.510     0.960     0.624     0.557     0.088     0.357     2.387      1.11     0.704
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2020 - 10 mph
* File 1, Run 1, Scenario 10.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
```

```
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2020
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.824	0.839	1.409	0.984	1.215	0.112	0.362	0.572	3.40	0.922
Composite CO :	13.27	13.27	17.94	14.46	22.48	1.212	0.881	1.202	31.20	13.313
Composite NOX :	0.352	0.494	0.933	0.606	0.496	0.077	0.329	2.102	1.11	0.663

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2021 - 10 mph
* File 1, Run 1, Scenario 11.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
```

```
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2021
                          Month:  Jan.
                       Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.805	0.813	1.348	0.949	1.153	0.105	0.335	0.562	3.40	0.894
Composite CO :	13.17	13.17	17.60	14.30	22.37	1.197	0.843	1.099	31.20	13.177
Composite NOX :	0.339	0.481	0.909	0.590	0.441	0.067	0.300	1.866	1.11	0.627

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2022 - 10 mph
* File 1, Run 1, Scenario 12.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
```

```
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.
  M 48 Warning:
           there are no sales for vehicle class HDGV8b
  M 48 Warning:
           there are no sales for vehicle class LDDT12

                Calendar Year:  2022
                        Month:  Jan.
                     Altitude:  Low
           Minimum Temperature:  51.5 (F)
           Maximum Temperature:  51.5 (F)
             Absolute Humidity:   75. grains/lb
              Nominal Fuel RVP:  14.3 psi
                 Weathered RVP:  14.3 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.789	0.788	1.279	0.913	1.093	0.100	0.316	0.554	3.40	0.864
Composite CO :	13.10	13.08	17.35	14.17	22.27	1.185	0.822	1.010	31.20	13.069
Composite NOX :	0.329	0.471	0.874	0.573	0.383	0.059	0.278	1.629	1.11	0.592

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2023 - 10 mph
* File 1, Run 1, Scenario 13.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
           The user supplied arterial average speed of 10.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.
```

```
 M 48 Warning:
            there are no sales for vehicle class HDGV8b
 M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2023
                          Month:  Jan.
                       Altitude:  Low
            Minimum Temperature:  51.5 (F)
            Maximum Temperature:  51.5 (F)
              Absolute Humidity:   75. grains/lb
               Nominal Fuel RVP:  14.3 psi
                   Weathered RVP:  14.3 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.780	0.777	1.242	0.895	1.061	0.096	0.299	0.546	3.40	0.850
Composite CO :	13.04	13.01	17.11	14.05	22.18	1.176	0.803	0.936	31.20	12.977
Composite NOX :	0.321	0.463	0.844	0.560	0.344	0.052	0.258	1.447	1.11	0.565

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2024 - 10 mph
* File 1, Run 1, Scenario 14.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
 M583 Warning:
           The user supplied arterial average speed of 10.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.
 M 48 Warning:
            there are no sales for vehicle class HDGV8b
 M 48 Warning:
```

there are no sales for vehicle class LDDT12

Calendar Year:	2024
Month:	Jan.
Altitude:	Low
Minimum Temperature:	51.5 (F)
Maximum Temperature:	51.5 (F)
Absolute Humidity:	75. grains/lb
Nominal Fuel RVP:	14.3 psi
Weathered RVP:	14.3 psi
Fuel Sulfur Content:	30. ppm
Exhaust I/M Program:	No
Evap I/M Program:	No
ATP Program:	No
Reformulated Gas:	No

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.775	0.771	1.220	0.885	1.041	0.093	0.284	0.540	3.40	0.841
Composite CO :	13.00	12.95	16.90	13.95	22.10	1.170	0.786	0.873	31.20	12.896
Composite NOX :	0.315	0.457	0.818	0.549	0.310	0.048	0.241	1.306	1.11	0.543

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2011 - Idle
* File 1, Run 1, Scenario 16.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2011
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
```

```
                Nominal Fuel RVP:  14.3 psi
                   Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3425	0.3941	0.1344		0.0357	0.0003	0.0020	0.0856	0.0053	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	6.018	5.250	9.800	6.407	8.599	0.380	0.964	1.178	8.43	5.903
Composite CO :	36.80	37.46	54.64	41.83	49.23	2.671	2.157	7.216	103.15	37.644
Composite NOX :	0.989	1.278	2.084	1.483	1.572	0.577	1.074	10.030	1.27	2.047

```
* # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2012 - Idle
* File 1, Run 1, Scenario 17.
* # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                   Calendar Year:  2012
                           Month:  Jan.
                        Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm
```

```
            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12     LDGT34      LDGT      HDGV       LDDV       LDDT      HDDV        MC    All Veh
             GVWR:                <6000      >6000     (All)
                      ------    ------     ------    ------    ------     ------     ------    ------    ------    ------
  VMT Distribution:    0.3321    0.4018     0.1370              0.0358     0.0003     0.0020    0.0857    0.0053    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC  :     5.433     4.764      8.926     5.822     7.933      0.315      0.881     1.090      8.43     5.365
    Composite CO   :    35.10     34.91      49.68     38.67     47.02      2.512      2.018     6.289    103.15    35.264
    Composite NOX  :     0.897     1.162      1.959     1.364     1.360      0.451      0.947     8.642      1.27     1.831
 ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2013 - Idle
* File 1, Run 1, Scenario 18.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                 Calendar Year:  2013
                         Month:  Jan.
                      Altitude:  Low
            Minimum Temperature:  51.5 (F)
            Maximum Temperature:  51.5 (F)
              Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
```

```
                    ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV     LDGT12     LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC    All Veh
             GVWR:                 <6000      >6000     (All)
                       ------    ------     ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3228    0.4087     0.1394                0.0358    0.0003    0.0020    0.0859    0.0052    1.0000
 ---------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC  :     4.973     4.431      8.284     5.411     7.266     0.283     0.818     1.042      8.43     4.966
    Composite CO   :     33.82     33.31      47.48     36.92     46.06     2.405     1.918     4.807    103.15    33.755
    Composite NOX  :     0.815     1.052      1.834     1.251     1.180     0.370     0.854     7.469      1.27     1.640
 ---------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2014 - Idle
* File 1, Run 1, Scenario 19.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2014
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                       ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3142	0.4149	0.1415		0.0358	0.0003	0.0021	0.0861	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	4.606	4.180	7.722	5.081	6.625	0.254	0.761	0.993	8.43	4.642
Composite CO :	32.67	32.01	45.74	35.50	44.55	2.302	1.830	4.258	103.15	32.520
Composite NOX :	0.743	0.959	1.724	1.153	0.992	0.302	0.772	6.361	1.27	1.467

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2015 - Idle
* File 1, Run 1, Scenario 20.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2015
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh

VMT Distribution:	0.3068	0.4203	0.1433		0.0358	0.0003	0.0021	0.0862	0.0052	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	4.320	3.984	7.232	4.810	6.118	0.236	0.719	0.942	8.43	4.382
Composite CO :	31.69	30.96	44.27	34.34	44.11	2.221	1.768	3.724	103.15	31.517
Composite NOX :	0.681	0.882	1.627	1.072	0.864	0.255	0.708	5.518	1.27	1.328

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2016 - Idle
* File 1, Run 1, Scenario 21.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2016
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3001	0.4252	0.1450		0.0358	0.0003	0.0021	0.0863	0.0052	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	4.100	3.819	6.782	4.572	5.752	0.207	0.657	0.913	8.43	4.167
Composite CO :	30.88	29.99	42.67	33.21	43.63	2.130	1.673	3.311	103.15	30.592
Composite NOX :	0.626	0.815	1.530	0.997	0.758	0.201	0.634	4.826	1.27	1.208

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2017 - Idle
* File 1, Run 1, Scenario 22.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2017
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2942	0.4295	0.1464		0.0359	0.0003	0.0022	0.0864	0.0051	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	3.931	3.689	6.405	4.379	5.396	0.187	0.623	0.887	8.43	3.994
Composite CO :	30.21	29.27	41.44	32.37	43.21	2.066	1.627	2.957	103.15	29.870
Composite NOX :	0.579	0.764	1.449	0.939	0.664	0.162	0.586	4.199	1.27	1.105

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2018 - Idle
* File 1, Run 1, Scenario 23.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2018
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2889	0.4333	0.1477		0.0360	0.0003	0.0022	0.0866	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.802	3.575	6.063	4.208	5.217	0.171	0.560	0.863	8.43	3.850
Composite CO :	29.66	28.57	40.08	31.50	42.89	2.018	1.530	2.595	103.15	29.171
Composite NOX :	0.539	0.724	1.371	0.888	0.590	0.133	0.518	3.614	1.27	1.014

```
* # # # # # # # # # # # # # # # # # # # # # # # #
```

```
* Winter 2019 - Idle
* File 1, Run 1, Scenario 24.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b
  M 48 Warning:
               there are no sales for vehicle class LDDT12

                     Calendar Year:  2019
                             Month:  Jan.
                          Altitude:  Low
                 Minimum Temperature:  51.5 (F)
                 Maximum Temperature:  51.5 (F)
                   Absolute Humidity:   75. grains/lb
                    Nominal Fuel RVP:  14.3 psi
                       Weathered RVP:  14.3 psi
                 Fuel Sulfur Content:   30. ppm

                 Exhaust I/M Program:  No
                    Evap I/M Program:  No
                         ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2843	0.4365	0.1488		0.0361	0.0003	0.0022	0.0868	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.705	3.492	5.801	4.079	4.944	0.162	0.524	0.845	8.43	3.737
Composite CO :	29.22	28.11	39.14	30.92	42.53	1.991	1.479	2.349	103.15	28.669
Composite NOX :	0.508	0.697	1.310	0.853	0.517	0.117	0.474	3.183	1.27	0.946

```
* # # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2020 - Idle
* File 1, Run 1, Scenario 25.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2020
                           Month:  Jan.
                        Altitude:  Low
               Minimum Temperature:  51.5 (F)
               Maximum Temperature:  51.5 (F)
                 Absolute Humidity:   75. grains/lb
                  Nominal Fuel RVP:  14.3 psi
                     Weathered RVP:  14.3 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.575	3.304	5.229	3.793	4.518	0.153	0.489	0.829	8.43	3.515
Composite CO :	28.89	27.79	38.30	30.46	42.29	1.967	1.421	2.135	103.15	28.275
Composite NOX :	0.484	0.675	1.271	0.827	0.460	0.103	0.436	2.805	1.27	0.892

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2021 - Idle
* File 1, Run 1, Scenario 26.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV
```

```
* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2021
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.528	3.245	5.062	3.707	4.365	0.144	0.452	0.815	8.43	3.445
Composite CO :	28.63	27.57	37.59	30.12	42.08	1.944	1.363	1.952	103.15	27.978
Composite NOX :	0.466	0.658	1.236	0.805	0.409	0.089	0.398	2.490	1.27	0.844

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2022 - Idle
* File 1, Run 1, Scenario 27.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV
```

```
* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2022
                            Month:  Jan.
                         Altitude:  Low
                Minimum Temperature:  51.5 (F)
                Maximum Temperature:  51.5 (F)
                  Absolute Humidity:   75. grains/lb
                   Nominal Fuel RVP:  14.3 psi
                      Weathered RVP:  14.3 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.487	3.188	4.884	3.619	4.218	0.137	0.427	0.802	8.43	3.375
Composite CO :	28.44	27.39	37.03	29.84	41.89	1.926	1.330	1.795	103.15	27.741
Composite NOX :	0.453	0.644	1.190	0.783	0.355	0.078	0.368	2.171	1.27	0.798

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2023 - Idle
* File 1, Run 1, Scenario 28.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV
```

```
* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b
  M 48 Warning:
               there are no sales for vehicle class LDDT12

                     Calendar Year:  2023
                             Month:  Jan.
                          Altitude:  Low
                 Minimum Temperature:  51.5 (F)
                 Maximum Temperature:  51.5 (F)
                   Absolute Humidity:   75. grains/lb
                    Nominal Fuel RVP:  14.3 psi
                       Weathered RVP:  14.3 psi
                 Fuel Sulfur Content:   30. ppm

                 Exhaust I/M Program:  No
                    Evap I/M Program:  No
                         ATP Program:  No
                    Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.468	3.164	4.802	3.580	4.151	0.132	0.404	0.792	8.43	3.343
Composite CO :	28.29	27.24	36.53	29.60	41.72	1.912	1.302	1.663	103.15	27.541
Composite NOX :	0.442	0.634	1.150	0.765	0.319	0.070	0.343	1.935	1.27	0.762

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Winter 2024 - Idle
* File 1, Run 1, Scenario 29.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV
```

```
* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2024
                            Month:  Jan.
                         Altitude:  Low
              Minimum Temperature:  51.5 (F)
              Maximum Temperature:  51.5 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.3 psi
                    Weathered RVP:  14.3 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2790	0.4400	0.1500		0.0363	0.0003	0.0022	0.0872	0.0050	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.459	3.154	4.757	3.561	4.116	0.128	0.384	0.783	8.43	3.327
Composite CO :	28.17	27.11	36.08	29.39	41.57	1.901	1.276	1.550	103.15	27.369
Composite NOX :	0.434	0.626	1.115	0.750	0.288	0.063	0.320	1.748	1.27	0.734

```
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2011 - 10 mph
* File 1, Run 1, Scenario 31.
* # # # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
```

```
 M583 Warning:
          The user supplied arterial average speed of 10.0
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.
 M 48 Warning:
           there are no sales for vehicle class HDGV8b

                Calendar Year:  2011
                        Month:  July
                     Altitude:  Low
           Minimum Temperature:  68.1 (F)
           Maximum Temperature:  88.9 (F)
             Minimum Rel. Hum.:  49.0 (%)
             Maximum Rel. Hum.:  96.0 (%)
           Barometric Pressure: 30.00 (inches Hg)
              Nominal Fuel RVP:   7.8 psi
                 Weathered RVP:   7.5 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
             Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3367	0.3972	0.1365		0.0360	0.0003	0.0020	0.0860	0.0054	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	1.056	1.118	1.963	1.334	1.786	0.274	0.682	0.792	3.50	1.220
Composite CO :	9.57	10.42	14.24	11.40	20.63	1.639	1.300	3.805	34.54	10.561
Composite NOX :	0.694	0.787	1.230	0.900	1.587	0.418	0.765	7.017	0.82	1.381

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2012 - 10 mph
* File 1, Run 1, Scenario 32.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
 M583 Warning:
          The user supplied arterial average speed of 10.0
          will be used for all hours of the day.  100% of VMT
```

```
          has been assigned to the arterial/collector roadway
          type for all hours of the day and all vehicle types.
 M 48 Warning:
          there are no sales for vehicle class HDGV8b
 M 48 Warning:
          there are no sales for vehicle class LDDT12

               Calendar Year:  2012
                       Month:  July
                    Altitude:  Low
          Minimum Temperature:  68.1 (F)
          Maximum Temperature:  88.9 (F)
            Minimum Rel. Hum.:  49.0 (%)
            Maximum Rel. Hum.:  96.0 (%)
          Barometric Pressure: 30.00 (inches Hg)
             Nominal Fuel RVP:   7.8 psi
                Weathered RVP:   7.5 psi
          Fuel Sulfur Content:   30. ppm

          Exhaust I/M Program:  No
             Evap I/M Program:  No
                 ATP Program:  No
             Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3271	0.4043	0.1389		0.0360	0.0003	0.0020	0.0861	0.0054	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.959	1.024	1.802	1.223	1.653	0.228	0.624	0.736	3.50	1.121
Composite CO :	9.07	9.86	13.25	10.73	19.75	1.541	1.219	3.321	34.54	9.978
Composite NOX :	0.631	0.721	1.165	0.835	1.374	0.327	0.675	6.055	0.82	1.236

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2013 - 10 mph
* File 1, Run 1, Scenario 33.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
          The user supplied arterial average speed of 10.0
          will be used for all hours of the day.  100% of VMT
          has been assigned to the arterial/collector roadway
```

type for all hours of the day and all vehicle types.
M 48 Warning:
there are no sales for vehicle class HDGV8b
M 48 Warning:
there are no sales for vehicle class LDDT12

Calendar Year:	2013
Month:	July
Altitude:	Low
Minimum Temperature:	68.1 (F)
Maximum Temperature:	88.9 (F)
Minimum Rel. Hum.:	49.0 (%)
Maximum Rel. Hum.:	96.0 (%)
Barometric Pressure:	30.00 (inches Hg)
Nominal Fuel RVP:	7.8 psi
Weathered RVP:	7.5 psi
Fuel Sulfur Content:	30. ppm
Exhaust I/M Program:	No
Evap I/M Program:	No
ATP Program:	No
Reformulated Gas:	No

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3180	0.4109	0.1412		0.0360	0.0003	0.0021	0.0863	0.0053	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.881	0.959	1.694	1.147	1.520	0.205	0.581	0.704	3.50	1.049
Composite CO :	8.69	9.48	12.73	10.31	19.37	1.479	1.163	2.548	34.54	9.559
Composite NOX :	0.575	0.658	1.094	0.769	1.193	0.268	0.610	5.241	0.82	1.108

* #
* Summer 2014 - 10 mph
* File 1, Run 1, Scenario 34.
* #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
M583 Warning:
The user supplied arterial average speed of 10.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

```
 M 48 Warning:
             there are no sales for vehicle class HDGV8b
 M 48 Warning:
             there are no sales for vehicle class LDDT12

                   Calendar Year:  2014
                           Month:  July
                        Altitude:  Low
                 Minimum Temperature:  68.1 (F)
                 Maximum Temperature:  88.9 (F)
                   Minimum Rel. Hum.:  49.0 (%)
                   Maximum Rel. Hum.:  96.0 (%)
                 Barometric Pressure: 30.00 (inches Hg)
                    Nominal Fuel RVP:   7.8 psi
                       Weathered RVP:   7.5 psi
                 Fuel Sulfur Content:   30. ppm

                 Exhaust I/M Program:  No
                    Evap I/M Program:  No
                         ATP Program:  No
                    Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3099	0.4167	0.1431		0.0360	0.0003	0.0021	0.0866	0.0053	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.815	0.907	1.596	1.083	1.385	0.184	0.542	0.673	3.50	0.987
Composite CO :	8.35	9.17	12.29	9.97	18.77	1.418	1.113	2.261	34.54	9.227
Composite NOX :	0.527	0.605	1.032	0.714	1.004	0.219	0.553	4.471	0.82	0.992

```
* # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2015 - 10 mph
* File 1, Run 1, Scenario 35.
* # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
 M583 Warning:
           The user supplied arterial average speed of 10.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.
 M 48 Warning:
```

```
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                 Calendar Year:  2015
                         Month:  July
                      Altitude:  Low
            Minimum Temperature:  68.1 (F)
            Maximum Temperature:  88.9 (F)
              Minimum Rel. Hum.:  49.0 (%)
              Maximum Rel. Hum.:  96.0 (%)
            Barometric Pressure: 30.00 (inches Hg)
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   7.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3031	0.4218	0.1449		0.0360	0.0003	0.0021	0.0866	0.0053	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.762	0.865	1.507	1.029	1.279	0.171	0.514	0.640	3.50	0.935
Composite CO :	8.07	8.92	11.93	9.69	18.59	1.370	1.080	1.982	34.54	8.962
Composite NOX :	0.486	0.561	0.977	0.668	0.876	0.185	0.508	3.887	0.82	0.899

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2016 - 10 mph
* File 1, Run 1, Scenario 36.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
```

```
 M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2016
                          Month:  July
                       Altitude:  Low
            Minimum Temperature:  68.1 (F)
            Maximum Temperature:  88.9 (F)
              Minimum Rel. Hum.:  49.0 (%)
              Maximum Rel. Hum.:  96.0 (%)
            Barometric Pressure: 30.00 (inches Hg)
               Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   7.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2967	0.4264	0.1465		0.0361	0.0003	0.0022	0.0867	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.718	0.829	1.423	0.981	1.198	0.151	0.471	0.621	3.50	0.892
Composite CO :	7.84	8.69	11.55	9.42	18.40	1.315	1.023	1.766	34.54	8.725
Composite NOX :	0.451	0.523	0.922	0.625	0.769	0.146	0.456	3.411	0.82	0.820

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2017 - 10 mph
* File 1, Run 1, Scenario 37.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
 M583 Warning:
           The user supplied arterial average speed of 10.0
           will be used for all hours of the day.  100% of VMT
           has been assigned to the arterial/collector roadway
           type for all hours of the day and all vehicle types.
 M 48 Warning:
            there are no sales for vehicle class HDGV8b
 M 48 Warning:
```

```
there are no sales for vehicle class LDDT12

      Calendar Year:  2017
              Month:  July
           Altitude:  Low
Minimum Temperature:  68.1 (F)
Maximum Temperature:  88.9 (F)
  Minimum Rel. Hum.:  49.0 (%)
  Maximum Rel. Hum.:  96.0 (%)
Barometric Pressure: 30.00 (inches Hg)
   Nominal Fuel RVP:   7.8 psi
      Weathered RVP:   7.5 psi
Fuel Sulfur Content:   30. ppm

Exhaust I/M Program:  No
   Evap I/M Program:  No
       ATP Program:  No
  Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2912	0.4304	0.1478		0.0361	0.0003	0.0022	0.0869	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.683	0.800	1.349	0.940	1.117	0.136	0.448	0.605	3.50	0.855
Composite CO :	7.65	8.52	11.25	9.22	18.24	1.276	0.997	1.581	34.54	8.537
Composite NOX :	0.421	0.494	0.876	0.592	0.675	0.118	0.422	2.970	0.82	0.752

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2018 - 10 mph
* File 1, Run 1, Scenario 38.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
```

```
                Calendar Year:  2018
                        Month:  July
                     Altitude:  Low
           Minimum Temperature:  68.1 (F)
           Maximum Temperature:  88.9 (F)
             Minimum Rel. Hum.:  49.0 (%)
             Maximum Rel. Hum.:  96.0 (%)
           Barometric Pressure: 30.00 (inches Hg)
              Nominal Fuel RVP:   7.8 psi
                  Weathered RVP:   7.5 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2862	0.4338	0.1490		0.0363	0.0003	0.0022	0.0870	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.654	0.773	1.274	0.902	1.068	0.125	0.403	0.589	3.50	0.822
Composite CO :	7.50	8.33	10.90	8.99	18.11	1.247	0.937	1.392	34.54	8.346
Composite NOX :	0.395	0.471	0.830	0.563	0.601	0.097	0.374	2.551	0.82	0.690

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2019 - 10 mph
* File 1, Run 1, Scenario 39.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12
```

```
                Calendar Year:  2019
                        Month:  July
                     Altitude:  Low
           Minimum Temperature:  68.1 (F)
           Maximum Temperature:  88.9 (F)
             Minimum Rel. Hum.:  49.0 (%)
             Maximum Rel. Hum.:  96.0 (%)
           Barometric Pressure: 30.00 (inches Hg)
              Nominal Fuel RVP:   7.8 psi
                 Weathered RVP:   7.5 psi
           Fuel Sulfur Content:   30. ppm

           Exhaust I/M Program:  No
              Evap I/M Program:  No
                   ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2819	0.4368	0.1500		0.0364	0.0003	0.0022	0.0873	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.630	0.754	1.218	0.872	1.001	0.118	0.378	0.577	3.50	0.795
Composite CO :	7.38	8.22	10.70	8.85	17.97	1.231	0.907	1.264	34.54	8.220
Composite NOX :	0.376	0.456	0.796	0.543	0.528	0.086	0.343	2.252	0.82	0.645

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2020 - 10 mph
* File 1, Run 1, Scenario 40.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                Calendar Year:  2020
```

```
                    Month:  July
                 Altitude:  Low
Minimum Temperature:  68.1 (F)
Maximum Temperature:  88.9 (F)
  Minimum Rel. Hum.:  49.0 (%)
  Maximum Rel. Hum.:  96.0 (%)
Barometric Pressure: 30.00 (inches Hg)
   Nominal Fuel RVP:   7.8 psi
       Weathered RVP:   7.5 psi
Fuel Sulfur Content:   30. ppm

Exhaust I/M Program:  No
   Evap I/M Program:  No
        ATP Program:  No
  Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.606	0.720	1.131	0.825	0.929	0.112	0.353	0.567	3.50	0.758
Composite CO :	7.29	8.14	10.48	8.74	17.87	1.217	0.872	1.152	34.54	8.117
Composite NOX :	0.361	0.444	0.775	0.529	0.471	0.076	0.317	1.988	0.82	0.609

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2021 - 10 mph
* File 1, Run 1, Scenario 41.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2021
                           Month:  July
```

```
                  Altitude:  Low
          Minimum Temperature:  68.1 (F)
          Maximum Temperature:  88.9 (F)
            Minimum Rel. Hum.:  49.0 (%)
            Maximum Rel. Hum.:  96.0 (%)
          Barometric Pressure: 30.00 (inches Hg)
             Nominal Fuel RVP:   7.8 psi
                Weathered RVP:   7.5 psi
          Fuel Sulfur Content:   30. ppm

         Exhaust I/M Program:  No
            Evap I/M Program:  No
                ATP Program:  No
           Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.591	0.696	1.074	0.793	0.875	0.106	0.327	0.558	3.50	0.731
Composite CO :	7.22	8.09	10.29	8.65	17.79	1.203	0.835	1.057	34.54	8.034
Composite NOX :	0.349	0.434	0.757	0.517	0.419	0.065	0.290	1.770	0.82	0.577

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2022 - 10 mph
* File 1, Run 1, Scenario 42.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                  Calendar Year:  2022
                          Month:  July
                       Altitude:  Low
```

```
             Minimum Temperature:  68.1 (F)
             Maximum Temperature:  88.9 (F)
               Minimum Rel. Hum.:  49.0 (%)
               Maximum Rel. Hum.:  96.0 (%)
             Barometric Pressure: 30.00 (inches Hg)
                Nominal Fuel RVP:   7.8 psi
                   Weathered RVP:   7.5 psi
             Fuel Sulfur Content:   30. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                     ATP Program:  No
                Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.577	0.672	1.012	0.759	0.824	0.101	0.309	0.550	3.50	0.705
Composite CO :	7.16	8.05	10.16	8.59	17.71	1.191	0.816	0.975	34.54	7.971
Composite NOX :	0.341	0.427	0.730	0.504	0.365	0.058	0.269	1.551	0.82	0.546

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2023 - 10 mph
* File 1, Run 1, Scenario 43.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b
  M 48 Warning:
               there are no sales for vehicle class LDDT12

                     Calendar Year:  2023
                             Month:  July
                          Altitude:  Low
               Minimum Temperature:  68.1 (F)
```

```
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   7.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.571	0.663	0.984	0.745	0.798	0.097	0.293	0.543	3.50	0.694
Composite CO :	7.12	8.01	10.04	8.53	17.65	1.183	0.798	0.906	34.54	7.916
Composite NOX :	0.334	0.421	0.708	0.494	0.329	0.052	0.251	1.383	0.82	0.522

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2024 - 10 mph
* File 1, Run 1, Scenario 44.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 10.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2024
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
```

Minimum Rel. Hum.: 49.0 (%)
Maximum Rel. Hum.: 96.0 (%)
Barometric Pressure: 30.00 (inches Hg)
Nominal Fuel RVP: 7.8 psi
Weathered RVP: 7.5 psi
Fuel Sulfur Content: 30. ppm

Exhaust I/M Program: No
Evap I/M Program: No
ATP Program: No
Reformulated Gas: No

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	0.567	0.659	0.969	0.738	0.784	0.094	0.279	0.538	3.50	0.688
Composite CO :	7.09	7.98	9.93	8.48	17.59	1.176	0.782	0.847	34.54	7.870
Composite NOX :	0.329	0.416	0.688	0.486	0.298	0.047	0.235	1.253	0.82	0.503

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2011 - Idle
* File 1, Run 1, Scenario 46.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                   Calendar Year:  2011
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
```

```
                Weathered RVP:   7.5 psi
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:   No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3367	0.3972	0.1365		0.0360	0.0003	0.0020	0.0860	0.0054	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	4.744	4.328	7.906	5.243	6.738	0.373	0.928	1.148	8.54	4.784
Composite CO :	24.45	23.69	32.59	25.97	38.80	2.652	2.096	6.760	116.15	24.699
Composite NOX :	1.042	1.105	1.720	1.262	1.473	0.555	1.018	9.328	0.93	1.887

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2012 - Idle
* File 1, Run 1, Scenario 47.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
             there are no sales for vehicle class HDGV8b
  M 48 Warning:
             there are no sales for vehicle class LDDT12

                  Calendar Year:  2012
                          Month:  July
                       Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
```

```
            Fuel Sulfur Content:   30. ppm

            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3271	0.4043	0.1389		0.0360	0.0003	0.0020	0.0861	0.0054	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	4.252	3.933	7.208	4.770	6.196	0.311	0.849	1.066	8.54	4.344
Composite CO :	23.14	22.23	29.62	24.12	37.15	2.498	1.965	5.900	116.15	23.140
Composite NOX :	0.947	1.009	1.621	1.165	1.275	0.434	0.898	8.046	0.93	1.688

```
* # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2013 - Idle
* File 1, Run 1, Scenario 48.
* # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2013
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   7.5 psi
              Fuel Sulfur Content:   30. ppm
```

```
            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3180	0.4109	0.1412		0.0360	0.0003	0.0021	0.0863	0.0053	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	3.864	3.660	6.687	4.434	5.652	0.279	0.788	1.021	8.54	4.015
Composite CO :	22.13	21.36	28.43	23.17	36.43	2.396	1.871	4.527	116.15	22.150
Composite NOX :	0.865	0.920	1.523	1.074	1.107	0.357	0.811	6.963	0.93	1.516

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2014 - Idle
* File 1, Run 1, Scenario 49.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                   Calendar Year:  2014
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   7.5 psi
              Fuel Sulfur Content:   30. ppm
```

```
            Exhaust I/M Program:  No
               Evap I/M Program:  No
                    ATP Program:  No
              Reformulated Gas:  No

      Vehicle Type:      LDGV     LDGT12     LDGT34      LDGT       HDGV       LDDV       LDDT       HDDV        MC    All Veh
             GVWR:                 <6000      >6000      (All)
                      ------     ------     ------     ------     ------     ------     ------     ------     ------     ------
  VMT Distribution:    0.3099     0.4167     0.1431                0.0360     0.0003     0.0021     0.0866     0.0053     1.0000
 ---------------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC :      3.557      3.456      6.228      4.165      5.132      0.251      0.734      0.975       8.54      3.750
    Composite CO  :      21.24      20.65      27.47      22.39      35.31      2.296      1.789      4.016     116.15     21.356
    Composite NOX :      0.794      0.846      1.436      0.997      0.932      0.291      0.734      5.939       0.93      1.358
 ---------------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2015 - Idle
* File 1, Run 1, Scenario 50.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                   Calendar Year:  2015
                           Month:  July
                        Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   7.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
```

```
                Evap I/M Program:  No
                    ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
                GVWR:              <6000     >6000     (All)
                       ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
   VMT Distribution:   0.3031    0.4218    0.1449              0.0360    0.0003    0.0021    0.0866    0.0053    1.0000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     3.318     3.299     5.826     3.945     4.721     0.233     0.694     0.927      8.54     3.538
     Composite CO  :    20.49     20.07     26.64     21.75     34.97     2.218     1.731     3.521    116.15    20.713
     Composite NOX :     0.734     0.785     1.358     0.931     0.812     0.246     0.675     5.160      0.93     1.233
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2016 - Idle
* File 1, Run 1, Scenario 51.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2016
                            Month:  July
                         Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   7.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
```

```
                    ATP Program:  No
                Reformulated Gas:  No

      Vehicle Type:      LDGV     LDGT12     LDGT34      LDGT       HDGV       LDDV       LDDT       HDDV         MC    All Veh
             GVWR:                 <6000      >6000     (All)
                      ------     ------     ------     ------     ------     ------     ------     ------     ------     ------
  VMT Distribution:    0.2967     0.4264     0.1465                0.0361     0.0003     0.0022     0.0867     0.0052     1.0000
 ---------------------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
    Composite VOC  :      3.135      3.170      5.467      3.757      4.424      0.206      0.635      0.900       8.54      3.367
    Composite CO   :      19.88      19.57      25.83      21.17      34.62      2.131      1.642      3.137     116.15     20.159
    Composite NOX  :      0.682      0.733      1.284      0.874      0.713      0.194      0.605      4.521       0.93      1.127
 ---------------------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2017 - Idle
* File 1, Run 1, Scenario 52.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
               there are no sales for vehicle class HDGV8b
  M 48 Warning:
               there are no sales for vehicle class LDDT12

                     Calendar Year:  2017
                             Month:  July
                          Altitude:  Low
               Minimum Temperature:  68.1 (F)
               Maximum Temperature:  88.9 (F)
                 Minimum Rel. Hum.:  49.0 (%)
                 Maximum Rel. Hum.:  96.0 (%)
               Barometric Pressure: 30.00 (inches Hg)
                  Nominal Fuel RVP:   7.8 psi
                     Weathered RVP:   7.5 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
```

Reformulated Gas: No

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2912	0.4304	0.1478		0.0361	0.0003	0.0022	0.0869	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	2.996	3.067	5.162	3.602	4.136	0.186	0.603	0.877	8.54	3.226
Composite CO :	19.37	19.19	25.17	20.72	34.30	2.069	1.598	2.809	116.15	19.714
Composite NOX :	0.639	0.693	1.221	0.828	0.626	0.157	0.560	3.941	0.93	1.036

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2018 - Idle
* File 1, Run 1, Scenario 53.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2018
                            Month:  July
                         Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2862	0.4338	0.1490		0.0363	0.0003	0.0022	0.0870	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	2.889	2.977	4.887	3.465	3.991	0.170	0.544	0.854	8.54	3.111
Composite CO :	18.98	18.83	24.45	20.26	34.06	2.023	1.507	2.474	116.15	19.299
Composite NOX :	0.602	0.662	1.161	0.790	0.557	0.129	0.496	3.401	0.93	0.955

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2019 - Idle
* File 1, Run 1, Scenario 54.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2019
                            Month:  July
                         Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                       ATP Program:  No
                   Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2819	0.4368	0.1500		0.0364	0.0003	0.0022	0.0873	0.0052	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	2.809	2.909	4.673	3.360	3.768	0.161	0.510	0.837	8.54	3.019
Composite CO :	18.66	18.60	23.98	19.98	33.80	1.997	1.459	2.245	116.15	19.009
Composite NOX :	0.574	0.642	1.113	0.762	0.490	0.114	0.456	3.002	0.93	0.895

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2020 - Idle
* File 1, Run 1, Scenario 55.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2020
                            Month:  July
                         Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh

GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	2.705	2.765	4.230	3.139	3.437	0.153	0.476	0.822	8.54	2.847
Composite CO :	18.41	18.43	23.52	19.73	33.62	1.974	1.405	2.047	116.15	18.773
Composite NOX :	0.552	0.625	1.083	0.742	0.437	0.101	0.420	2.654	0.93	0.846

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2021 - Idle
* File 1, Run 1, Scenario 56.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2021
                            Month:  July
                         Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                  Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						

VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000
Composite Emission Factors (g/mi):										
Composite VOC :	2.662	2.708	4.066	3.055	3.295	0.144	0.442	0.809	8.54	2.779
Composite CO :	18.22	18.32	23.11	19.54	33.46	1.951	1.350	1.877	116.15	18.587
Composite NOX :	0.536	0.612	1.056	0.725	0.389	0.087	0.385	2.363	0.93	0.804

```
* # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2022 - Idle
* File 1, Run 1, Scenario 57.
* # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2022
                            Month:  July
                         Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                        ATP Program:  No
                  Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						

VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	2.625	2.651	3.893	2.968	3.158	0.138	0.418	0.797	8.54	2.712
Composite CO :	18.08	18.22	22.81	19.40	33.32	1.934	1.320	1.732	116.15	18.442
Composite NOX :	0.524	0.602	1.020	0.709	0.339	0.077	0.357	2.067	0.93	0.763

```
* # # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2023 - Idle
* File 1, Run 1, Scenario 58.
* # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
            there are no sales for vehicle class HDGV8b
  M 48 Warning:
            there are no sales for vehicle class LDDT12

                  Calendar Year:  2023
                          Month:  July
                       Altitude:  Low
              Minimum Temperature:  68.1 (F)
              Maximum Temperature:  88.9 (F)
                Minimum Rel. Hum.:  49.0 (%)
                Maximum Rel. Hum.:  96.0 (%)
              Barometric Pressure: 30.00 (inches Hg)
                 Nominal Fuel RVP:   7.8 psi
                    Weathered RVP:   7.5 psi
              Fuel Sulfur Content:   30. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000

Composite Emission Factors (g/mi):										
Composite VOC :	2.610	2.630	3.823	2.935	3.101	0.132	0.397	0.788	8.54	2.685
Composite CO :	17.96	18.14	22.54	19.27	33.19	1.921	1.293	1.610	116.15	18.320
Composite NOX :	0.514	0.594	0.990	0.695	0.305	0.069	0.333	1.849	0.93	0.732

```
* # # # # # # # # # # # # # # # # # # # # # # #
* Summer 2024 - Idle
* File 1, Run 1, Scenario 59.
* # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of  2.5
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b
  M 48 Warning:
              there are no sales for vehicle class LDDT12

                    Calendar Year:  2024
                            Month:  July
                         Altitude:  Low
                Minimum Temperature:  68.1 (F)
                Maximum Temperature:  88.9 (F)
                  Minimum Rel. Hum.:  49.0 (%)
                  Maximum Rel. Hum.:  96.0 (%)
                Barometric Pressure: 30.00 (inches Hg)
                   Nominal Fuel RVP:   7.8 psi
                      Weathered RVP:   7.5 psi
                Fuel Sulfur Content:   30. ppm

                Exhaust I/M Program:  No
                   Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.2788	0.4388	0.1507		0.0365	0.0003	0.0022	0.0876	0.0051	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	2.603	2.624	3.792	2.922	3.076	0.128	0.378	0.779	8.54	2.674
Composite CO :	17.88	18.07	22.31	19.16	33.09	1.911	1.269	1.506	116.15	18.217
Composite NOX :	0.507	0.588	0.963	0.683	0.276	0.063	0.312	1.676	0.93	0.707

Appendix A-2
NONROAD2008 Model Input/Output

```
Written by Nonroad interface at 6/4/2009 11:00:28 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2011
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2011
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co11.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co11.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:59:11 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2012
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2012
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co12.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co12.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard  :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:52:24 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2013
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2013
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co13.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co13.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:51:24 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2014
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2014
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co14.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co14.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:50:30 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2015
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2015
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co15.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co15.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:49:15 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2016
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2016
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    - emissions are for entire USA without state
              breakout.

50STATE     - emissions are for all 50 states
              and Washington D.C., by state.

STATE       - emissions are for a select group of states
              and are state-level estimates

COUNTY      - emissions are for a select group of counties
              and are county level estimates.  If necessary,
              allocation from state to county will be performed.

SUBCOUNTY   - emissions are for the specified sub counties
              and are subcounty level estimates.  If necessary,
              county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    - Nothing needs to be specified.  The FIPS
              code 00000 is used automatically.

50STATE     - Nothing needs to be specified.  The FIPS
              code 00000 is used automatically.

STATE       - state FIPS codes

COUNTY      - state or county FIPS codes.  State FIPS
              code means include all counties in the
              state.

SUBCOUNTY   - county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                  SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co16.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co16.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard  :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350     0.02247
T3          0.2000     0.02247
T3B         0.0500     0.02247
T4A         0.0500     0.02247
T4B         0.0015     0.02247
T4          0.0015     0.30
T4N         0.0015     0.30
T2M         0.0350     0.02247
T3M         1.0        0.02247
T4M         1.0        0.02247
/END/
```

PE_CO17.opt

```
Written by Nonroad interface at 6/4/2009 10:48:20 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2017
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2017
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co17.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co17.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:47:01 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2018
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2018
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co18.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co18.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 10:44:54 AM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2019
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : Progress Energy - Wake County NC
Title 2            : 2019
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co19.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co19.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:49:13 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                  Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                  Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                  Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2020
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2020
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                  SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co20.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co20.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:50:37 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2021
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2021
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co21.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co21.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:51:50 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2022
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2022
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co22.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co22.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard  :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:53:14 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                  Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                  Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                  Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2023
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2023
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co23.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co23.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:54:14 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2024
Season of year     :
Month of year      : January
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2024
Fuel RVP for gas   : 14.25
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0339
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 29
Maximum temper. (F): 61
Average temper. (F): 44
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_co24.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_co24.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

PE_0311.opt

```
Written by Nonroad interface at 6/4/2009 2:31:24 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2011
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2011
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o311.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o311.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 2:30:03 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2012
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2012
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_0312.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_0312.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 2:29:11 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2013
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2013
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o313.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o313.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350     0.02247
T3          0.2000     0.02247
T3B         0.0500     0.02247
T4A         0.0500     0.02247
T4B         0.0015     0.02247
T4          0.0015     0.30
T4N         0.0015     0.30
T2M         0.0350     0.02247
T3M         1.0        0.02247
T4M         1.0        0.02247
/END/
```

PE_0314.opt

```
Written by Nonroad interface at 6/4/2009 2:28:17 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2014
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2014
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o314.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o314.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 2:18:54 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2015
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2015
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o315.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o315.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 2:17:54 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2016
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                 Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                 Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2016
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o316.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o316.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 2:14:54 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                  Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                  Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                  Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2017
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2017
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                    :2267000000
                    :2268000000
                    :2282005010
                    :2282005015
                    :2282010005
                    :2285004015
                    :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o317.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o317.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 6/4/2009 2:14:05 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2018
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                 Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                 Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2018
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o318.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o318.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

PE_0319.opt

```
Written by Nonroad interface at 6/4/2009 2:12:31 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2019
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                    Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                    Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2019
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o319.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o319.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:42:02 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2020
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                   Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                   Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2020
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                  SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o320.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o320.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard  :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

------------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
------------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:43:16 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2021
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2021
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                  SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o321.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o321.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350     0.02247
T3          0.2000     0.02247
T3B         0.0500     0.02247
T4A         0.0500     0.02247
T4B         0.0015     0.02247
T4          0.0015     0.30
T4N         0.0015     0.30
T2M         0.0350     0.02247
T3M         1.0        0.02247
T4M         1.0        0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:40:25 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2022
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2022
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-----------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-----------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o322.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o322.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-----------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-----------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-----------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-----------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-----------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-----------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:45:07 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2023
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                     Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                     Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2023
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/
```

REGION PACKET

This is the packet that defines the region for which emissions are to be estimated.

The first record tells the type of region and allocation to perform.

Valid responses are:

US TOTAL - emissions are for entire USA without state breakout.

50STATE - emissions are for all 50 states and Washington D.C., by state.

STATE - emissions are for a select group of states and are state-level estimates

COUNTY - emissions are for a select group of counties and are county level estimates. If necessary, allocation from state to county will be performed.

SUBCOUNTY - emissions are for the specified sub counties and are subcounty level estimates. If necessary, county to subcounty allocation will be performed.

The remaining records define the regions to be included. The type of data which must be specified depends on the region level.

US TOTAL - Nothing needs to be specified. The FIPS code 00000 is used automatically.

50STATE - Nothing needs to be specified. The FIPS code 00000 is used automatically.

STATE - state FIPS codes

COUNTY - state or county FIPS codes. State FIPS code means include all counties in the state.

SUBCOUNTY - county FIPS code and subregion code.

```
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
```

SOURCE CATEGORY PACKET

This packet is used to tell the model which source categories are to be processed. It is optional. If used, only those source categories list will appear in the output data file. If the packet is not found, the model will process all source categories in the population files.

```
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o323.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o323.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

```
Written by Nonroad interface at 5/16/2010 8:46:30 PM
This is the options file for the NONROAD program.
The data is sperated into "packets" bases on common
information.  Each packet is specified by an
identifier and a terminator. Any notes or descriptions
can be placed between the data packets.

9/2005 epa: Add growth & tech years to PERIOD packet
  and Counties & Retrofit files to RUNFILES packet.

-----------------------------------------------------

                  PERIOD PACKET

This is the packet that defines the period for
which emissions are to be estimated.  The order of the
records matter.  The selection of certain parameters
will cause some of the record that follow to be ignored.
The order of the records is as follows:

1  - Char 10  - Period type for this simulation.
                Valid responses are: ANNUAL, SEASONAL, and MONTHLY
2  - Char 10  - Type of inventory produced.
                Valid responses are: TYPICAL DAY and PERIOD TOTAL
3  - Integer  - year of episode (4 digit year)
4  - Char 10  - Month of episode (use complete name of month)
5  - Char 10  - Type of day
                Valid responses are: WEEKDAY and WEEKEND
-----------------------------------------------------
/PERIOD/
Period type        : Monthly
Summation type     : Typical day
Year of episode    : 2024
Season of year     :
Month of year      : July
Weekday or weekend : Weekday
Year of growth calc:
Year of tech sel   :
/END/

-----------------------------------------------------

                  OPTIONS PACKET

This is the packet that defines some of the user
options that drive the model.  Most parameters are
used to make episode specific emission factor
adjustments. The order of the records is fixed.
The order is as follows.

1  -  Char 80  - First title on reports
2  -  Char 80  - Second title on reports
3  -  Real 10  - Fuel RVP of gasoline for this simulation
4  -  Real 10  - Oxygen weight percent of gasoline for simulation
5  -  Real 10  - Percent sulfur for gasoline
6  -  Real 10  - Percent sulfur for diesel
7  -  Real 10  - Percent sulfur for LPG/CNG
8  -  Real 10  - Minimum daily temperature (deg. F)
9  -  Real 10  - maximum daily temperature (deg. F)
10 -  Real 10  - Representative average daily temperature (deg. F)
11 -  Char 10  - Flag to determine if region is high altitude
                    Valid responses are: HIGH and LOW
12 -  Char 10  - Flag to determine if RFG adjustments are made
                    Valid responses are: YES and NO
-----------------------------------------------------
/OPTIONS/
Title 1            : PROGRESS ENERGY - WAKE COUNTY NC
Title 2            : 2024
Fuel RVP for gas   : 7.8
Oxygen Weight %    : 0.0
Gas sulfur %       : 0.0092
Diesel sulfur %    : 0.3000
Marine Dsl sulfur %: 0.0435
CNG/LPG sulfur %   : 0.003
Minimum temper. (F): 72.6
Maximum temper. (F): 89.1
Average temper. (F): 80
Altitude of region : LOW
EtOH Blend % Mkt   : 75.1
```

```
EtOH Vol %          : 9.3
/END/

------------------------------------------------------
                  REGION PACKET

This is the packet that defines the region for which
emissions are to be estimated.

The first record tells the type of region and
allocation to perform.

Valid responses are:
US TOTAL    -  emissions are for entire USA without state
               breakout.

50STATE     -  emissions are for all 50 states
               and Washington D.C., by state.

STATE       -  emissions are for a select group of states
               and are state-level estimates

COUNTY      -  emissions are for a select group of counties
               and are county level estimates.  If necessary,
               allocation from state to county will be performed.

SUBCOUNTY   -  emissions are for the specified sub counties
               and are subcounty level estimates.  If necessary,
               county to subcounty allocation will be performed.

The remaining records define the regions to be included.
The type of data which must be specified depends on the
region level.

US TOTAL    -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

50STATE     -  Nothing needs to be specified.  The FIPS
               code 00000 is used automatically.

STATE       -  state FIPS codes

COUNTY      -  state or county FIPS codes.  State FIPS
               code means include all counties in the
               state.

SUBCOUNTY   -  county FIPS code and subregion code.
------------------------------------------------------
/REGION/
Region Level        : COUNTY
Wake County NC      : 37183
/END/

or use -
Region Level        : STATE
Michigan            : 26000
------------------------------------------------------

                SOURCE CATEGORY PACKET

This packet is used to tell the model which source
categories are to be processed.  It is optional.
If used, only those source categories list will
appear in the output data file.  If the packet is
not found, the model will process all source
categories in the population files.
------------------------------------------------------
/SOURCE CATEGORY/
                    :2270002000
/END/


Diesel Only -
                    :2270000000
                    :2282020000
                    :2285002015
Spark Ignition Only -
                    :2260000000
                    :2265000000
```

```
                  :2267000000
                  :2268000000
                  :2282005010
                  :2282005015
                  :2282010005
                  :2285004015
                  :2285006015
-------------------------------------------------------
 This is the packet that lists the names of output files
 and some of the input data files read by the model.  If
 a drive:\path\ is not given, the location of the
 NONROAD.EXE file itself is assumed.  You will probably
 want to change the names of the Output and Message files
 to match that of the OPTion file, e.g., MICH-97.OPT,
 MICH-97.OUT, MICH-97.MSG, and if used MICH-97.AMS.
-------------------------------------------------------
/RUNFILES/
ALLOC XREF          : data\allocate\allocate.xrf
ACTIVITY            : data\activity\activity.dat
EXH TECHNOLOGY      : data\tech\tech-exh.dat
EVP TECHNOLOGY      : data\tech\tech-evp.dat
SEASONALITY         : c:\nonroad\data\season\season.dat
REGIONS             : c:\nonroad\data\season\season.dat
MESSAGE             : c:\nonroad\outputs\pe_o324.msg
OUTPUT DATA         : c:\nonroad\outputs\pe_o324.out
EPS2 AMS            :
US COUNTIES FIPS    : data\allocate\fips.dat
RETROFIT            :
/END/

-------------------------------------------------------
This is the packet that defines the equipment population
files read by the model.
-------------------------------------------------------
/POP FILES/
Population File     : c:\nonroad\data\pop\nc.pop
/END/

POPULATION FILE     : c:\nonroad\data\POP\MI.POP


-------------------------------------------------------
This is the packet that defines the growth files
files read by the model.
-------------------------------------------------------
/GROWTH FILES/
National defaults   : data\growth\nation.grw
/END/


/ALLOC FILES/
Air trans. empl.    :c:\nonroad\data\allocate\nc_airtr.alo
Undergrnd coal prod:c:\nonroad\data\allocate\nc_coal.alo
Construction cost   :c:\nonroad\data\allocate\nc_const.alo
Harvested acres     :c:\nonroad\data\allocate\nc_farms.alo
Golf course estab.  :c:\nonroad\data\allocate\nc_golf.alo
Wholesale estab.    :c:\nonroad\data\allocate\nc_holsl.alo
Family housing      :c:\nonroad\data\allocate\nc_house.alo
Logging employees   :c:\nonroad\data\allocate\nc_loggn.alo
Landscaping empl.   :c:\nonroad\data\allocate\nc_lscap.alo
Manufacturing empl.:c:\nonroad\data\allocate\nc_mnfg.alo
Oil & gas employees:c:\nonroad\data\allocate\nc_oil.alo
Census population   :c:\nonroad\data\allocate\nc_pop.alo
Allocation File     :c:\nonroad\data\allocate\nc_rail.alo
RV Park establish.  :c:\nonroad\data\allocate\nc_rvprk.alo
Snowblowers comm.   :c:\nonroad\data\allocate\nc_sbc.alo
Snowblowers res.    :c:\nonroad\data\allocate\nc_sbr.alo
Snowmobiles         :c:\nonroad\data\allocate\nc_snowm.alo
Rec marine inboard :c:\nonroad\data\allocate\nc_wib.alo
Rec marine outboard:c:\nonroad\data\allocate\nc_wob.alo
/END/
-------------------------------------------------------
This is the packet that defines the emssions factors
files read by the model.
-------------------------------------------------------
/EMFAC FILES/
THC exhaust         : data\emsfac\exhthc.emf
CO exhaust          : data\emsfac\exhco.emf
NOX exhaust         : data\emsfac\exhnox.emf
```

```
PM exhaust          : data\emsfac\exhpm.emf
BSFC                : data\emsfac\bsfc.emf
Crankcase           : data\emsfac\crank.emf
Spillage            : data\emsfac\spillage.emf
Diurnal             : data\emsfac\evdiu.emf
Tank Perm           : data\emsfac\evtank.emf
Non-RM Hose Perm    : data\emsfac\evhose.emf
RM Fill Neck Perm   : data\emsfac\evneck.emf
RM Supply/Return    : data\emsfac\evsupret.emf
RM Vent Perm        : data\emsfac\evvent.emf
Hot Soaks           : data\emsfac\evhotsk.emf
RuningLoss          : data\emsfac\evrunls.emf
/END/

-----------------------------------------------------
This is the packet that defines the deterioration factors
files read by the model.
-----------------------------------------------------
/DETERIORATE FILES/
THC exhaust         : data\detfac\exhthc.det
CO exhaust          : data\detfac\exhco.det
NOX exhaust         : data\detfac\exhnox.det
PM exhaust          : data\detfac\exhpm.det
Diurnal             : data\detfac\evdiu.det
Tank Perm           : data\detfac\evtank.det
Non-RM Hose Perm    : data\detfac\evhose.det
RM Fill Neck Perm   : data\detfac\evneck.det
RM Supply/Return    : data\detfac\evsupret.det
RM Vent Perm        : data\detfac\evvent.det
Hot Soaks           : data\detfac\evhotsk.det
RuningLoss          : data\detfac\evrunls.det
/END/

Optional Packets - Add initial slash "/" to activate

/STAGE II/
Control Factor      : 0.0
/END/
Enter percent control: 95 = 95% control = 0.05 x uncontrolled
Default should be zero control.

/MODELYEAR OUT/
EXHAUST BMY OUT     :
EVAP BMY OUT        :
/END/

SI REPORT/
SI report file-CSV :OUTPUTS\NRPOLLUT.CSV
/END/

/DAILY FILES/
DAILY TEMPS/RVP     :
/END/

PM Base Sulfur
 cols 1-10: dsl tech type;
 11-20: base sulfur wt%; or '1.0' means no-adjust (cert= in-use)
/PM BASE SULFUR/
T2          0.0350      0.02247
T3          0.2000      0.02247
T3B         0.0500      0.02247
T4A         0.0500      0.02247
T4B         0.0015      0.02247
T4          0.0015      0.30
T4N         0.0015      0.30
T2M         0.0350      0.02247
T3M         1.0         0.02247
T4M         1.0         0.02247
/END/
```

This file contains the seasonality (temporal adjustment data) used
by the NONROAD model. These data are used to convert tons/year
calculated by the model to the arbitrary time period specified by
the model. A description of each packet appears below.

NOTE: If no data for an equipment type can be found in this
file, the default values will be used for temporal allocation.
The default values represent a flat temporal activity profile.

9/16/05, 11b, EPA updates construction seasons per 2003 McGraw-Hill county-month const dollar values.
9/28/05, 11c, EPA updates US Total Seasonal Allocations per new Geographic ALO and new Const Seasonal allocations.

The following packet defines the states/counties in each
geographic region. The region code is arbitrary but the
FIPS code must be a valid state or county FIPS code. If
a state code is supplied, all counties in that state will
be included in the indicated region, unless overridden by
a county-specific record. If a state or county is not
listed under any region, only data records with a global
region code (all blanks) will used for that state or county.

The format is as follows:

1- 5	character	-- user defined region code
6-45	character	-- region description (not used)
46-50	character	-- state or county FIPS code
51-70	character	-- state or county name (not used)

/REGIONS/

US	National	00000 Nation
SE	Southeast	01000 Alabama
MW	Great Lakes/Midwest	02000 Alaska
SW	Southwest	04000 Arizona
SC	South Central	05000 Arkansas
WCST	West Coast	06000 California
RCKMT	Rocky Mountains	08000 Colorado
MIDAT	Mid-Atlantic	09000 Connecticut
MIDAT	Mid-Atlantic	10000 Delaware
SE	Southeast	12000 Florida
SE	Southeast	13000 Georgia
WCST	West Coast	15000 Hawaii
NW	Northwest	16000 Idaho
MW	Great Lakes/Midwest	17000 Illinois
MW	Great Lakes/Midwest	18000 Indiana
MW	Great Lakes/Midwest	19000 Iowa
CW	Central West	20000 Kansas
SC	South Central	21000 Kentucky
SE	Southeast	22000 Louisiana
NE	Northeast/New England	23000 Maine
MIDAT	Mid-Atlantic	24000 Maryland
NE	Northeast/New England	25000 Massachusetts
MW	Great Lakes/Midwest	26000 Michigan
MW	Great Lakes/Midwest	27000 Minnesota
SE	Southeast	28000 Mississippi
MW	Great Lakes/Midwest	29000 Missouri
NW	Northwest	30000 Montana
CW	Central West	31000 Nebraska
CW	Central West	32000 Nevada
NE	Northeast/New England	33000 New Hampshire
MIDAT	Mid-Atlantic	34000 New Jersey
SW	Southwest	35000 New Mexico
NE	Northeast/New England	36000 New York
SE	Southeast	37000 North Carolina
MW	Great Lakes/Midwest	38000 North Dakota
MW	Great Lakes/Midwest	39000 Ohio
SC	South Central	40000 Oklahoma
NW	Northwest	41000 Oregon
MIDAT	Mid-Atlantic	42000 Pennsylvania
MIDAT	Mid-Atlantic	44000 Rhode Island

```
SE          Southeast                   45000 South Carolina
MW          Great Lakes/Midwest         46000 South Dakota
SC          South Central               47000 Tennessee
SW          Southwest                   48000 Texas
CW          Central West                49000 Utah
NE          Northeast/New England       50000 Vermont
MIDAT       Mid-Atlantic                51000 Virginia
NW          Northwest                   53000 Washington
MIDAT       Mid-Atlantic                11000 Washington D.C.
MIDAT       Mid-Atlantic                54000 West Virginia
MW          Great Lakes/Midwest         55000 Wisconsin
RCKMT       Rocky Mountains             56000 Wyoming
SE          Southeast                   72000 Puerto Rico
SE          Southeast                   78000 US Virgin Islands
/END/
```

The following packet contains the monthly adjustment factors.
The factors are fraction of annual activity occurring in the given month. For periods longer than a single month (e.g. season) the factors from each month spanned by the period will be summed.
Global SCC codes can be used and the model will find the best match.
A blank region code will apply to all states and counties.
The model will also find the best match on subregion code.

The format is as follows:

```
  1-  5  character  -- subregion code (blank = match all)
  7- 16  character  -- SCC code (global codes are acceptable)
 18- 51  character  -- equipment description (not used)
 52- 61  real       -- fraction of annual activity in January
 62- 71  real       -- fraction of annual activity in February
 72- 81  real       -- fraction of annual activity in March
 82- 91  real       -- fraction of annual activity in April
 92-101  real       -- fraction of annual activity in May
102-111  real       -- fraction of annual activity in June
112-121  real       -- fraction of annual activity in July
122-131  real       -- fraction of annual activity in August
132-141  real       -- fraction of annual activity in September
142-151  real       -- fraction of annual activity in October
152-161  real       -- fraction of annual activity in November
162-171  real       -- fraction of annual activity in December
```

```
/MONTHLY/
```

CW	2260000000	Average	0.081	0.081	0.075	0.075	0.075	0.101	0.101	0.101	0.075	0.075	0.075	0.081
CW	2260001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
CW	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2260002000	Construction	0.070	0.070	0.089	0.089	0.089	0.094	0.094	0.094	0.080	0.080	0.080	0.070
CW	2260003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2260005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2265000000	Average	0.081	0.081	0.075	0.075	0.075	0.101	0.101	0.101	0.075	0.075	0.075	0.081
CW	2265001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
CW	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2265002000	Construction	0.070	0.070	0.089	0.089	0.089	0.094	0.094	0.094	0.080	0.080	0.080	0.070
CW	2265003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02

CW	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2265005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2267000000	Average	0.081	0.081	0.075	0.075	0.075	0.101	0.101	0.101	0.075	0.075	0.075	0.081
CW	2267001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
CW	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2267002000	Construction	0.070	0.070	0.089	0.089	0.089	0.094	0.094	0.094	0.080	0.080	0.080	0.070
CW	2267003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2267005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2268000000	Average	0.081	0.081	0.075	0.075	0.075	0.101	0.101	0.101	0.075	0.075	0.075	0.081
CW	2268001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
CW	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2268002000	Construction	0.070	0.070	0.089	0.089	0.089	0.094	0.094	0.094	0.080	0.080	0.080	0.070
CW	2268003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2268005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2270000000	Average	0.081	0.081	0.075	0.075	0.075	0.101	0.101	0.101	0.075	0.075	0.075	0.081
CW	2270001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
CW	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2270002000	Construction	0.070	0.070	0.089	0.089	0.089	0.094	0.094	0.094	0.080	0.080	0.080	0.070
CW	2270003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
CW	2270005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
CW	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
CW	2282000000	Recreational Marine	0.023	0.023	0.075	0.075	0.075	0.16	0.16	0.16	0.075	0.075	0.075	0.023
CW	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2260000000	Average	0.08	0.08	0.074	0.074	0.074	0.103	0.103	0.103	0.074	0.074	0.074	0.08
MIDAT	2260001000	Recreational Equipment	0.04	0.04	0.078	0.078	0.078	0.137	0.137	0.137	0.078	0.078	0.078	0.04
MIDAT	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2260002000	Construction	0.072	0.072	0.079	0.079	0.079	0.098	0.098	0.098	0.085	0.085	0.085	0.072
MIDAT	2260003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2260005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2265000000	Average	0.08	0.08	0.074	0.074	0.074	0.103	0.103	0.103	0.074	0.074	0.074	0.08
MIDAT	2265001000	Recreational Equipment	0.04	0.04	0.078	0.078	0.078	0.137	0.137	0.137	0.078	0.078	0.078	0.04
MIDAT	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333

MIDAT	2265002000	Construction	0.072	0.072	0.079	0.079	0.079	0.098	0.098	0.098	0.085	0.085	0.085	0.072
MIDAT	2265003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2265005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2267000000	Average	0.08	0.08	0.074	0.074	0.074	0.103	0.103	0.103	0.074	0.074	0.074	0.08
MIDAT	2267001000	Recreational Equipment	0.04	0.04	0.078	0.078	0.078	0.137	0.137	0.137	0.078	0.078	0.078	0.04
MIDAT	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2267002000	Construction	0.072	0.072	0.079	0.079	0.079	0.098	0.098	0.098	0.085	0.085	0.085	0.072
MIDAT	2267003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2267005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2268000000	Average	0.08	0.08	0.074	0.074	0.074	0.103	0.103	0.103	0.074	0.074	0.074	0.08
MIDAT	2268001000	Recreational Equipment	0.04	0.04	0.078	0.078	0.078	0.137	0.137	0.137	0.078	0.078	0.078	0.04
MIDAT	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2268002000	Construction	0.072	0.072	0.079	0.079	0.079	0.098	0.098	0.098	0.085	0.085	0.085	0.072
MIDAT	2268003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2268005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2270000000	Average	0.08	0.08	0.074	0.074	0.074	0.103	0.103	0.103	0.074	0.074	0.074	0.08
MIDAT	2270001000	Recreational Equipment	0.04	0.04	0.078	0.078	0.078	0.137	0.137	0.137	0.078	0.078	0.078	0.04
MIDAT	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2270002000	Construction	0.072	0.072	0.079	0.079	0.079	0.098	0.098	0.098	0.085	0.085	0.085	0.072
MIDAT	2270003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MIDAT	2270005000	Agricultural	0.02	0.02	0.09	0.09	0.09	0.133	0.133	0.133	0.09	0.09	0.09	0.02
MIDAT	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MIDAT	2282000000	Recreational Marine	0.007	0.007	0.068	0.068	0.068	0.19	0.19	0.19	0.068	0.068	0.068	0.007
MIDAT	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2260000000	Average	0.076	0.076	0.07	0.07	0.07	0.118	0.118	0.118	0.07	0.07	0.07	0.076
MW	2260001000	Recreational Equipment	0.027	0.027	0.077	0.077	0.077	0.153	0.153	0.153	0.077	0.077	0.077	0.027
MW	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2260002000	Construction	0.061	0.061	0.089	0.089	0.089	0.099	0.099	0.099	0.086	0.086	0.086	0.061
MW	2260003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
MW	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2260005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

MW	2265000000	Average	0.076	0.076	0.07	0.07	0.07	0.118	0.118	0.118	0.07	0.07	0.07	0.076
MW	2265001000	Recreational Equipment	0.027	0.027	0.077	0.077	0.077	0.153	0.153	0.153	0.077	0.077	0.077	0.027
MW	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2265002000	Construction	0.061	0.061	0.089	0.089	0.089	0.099	0.099	0.099	0.086	0.086	0.086	0.061
MW	2265003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
MW	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2265005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2267000000	Average	0.076	0.076	0.07	0.07	0.07	0.118	0.118	0.118	0.07	0.07	0.07	0.076
MW	2267001000	Recreational Equipment	0.027	0.027	0.077	0.077	0.077	0.153	0.153	0.153	0.077	0.077	0.077	0.027
MW	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2267002000	Construction	0.061	0.061	0.089	0.089	0.089	0.099	0.099	0.099	0.086	0.086	0.086	0.061
MW	2267003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
MW	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2267005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2268000000	Average	0.076	0.076	0.07	0.07	0.07	0.118	0.118	0.118	0.07	0.07	0.07	0.076
MW	2268001000	Recreational Equipment	0.027	0.027	0.077	0.077	0.077	0.153	0.153	0.153	0.077	0.077	0.077	0.027
MW	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2268002000	Construction	0.061	0.061	0.089	0.089	0.089	0.099	0.099	0.099	0.086	0.086	0.086	0.061
MW	2268003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
MW	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2268005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2270000000	Average	0.076	0.076	0.07	0.07	0.07	0.118	0.118	0.118	0.07	0.07	0.07	0.076
MW	2270001000	Recreational Equipment	0.027	0.027	0.077	0.077	0.077	0.153	0.153	0.153	0.077	0.077	0.077	0.027
MW	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2270002000	Construction	0.061	0.061	0.089	0.089	0.089	0.099	0.099	0.099	0.086	0.086	0.086	0.061
MW	2270003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
MW	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
MW	2270005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
MW	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
MW	2282000000	Recreational Marine	0	0	0.05	0.05	0.05	0.233	0.233	0.233	0.05	0.05	0.05	0
MW	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2260000000	Average	0.078	0.078	0.069	0.069	0.069	0.117	0.117	0.117	0.069	0.069	0.069	0.078
NE	2260001000	Recreational Equipment	0.047	0.047	0.07	0.07	0.07	0.146	0.146	0.146	0.07	0.07	0.07	0.047
NE	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2260002000	Construction	0.059	0.059	0.093	0.093	0.093	0.095	0.095	0.095	0.086	0.086	0.086	0.059
NE	2260003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
NE	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2260005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02

NE	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2265000000	Average	0.078	0.078	0.069	0.069	0.069	0.117	0.117	0.117	0.069	0.069	0.069	0.078
NE	2265001000	Recreational Equipment	0.047	0.047	0.07	0.07	0.07	0.146	0.146	0.146	0.07	0.07	0.07	0.047
NE	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2265002000	Construction	0.059	0.059	0.093	0.093	0.093	0.095	0.095	0.095	0.086	0.086	0.086	0.059
NE	2265003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
NE	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2265005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2267000000	Average	0.078	0.078	0.069	0.069	0.069	0.117	0.117	0.117	0.069	0.069	0.069	0.078
NE	2267001000	Recreational Equipment	0.047	0.047	0.07	0.07	0.07	0.146	0.146	0.146	0.07	0.07	0.07	0.047
NE	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2267002000	Construction	0.059	0.059	0.093	0.093	0.093	0.095	0.095	0.095	0.086	0.086	0.086	0.059
NE	2267003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
NE	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2267005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2268000000	Average	0.078	0.078	0.069	0.069	0.069	0.117	0.117	0.117	0.069	0.069	0.069	0.078
NE	2268001000	Recreational Equipment	0.047	0.047	0.07	0.07	0.07	0.146	0.146	0.146	0.07	0.07	0.07	0.047
NE	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2268002000	Construction	0.059	0.059	0.093	0.093	0.093	0.095	0.095	0.095	0.086	0.086	0.086	0.059
NE	2268003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
NE	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2268005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2270000000	Average	0.078	0.078	0.069	0.069	0.069	0.117	0.117	0.117	0.069	0.069	0.069	0.078
NE	2270001000	Recreational Equipment	0.047	0.047	0.07	0.07	0.07	0.146	0.146	0.146	0.07	0.07	0.07	0.047
NE	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2270002000	Construction	0.059	0.059	0.093	0.093	0.093	0.095	0.095	0.095	0.086	0.086	0.086	0.059
NE	2270003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
NE	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NE	2270005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NE	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NE	2282000000	Recreational Marine	0.003	0.003	0.052	0.052	0.052	0.23	0.23	0.23	0.052	0.052	0.052	0.003
NE	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2260000000	Average	0.077	0.077	0.071	0.071	0.071	0.113	0.113	0.113	0.071	0.071	0.071	0.077
NW	2260001000	Recreational Equipment	0.043	0.043	0.073	0.073	0.073	0.143	0.143	0.143	0.073	0.073	0.073	0.043
NW	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
NW	2260002000	Construction	0.069	0.069	0.081	0.081	0.081	0.102	0.102	0.102	0.080	0.080	0.080	0.069
NW	2260003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
NW	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
NW	2260004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2260004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

NW	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2260005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2265000000	Average	0.077	0.077	0.071	0.071	0.071	0.113	0.113	0.113	0.071	0.071	0.077
NW	2265001000	Recreational Equipment	0.037	0.037	0.075	0.075	0.075	0.147	0.147	0.147	0.075	0.075	0.037
NW	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2265002000	Construction	0.069	0.069	0.081	0.081	0.081	0.102	0.102	0.102	0.080	0.080	0.069
NW	2265003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.067
NW	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2265004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2265004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2265005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2267000000	Average	0.077	0.077	0.071	0.071	0.071	0.113	0.113	0.113	0.071	0.071	0.077
NW	2267001000	Recreational Equipment	0.037	0.037	0.075	0.075	0.075	0.147	0.147	0.147	0.075	0.075	0.037
NW	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2267002000	Construction	0.069	0.069	0.081	0.081	0.081	0.102	0.102	0.102	0.080	0.080	0.069
NW	2267003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.067
NW	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2267004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2267004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2267005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2268000000	Average	0.077	0.077	0.071	0.071	0.071	0.113	0.113	0.113	0.071	0.071	0.077
NW	2268001000	Recreational Equipment	0.037	0.037	0.075	0.075	0.075	0.147	0.147	0.147	0.075	0.075	0.037
NW	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2268002000	Construction	0.069	0.069	0.081	0.081	0.081	0.102	0.102	0.102	0.080	0.080	0.069
NW	2268003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.067
NW	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2268004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2268004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2268005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2270000000	Average	0.077	0.077	0.071	0.071	0.071	0.113	0.113	0.113	0.071	0.071	0.077
NW	2270001000	Recreational Equipment	0.037	0.037	0.075	0.075	0.075	0.147	0.147	0.147	0.075	0.075	0.037
NW	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2270002000	Construction	0.069	0.069	0.081	0.081	0.081	0.102	0.102	0.102	0.080	0.080	0.069
NW	2270003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.067
NW	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2270004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2270004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
NW	2270005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.02
NW	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
NW	2282000000	Recreational Marine	0.016	0.016	0.063	0.063	0.063	0.19	0.19	0.19	0.063	0.063	0.016
NW	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2260000000	Average	0.076	0.076	0.07	0.07	0.07	0.117	0.117	0.117	0.07	0.07	0.076
RCKMT	2260001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.027
RCKMT	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
RCKMT	2260002000	Construction	0.066	0.066	0.079	0.079	0.079	0.100	0.100	0.100	0.089	0.089	0.066
RCKMT	2260003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.067

RCKMT	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2260004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2260004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2260005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2265000000	Average	0.076	0.076	0.07	0.07	0.07	0.117	0.117	0.117	0.07	0.07	0.07	0.076
RCKMT	2265001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
RCKMT	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2265002000	Construction	0.066	0.066	0.079	0.079	0.079	0.100	0.100	0.100	0.089	0.089	0.089	0.066
RCKMT	2265003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
RCKMT	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2265004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2265004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2265005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2267000000	Average	0.076	0.076	0.07	0.07	0.07	0.117	0.117	0.117	0.07	0.07	0.07	0.076
RCKMT	2267001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
RCKMT	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2267002000	Construction	0.066	0.066	0.079	0.079	0.079	0.100	0.100	0.100	0.089	0.089	0.089	0.066
RCKMT	2267003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
RCKMT	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2267004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2267004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2267005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2268000000	Average	0.076	0.076	0.07	0.07	0.07	0.117	0.117	0.117	0.07	0.07	0.07	0.076
RCKMT	2268001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
RCKMT	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2268002000	Construction	0.066	0.066	0.079	0.079	0.079	0.100	0.100	0.100	0.089	0.089	0.089	0.066
RCKMT	2268003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
RCKMT	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2268004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2268004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2268005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2270000000	Average	0.076	0.076	0.07	0.07	0.07	0.117	0.117	0.117	0.07	0.07	0.07	0.076
RCKMT	2270001000	Recreational Equipment	0.027	0.027	0.08	0.08	0.08	0.147	0.147	0.147	0.08	0.08	0.08	0.027
RCKMT	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2270002000	Construction	0.066	0.066	0.079	0.079	0.079	0.100	0.100	0.100	0.089	0.089	0.089	0.066
RCKMT	2270003000	Industrial	0.067	0.067	0.083	0.083	0.083	0.1	0.1	0.1	0.083	0.083	0.083	0.067
RCKMT	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2270004020	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2270004021	Lawn and garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
RCKMT	2270005000	Agricultural	0.02	0.02	0.073	0.073	0.073	0.167	0.167	0.167	0.073	0.073	0.073	0.02
RCKMT	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
RCKMT	2282000000	Recreational Marine	0	0	0.052	0.052	0.052	0.23	0.23	0.23	0.052	0.052	0.052	0
RCKMT	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2260000000	Average	0.084	0.084	0.077	0.077	0.077	0.094	0.094	0.094	0.077	0.077	0.077	0.084
SC	2260001000	Recreational Equipment	0.05	0.05	0.082	0.082	0.082	0.12	0.12	0.12	0.082	0.082	0.082	0.05

SC	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0.333
SC	2260002000	Construction	0.068	0.068	0.092	0.092	0.092	0.091	0.091	0.091	0.082	0.082	0.082	0.068
SC	2260003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2260005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2265000000	Average	0.084	0.084	0.077	0.077	0.077	0.094	0.094	0.094	0.077	0.077	0.077	0.084
SC	2265001000	Recreational Equipment	0.05	0.05	0.082	0.082	0.082	0.12	0.12	0.12	0.082	0.082	0.082	0.05
SC	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2265002000	Construction	0.068	0.068	0.092	0.092	0.092	0.091	0.091	0.091	0.082	0.082	0.082	0.068
SC	2265003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2265005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2267000000	Average	0.084	0.084	0.077	0.077	0.077	0.094	0.094	0.094	0.077	0.077	0.077	0.084
SC	2267001000	Recreational Equipment	0.05	0.05	0.082	0.082	0.082	0.12	0.12	0.12	0.082	0.082	0.082	0.05
SC	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2267002000	Construction	0.068	0.068	0.092	0.092	0.092	0.091	0.091	0.091	0.082	0.082	0.082	0.068
SC	2267003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2267005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2268000000	Average	0.084	0.084	0.077	0.077	0.077	0.094	0.094	0.094	0.077	0.077	0.077	0.084
SC	2268001000	Recreational Equipment	0.05	0.05	0.082	0.082	0.082	0.12	0.12	0.12	0.082	0.082	0.082	0.05
SC	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2268002000	Construction	0.068	0.068	0.092	0.092	0.092	0.091	0.091	0.091	0.082	0.082	0.082	0.068
SC	2268003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2268005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2270000000	Average	0.084	0.084	0.077	0.077	0.077	0.094	0.094	0.094	0.077	0.077	0.077	0.084
SC	2270001000	Recreational Equipment	0.05	0.05	0.082	0.082	0.082	0.12	0.12	0.12	0.082	0.082	0.082	0.05
SC	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2270002000	Construction	0.068	0.068	0.092	0.092	0.092	0.091	0.091	0.091	0.082	0.082	0.082	0.068
SC	2270003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SC	2270005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SC	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SC	2282000000	Recreational Marine	0.023	0.023	0.075	0.075	0.075	0.16	0.16	0.16	0.075	0.075	0.075	0.023

SC	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2260000000	Average	0.085	0.085	0.077	0.077	0.077	0.093	0.093	0.093	0.077	0.077	0.077	0.085
SE	2260001000	Recreational Equipment	0.057	0.057	0.08	0.08	0.08	0.117	0.117	0.117	0.08	0.08	0.08	0.057
SE	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2260002000	Construction	0.078	0.078	0.080	0.080	0.080	0.089	0.089	0.089	0.086	0.086	0.086	0.078
SE	2260003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2260004020	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2260004021	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2260005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2265000000	Average	0.085	0.085	0.077	0.077	0.077	0.093	0.093	0.093	0.077	0.077	0.077	0.085
SE	2265001000	Recreational Equipment	0.057	0.057	0.08	0.08	0.08	0.117	0.117	0.117	0.08	0.08	0.08	0.057
SE	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2265002000	Construction	0.078	0.078	0.080	0.080	0.080	0.089	0.089	0.089	0.086	0.086	0.086	0.078
SE	2265003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2265004020	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2265004021	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2265005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2267000000	Average	0.085	0.085	0.077	0.077	0.077	0.093	0.093	0.093	0.077	0.077	0.077	0.085
SE	2267001000	Recreational Equipment	0.057	0.057	0.08	0.08	0.08	0.117	0.117	0.117	0.08	0.08	0.08	0.057
SE	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2267002000	Construction	0.078	0.078	0.080	0.080	0.080	0.089	0.089	0.089	0.086	0.086	0.086	0.078
SE	2267003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2267004020	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2267004021	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2267005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2268000000	Average	0.085	0.085	0.077	0.077	0.077	0.093	0.093	0.093	0.077	0.077	0.077	0.085
SE	2268001000	Recreational Equipment	0.057	0.057	0.08	0.08	0.08	0.117	0.117	0.117	0.08	0.08	0.08	0.057
SE	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2268002000	Construction	0.078	0.078	0.080	0.080	0.080	0.089	0.089	0.089	0.086	0.086	0.086	0.078
SE	2268003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2268004020	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2268004021	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2268005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2270000000	Average	0.085	0.085	0.077	0.077	0.077	0.093	0.093	0.093	0.077	0.077	0.077	0.085
SE	2270001000	Recreational Equipment	0.057	0.057	0.08	0.08	0.08	0.117	0.117	0.117	0.08	0.08	0.08	0.057
SE	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2270002000	Construction	0.078	0.078	0.080	0.080	0.080	0.089	0.089	0.089	0.086	0.086	0.086	0.078
SE	2270003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2270004020	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2270004021	Lawn and Garden Chainswas	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SE	2270005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SE	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

SE	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SE	2282000000	Recreational Marine	0.023	0.023	0.075	0.075	0.075	0.16	0.16	0.16	0.075	0.075	0.075	0.023
SE	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2260000000	Average	0.083	0.083	0.078	0.078	0.078	0.094	0.094	0.094	0.078	0.078	0.078	0.083
SW	2260001000	Recreational Equipment	0.04	0.04	0.085	0.085	0.085	0.123	0.123	0.123	0.085	0.085	0.085	0.04
SW	2260001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2260002000	Construction	0.075	0.075	0.084	0.084	0.084	0.091	0.091	0.091	0.084	0.084	0.084	0.075
SW	2260003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2260004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2260004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2260004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2260005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2265000000	Average	0.083	0.083	0.078	0.078	0.078	0.094	0.094	0.094	0.078	0.078	0.078	0.083
SW	2265001000	Recreational Equipment	0.04	0.04	0.085	0.085	0.085	0.123	0.123	0.123	0.085	0.085	0.085	0.04
SW	2265001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2265002000	Construction	0.075	0.075	0.084	0.084	0.084	0.091	0.091	0.091	0.084	0.084	0.084	0.075
SW	2265003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2265004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2265004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2265004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2265005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2267000000	Average	0.083	0.083	0.078	0.078	0.078	0.094	0.094	0.094	0.078	0.078	0.078	0.083
SW	2267001000	Recreational Equipment	0.04	0.04	0.085	0.085	0.085	0.123	0.123	0.123	0.085	0.085	0.085	0.04
SW	2267001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2267002000	Construction	0.075	0.075	0.084	0.084	0.084	0.091	0.091	0.091	0.084	0.084	0.084	0.075
SW	2267003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2267004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2267004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2267004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2267005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2268000000	Average	0.083	0.083	0.078	0.078	0.078	0.094	0.094	0.094	0.078	0.078	0.078	0.083
SW	2268001000	Recreational Equipment	0.04	0.04	0.085	0.085	0.085	0.123	0.123	0.123	0.085	0.085	0.085	0.04
SW	2268001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2268002000	Construction	0.075	0.075	0.084	0.084	0.084	0.091	0.091	0.091	0.084	0.084	0.084	0.075
SW	2268003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2268004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2268004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2268004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2268005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2270000000	Average	0.083	0.083	0.078	0.078	0.078	0.094	0.094	0.094	0.078	0.078	0.078	0.083
SW	2270001000	Recreational Equipment	0.04	0.04	0.085	0.085	0.085	0.123	0.123	0.123	0.085	0.085	0.085	0.04
SW	2270001020	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2270002000	Construction	0.075	0.075	0.084	0.084	0.084	0.091	0.091	0.091	0.084	0.084	0.084	0.075
SW	2270003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2270004000	Lawn and Garden excl. chainsaws	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2270004035	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333
SW	2270004036	Snowblowers/Snowmobiles	0.333	0.333	0	0	0	0	0	0	0	0	0	0.333

SW	2270005000	Agricultural	0.02	0.02	0.1	0.1	0.1	0.113	0.113	0.113	0.1	0.1	0.1	0.02
SW	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
SW	2282000000	Recreational Marine	0.023	0.023	0.075	0.075	0.075	0.16	0.16	0.16	0.075	0.075	0.075	0.023
SW	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2260000000	Average	0.081	0.082	0.09	0.08	0.081	0.087	0.087	0.087	0.079	0.075	0.085	0.083
WCST	2260001000	Recreational Equipment	0.06	0.06	0.07	0.08	0.09	0.1	0.1	0.1	0.09	0.09	0.09	0.07
WCST	2260001020	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2260002000	Construction	0.072	0.072	0.088	0.088	0.088	0.090	0.090	0.090	0.083	0.083	0.083	0.072
WCST	2260003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2260004000	Lawn and Garden excl. chainsaws	0.057	0.067	0.086	0.086	0.095	0.095	0.095	0.095	0.095	0.086	0.076	0.067
WCST	2260004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2260004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2260004035	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2260004036	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2260005000	Agricultural	0.054	0.054	0.086	0.086	0.108	0.108	0.108	0.108	0.108	0.075	0.054	0.054
WCST	2260006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2260007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2260008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2265000000	Average	0.081	0.082	0.09	0.08	0.081	0.087	0.087	0.087	0.079	0.075	0.085	0.083
WCST	2265001000	Recreational Equipment	0.06	0.06	0.07	0.08	0.09	0.1	0.1	0.1	0.09	0.09	0.09	0.07
WCST	2265001020	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2265002000	Construction	0.072	0.072	0.088	0.088	0.088	0.090	0.090	0.090	0.083	0.083	0.083	0.072
WCST	2265003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2265004000	Lawn and Garden excl. chainsaws	0.057	0.067	0.086	0.086	0.095	0.095	0.095	0.095	0.095	0.086	0.076	0.067
WCST	2265004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2265004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2265004035	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2265004036	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2265005000	Agricultural	0.054	0.054	0.086	0.086	0.108	0.108	0.108	0.108	0.108	0.075	0.054	0.054
WCST	2265006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2265007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2265008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2267000000	Average	0.081	0.082	0.09	0.08	0.081	0.087	0.087	0.087	0.079	0.075	0.085	0.083
WCST	2267001000	Recreational Equipment	0.06	0.06	0.07	0.08	0.09	0.1	0.1	0.1	0.09	0.09	0.09	0.07
WCST	2267001020	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2267002000	Construction	0.072	0.072	0.088	0.088	0.088	0.090	0.090	0.090	0.083	0.083	0.083	0.072
WCST	2267003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2267004000	Lawn and Garden excl. chainsaws	0.057	0.067	0.086	0.086	0.095	0.095	0.095	0.095	0.095	0.086	0.076	0.067
WCST	2267004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2267004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2267004035	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2267004036	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2267005000	Agricultural	0.054	0.054	0.086	0.086	0.108	0.108	0.108	0.108	0.108	0.075	0.054	0.054
WCST	2267006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2267007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2267008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2268000000	Average	0.081	0.082	0.09	0.08	0.081	0.087	0.087	0.087	0.079	0.075	0.085	0.083
WCST	2268001000	Recreational Equipment	0.06	0.06	0.07	0.08	0.09	0.1	0.1	0.1	0.09	0.09	0.09	0.07
WCST	2268001020	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2268002000	Construction	0.072	0.072	0.088	0.088	0.088	0.090	0.090	0.090	0.083	0.083	0.083	0.072
WCST	2268003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2268004000	Lawn and Garden excl. chainsaws	0.057	0.067	0.086	0.086	0.095	0.095	0.095	0.095	0.095	0.086	0.076	0.067
WCST	2268004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2268004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2268004035	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2268004036	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2268005000	Agricultural	0.054	0.054	0.086	0.086	0.108	0.108	0.108	0.108	0.108	0.075	0.054	0.054
WCST	2268006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2268007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2268008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2270000000	Average	0.081	0.082	0.09	0.08	0.081	0.087	0.087	0.087	0.079	0.075	0.085	0.083
WCST	2270001000	Recreational Equipment	0.06	0.06	0.07	0.08	0.09	0.1	0.1	0.1	0.09	0.09	0.09	0.07
WCST	2270001020	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2270002000	Construction	0.072	0.072	0.088	0.088	0.088	0.090	0.090	0.090	0.083	0.083	0.083	0.072
WCST	2270003000	Industrial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2270004000	Lawn and Garden excl. chainsaws	0.057	0.067	0.086	0.086	0.095	0.095	0.095	0.095	0.095	0.086	0.076	0.067
WCST	2270004020	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083

WCST	2270004021	Lawn and Garden Chainsaws	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2270004035	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2270004036	Snowblowers/Snowmobiles	0.2	0.2	0.18	0.06	0.02	0	0	0	0	0	0.14	0.2
WCST	2270005000	Agricultural	0.054	0.054	0.086	0.086	0.108	0.108	0.108	0.108	0.108	0.075	0.054	0.054
WCST	2270006000	Light Commercial	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2270007000	Logging	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2270008000	Airport Service	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2280000000	Commercial Marine	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
WCST	2282000000	Recreational Marine	0.023	0.023	0.075	0.075	0.075	0.16	0.16	0.16	0.075	0.075	0.075	0.023
WCST	2285000000	Railway Maintenance	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083	0.083
US	2260001000		0.0422	0.0422	0.0777	0.0785	0.0793	0.1330	0.1330	0.1330	0.0793	0.0793	0.0793	0.0431
US	2260001020		0.3321	0.3321	0.0016	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0013	0.3321
US	2260002000		0.0699	0.0699	0.0848	0.0848	0.0848	0.0941	0.0941	0.0941	0.0845	0.0845	0.0845	0.0699
US	2260003000		0.0764	0.0764	0.0832	0.0832	0.0832	0.0905	0.0905	0.0905	0.0832	0.0832	0.0832	0.0764
US	2260004000		0.0240	0.0251	0.0865	0.0865	0.0874	0.1354	0.1354	0.1354	0.0874	0.0865	0.0854	0.0251
US	2260004016		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2260004020		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2260004021		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2260004026		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2260004031		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2260004035		0.3308	0.3308	0.0035	0.0012	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0027	0.3308
US	2260004036		0.3298	0.3298	0.0048	0.0016	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037	0.3298
US	2260004071		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2260005000		0.0210	0.0210	0.0817	0.0817	0.0824	0.1488	0.1488	0.1488	0.0824	0.0814	0.0808	0.0210
US	2260006000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2260007000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2260008000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2265001000		0.0419	0.0419	0.0778	0.0786	0.0794	0.1332	0.1332	0.1332	0.0794	0.0794	0.0794	0.0427
US	2265001050		0.0401	0.0401	0.0773	0.0779	0.0785	0.1367	0.1367	0.1367	0.0785	0.0785	0.0785	0.0407
US	2265002000		0.0699	0.0699	0.0848	0.0848	0.0848	0.0941	0.0941	0.0941	0.0845	0.0845	0.0845	0.0699
US	2265003000		0.0764	0.0764	0.0832	0.0832	0.0832	0.0905	0.0905	0.0905	0.0832	0.0832	0.0832	0.0764
US	2265004000		0.0240	0.0251	0.0865	0.0865	0.0874	0.1354	0.1354	0.1354	0.0874	0.0865	0.0854	0.0251
US	2265004011		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004016		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004026		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004031		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004035		0.3308	0.3308	0.0035	0.0012	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0027	0.3308
US	2265004036		0.3298	0.3298	0.0048	0.0016	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037	0.3298
US	2265004041		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004046		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004051		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004056		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004066		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004071		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265004076		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2265005000		0.0210	0.0210	0.0817	0.0817	0.0824	0.1488	0.1488	0.1488	0.0824	0.0814	0.0808	0.0210
US	2265006000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2265007000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2265008000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2265010010		0.0823	0.0823	0.0769	0.0765	0.0765	0.0980	0.0980	0.0980	0.0764	0.0763	0.0767	0.0823
US	2267001060		0.0419	0.0419	0.0778	0.0786	0.0794	0.1332	0.1332	0.1332	0.0794	0.0794	0.0794	0.0427
US	2267002000		0.0699	0.0699	0.0848	0.0848	0.0848	0.0941	0.0941	0.0941	0.0845	0.0845	0.0845	0.0699
US	2267003000		0.0764	0.0764	0.0832	0.0832	0.0832	0.0905	0.0905	0.0905	0.0832	0.0832	0.0832	0.0764
US	2267004066		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2267005000		0.0210	0.0210	0.0817	0.0817	0.0824	0.1488	0.1488	0.1488	0.0824	0.0814	0.0808	0.0210
US	2267006000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2267008000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2268002000		0.0699	0.0699	0.0848	0.0848	0.0848	0.0941	0.0941	0.0941	0.0845	0.0845	0.0845	0.0699
US	2268003000		0.0764	0.0764	0.0832	0.0832	0.0832	0.0905	0.0905	0.0905	0.0832	0.0832	0.0832	0.0764
US	2268005000		0.0210	0.0210	0.0817	0.0817	0.0824	0.1488	0.1488	0.1488	0.0824	0.0814	0.0808	0.0210
US	2268006000		0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2268010010		0.0823	0.0823	0.0769	0.0765	0.0765	0.0980	0.0980	0.0980	0.0764	0.0763	0.0767	0.0823
US	2270001060		0.0419	0.0419	0.0778	0.0786	0.0794	0.1332	0.1332	0.1332	0.0794	0.0794	0.0794	0.0427
US	2270002000		0.0699	0.0699	0.0848	0.0848	0.0848	0.0941	0.0941	0.0941	0.0845	0.0845	0.0845	0.0699
US	2270003000		0.0764	0.0764	0.0832	0.0832	0.0832	0.0905	0.0905	0.0905	0.0832	0.0832	0.0832	0.0764
US	2270004031		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2270004036		0.3298	0.3298	0.0048	0.0016	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0037	0.3298
US	2270004046		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2270004056		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2270004066		0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280

US	2270004071	0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2270004076	0.0263	0.0280	0.0878	0.0878	0.0893	0.1298	0.1298	0.1298	0.0893	0.0878	0.0861	0.0280
US	2270005000	0.0210	0.0210	0.0817	0.0817	0.0824	0.1488	0.1488	0.1488	0.0824	0.0814	0.0808	0.0210
US	2270006000	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2270007000	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2270008000	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833
US	2270009000	0.0807	0.0807	0.0744	0.0744	0.0744	0.1038	0.1038	0.1038	0.0744	0.0744	0.0744	0.0807
US	2270010010	0.0823	0.0823	0.0769	0.0765	0.0765	0.0980	0.0980	0.0980	0.0764	0.0763	0.0767	0.0823
US	2282000000	0.0128	0.0128	0.0653	0.0653	0.0653	0.1900	0.1900	0.1900	0.0653	0.0653	0.0653	0.0128
US	2285000000	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833	0.0833

/END/

The following packet contains the day-of-week adjustment factors.
The factors are fraction of weekly activity occurring in the given day. Two factors are provided: typical weekday and typical weekend day. To get the total weeks activity, multiply the weekday factor by 5 and the weekend factor by 2 and add the results together.
Global SCC codes can be used and the model will find the best match.
A blank region code will apply to all states and counties.
The model will also find the best match on subregion code.

The format is as follows:

```
  1-  5  character  -- subregion code (blank = match all)
  7- 16  character  -- SCC code (global codes are acceptable)
 18- 52  character  -- equipment description (not used)
 52- 61  real       -- fraction of weekly activity in typical weekday
 62- 71  real       -- fraction of weekly activity in typical weekend
```

/DAILY/

	2260001000	Recreational Equipment	0.1111111 0.2222222
	2260002000	Construction	0.1666667 0.0833334
	2260003000	Industrial	0.1666667 0.0833334
	2260003060	AC\Refrigeration	0.1428571 0.1428571
	2260004000	Lawn & Garden	0.1111111 0.2222222
	2260005000	Agricultural	0.1666667 0.0833334
	2260006000	Light Commercial	0.1666667 0.0833334
	2260007000	Logging	0.1666667 0.0833334
	2260008000	Airport Service	0.1428571 0.1428571
	2260009000	Underground Mining	0.1666667 0.0833334
	2265001000	Recreational Equipment	0.1111111 0.2222222
	2265002000	Construction	0.1666667 0.0833334
	2265003000	Industrial	0.1666667 0.0833334
	2265003060	AC\Refrigeration	0.1428571 0.1428571
	2265004000	Lawn & Garden	0.1111111 0.2222222
	2265005000	Agricultural	0.1666667 0.0833334
	2265006000	Light Commercial	0.1666667 0.0833334
	2265007000	Logging	0.1666667 0.0833334
	2265008000	Airport Service	0.1428571 0.1428571
	2265009000	Underground Mining	0.1666667 0.0833334
	2267001000	Recreational Equipment	0.1111111 0.2222222
	2267002000	Construction	0.1666667 0.0833334
	2267003000	Industrial	0.1666667 0.0833334
	2267003060	AC\Refrigeration	0.1428571 0.1428571
	2267004000	Lawn & Garden	0.1111111 0.2222222
	2267005000	Agricultural	0.1666667 0.0833334
	2267006000	Light Commercial	0.1666667 0.0833334
	2267007000	Logging	0.1666667 0.0833334
	2267008000	Airport Service	0.1428571 0.1428571
	2267009000	Underground Mining	0.1666667 0.0833334
	2268001000	Recreational Equipment	0.1111111 0.2222222
	2268002000	Construction	0.1666667 0.0833334
	2268003000	Industrial	0.1666667 0.0833334
	2268003060	AC\Refrigeration	0.1428571 0.1428571
	2268004000	Lawn & Garden	0.1111111 0.2222222
	2268005000	Agricultural	0.1666667 0.0833334

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2268006000 Light Commercial                0.1666667 0.0833334
2268007000 Logging                         0.1666667 0.0833334
2268008000 Airport Service                 0.1428571 0.1428571
2268009000 Underground Mining              0.1666667 0.0833334
2270001000 Recreational Equipment          0.1111111 0.2222222
2270002000 Construction                    0.1666667 0.0833334
2270003000 Industrial                      0.1666667 0.0833334
2270003060 AC\Refrigeration                0.1428571 0.1428571
2270004000 Lawn & Garden                   0.1111111 0.2222222
2270005000 Agricultural                    0.1666667 0.0833334
2270006000 Light Commercial                0.1666667 0.0833334
2270007000 Logging                         0.1666667 0.0833334
2270008000 Airport Service                 0.1428571 0.1428571
2270009000 Underground Mining              0.1666667 0.0833334
2260004011 2-Stroke  Lawn mowers (Comm.)   0.1600000 0.1000000
2260004016 2-Stroke  Rotary Tillers < 5 HP 0.1600000 0.1000000
2260004021 2-Stroke  Chain Saws < 4 HP (Com 0.1600000 0.1000000
2260004026 2-Stroke  Trimmers/Edgers/Brush 0.1600000 0.1000000
2260004031 2-Stroke  Leafblowers/Vacuums (C 0.1600000 0.1000000
2260004036 2-Stroke  Snowblowers (Comm.)   0.1600000 0.1000000
2260004051 2-Stroke  Shredders < 5 HP (Comm 0.1600000 0.1000000
2260004071 2-Stroke  Commercial Turf Equipm 0.1600000 0.1000000
2260004076 2-Stroke  Other Lawn & Garden Eq 0.1600000 0.1000000
2265004011 4-Stroke  Lawn mowers (Comm.)   0.1600000 0.1000000
2265004016 4-Stroke  Rotary Tillers < 5 HP 0.1600000 0.1000000
2265004026 4-Stroke  Trimmers/Edgers/Brush 0.1600000 0.1000000
2265004031 4-Stroke  Leafblowers/Vacuums (C 0.1600000 0.1000000
2265004036 4-Stroke  Snowblowers (Comm.)   0.1600000 0.1000000
2265004041 4-Stroke  Rear Engine Riding Mow 0.1600000 0.1000000
2265004046 4-Stroke  Front Mowers (Comm.)  0.1600000 0.1000000
2265004051 4-Stroke  Shredders < 5 HP (Comm 0.1600000 0.1000000
2265004056 4-Stroke  Lawn & Garden Tractors 0.1600000 0.1000000
2265004066 4-Stroke  Chippers/Stump Grinder 0.1600000 0.1000000
2265004071 4-Stroke  Commercial Turf Equipm 0.1600000 0.1000000
2265004076 4-Stroke  Other Lawn & Garden Eq 0.1600000 0.1000000
2267004011 LPG       Lawn mowers (Comm.)   0.1600000 0.1000000
2267004016 LPG       Rotary Tillers < 5 HP 0.1600000 0.1000000
2267004026 LPG       Trimmers/Edgers/Brush 0.1600000 0.1000000
2267004031 LPG       Leafblowers/Vacuums (C 0.1600000 0.1000000
2267004036 LPG       Snowblowers (Comm.)   0.1600000 0.1000000
2267004041 LPG       Rear Engine Riding Mow 0.1600000 0.1000000
2267004046 LPG       Front Mowers (Comm.)  0.1600000 0.1000000
2267004051 LPG       Shredders < 5 HP (Comm 0.1600000 0.1000000
2267004056 LPG       Lawn & Garden Tractors 0.1600000 0.1000000
2267004066 LPG       Chippers/Stump Grinder 0.1600000 0.1000000
2267004071 LPG       Commercial Turf Equipm 0.1600000 0.1000000
2267004076 LPG       Other Lawn & Garden Eq 0.1600000 0.1000000
2268004011 CNG       Lawn mowers (Comm.)   0.1600000 0.1000000
2268004016 CNG       Rotary Tillers < 5 HP 0.1600000 0.1000000
2268004026 CNG       Trimmers/Edgers/Brush 0.1600000 0.1000000
2268004031 CNG       Leafblowers/Vacuums (C 0.1600000 0.1000000
2268004036 CNG       Snowblowers (Comm.)   0.1600000 0.1000000
2268004041 CNG       Rear Engine Riding Mow 0.1600000 0.1000000
2268004046 CNG       Front Mowers (Comm.)  0.1600000 0.1000000
2268004051 CNG       Shredders < 5 HP (Comm 0.1600000 0.1000000
2268004056 CNG       Lawn & Garden Tractors 0.1600000 0.1000000
2268004066 CNG       Chippers/Stump Grinder 0.1600000 0.1000000
2268004071 CNG       Commercial Turf Equipm 0.1600000 0.1000000
2268004076 CNG       Other Lawn & Garden Eq 0.1600000 0.1000000
2270004031 Diesel  Leafblowers/Vacuums (Com 0.1600000 0.1000000
2270004036 Diesel  Snowblowers (Comm.)     0.1600000 0.1000000
2270004041 Diesel  Rear Engine Riding Mower 0.1600000 0.1000000
2270004046 Diesel  Front Mowers (Comm.)    0.1600000 0.1000000
2270004056 Diesel  Lawn & Garden Tractors ( 0.1600000 0.1000000
2270004066 Diesel  Chippers/Stump Grinders 0.1600000 0.1000000
2270004071 Diesel  Commercial Turf Equipmen 0.1600000 0.1000000
2270004076 Diesel  Other Lawn & Garden Equi 0.1600000 0.1000000
2282000000 Recreational Marine             0.0600000 0.3500000
2285000000 Railway Maintenance             0.1800000 0.0500000
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Appendix A-3
Emission Factors for Locomotives

United States Environmental Protection Agency | Air and Radiation | EPA420-F-97-051 December 1997

Office of Mobile Sources

EPA

Technical Highlights

Emission Factors for Locomotives

The Environmental Protection Agency (EPA) has established emission standards for oxides of nitrogen (NOx), hydrocarbons (HC), carbon monoxide (CO), particulate matter (PM) and smoke for newly manufactured and remanufactured diesel-powered locomotives and locomotive engines, which have previously been unregulated. Three separate sets of emission standards have been adopted, with applicability of the standards dependent on the date a locomotive is first manufactured. The first set of standards (Tier 0) apply to locomotives and locomotive engines originally manufactured from 1973 through 2001. The second set of standards (Tier 1) apply to locomotives and locomotive engines originally manufactured from 2002 through 2004. The final set of standards (Tier 2) apply to locomotives and locomotive engines originally manufactured in 2005 and later. To analyze the environmental benefits expected from these new standards, EPA had to calculate emission factors for locomotives.

Estimated Baseline Freight Locomotive Emission Rates

In support of the rulemaking finalizing the locomotive emission standards, EPA has estimated average emission rates, given in grams per brake horsepower-hour (g/bhp-hr), for current uncontrolled locomotives. These estimates are shown in Table 1. It is important to note that there is significant variability in in-use emission rates. Table 2 shows the range of emission rates that have been reported for NOx and PM.

Table 1 - Estimated Baseline In-Use Emission Rates (g/bhp-hr)				
	HC	CO	NOx	PM
Line-Haul*	0.48	1.28	13.0	0.32
Switch**	1.01	1.83	17.4	0.44

*Line-haul locomotives over the line-haul duty-cycle.
**Switch locomotives over the switch duty-cycle

Table 2 - Range of NOx and PM Emission Rates (g/bhp-hr)			
Line-Haul Cycle		Switch Cycle	
NOx	PM	NOx	PM
10.3-18.2	0.22-0.41	9.2-33.1	0.22-0.86

Conversion to Gram per Gallon Emission Factors

It is often useful to express emission rates as grams of pollutant emitted per gallon of fuel consumed (g/gal). This can be done by multiplying the emission rates in Table 1 by a conversion factor. EPA has estimated the appropriate conversion factor to be 20.8 bhp-hr/gal. These converted emission factors are shown in Table 3.

Table 3 - Converted Emission Factors (g/gal)				
	HC	CO	NOx	PM
Line-Haul	10	26.6	270	6.7
Switch	21	38.1	362	9.2

Projected Future Emission Factors

With the new national emission standards for both newly manufactured and remanufactured locomotives originally built after 1972, future locomotive emission rates are projected to be much lower than the baseline rates shown above. EPA's estimates of future emission rates for

Tier 0-Tier 2 locomotives are shown in Tables 4-6, respectively. Table 9 gives the expected fleet average emission factors for all locomotives, which reflects the penetration of the Tier 0-Tier 2 locomotives into the fleet over time.

Table 4 - Estimated Controlled Emission Rates for Locomotives Manufactured in 1973-2001 (Tier 0)

	HC		CO		NOx		PM	
	g/bhp-hr	g/gal	g/bhp-hr	g/gal	g/bhp-hr	g/gal	g/bhp-hr	g/gal
Line-Haul	0.48	10	1.28	26.6	8.6	178	0.32	6.7
Switch	1.01	21	1.83	38.1	12.6	262	0.44	9.2

Table 5 - Estimated Controlled Emission Rates for Locomotives Manufactured in 2002-2004 (Tier 1)

	HC		CO		NOx		PM	
	g/bhp-hr	g/gal	g/bhp-hr	g/gal	g/bhp-hr	g/gal	g/bhp-hr	g/gal
Line-Haul	0.47	9.8	1.28	26.6	6.7	139	0.32	6.7
Switch	1.01	21	1.83	38.1	9.9	202	0.44	9.2

Table 6 - Estimated Controlled Emission Rates for Locomotives Manufactured after 2004 (Tier 2)

	HC		CO		NOx		PM	
	g/bhp-hr	g/gal	g/bhp-hr	g/gal	g/bhp-hr	g/gal	g/bhp-hr	g/gal
Line-Haul	0.26	5.4	1.28	26.6	5.0	103	0.17	3.6
Switch	0.52	11	1.83	38.1	7.3	152	0.21	4.3

Emission Inventory Estimation

Total emissions can be calculated by multiplying the emission factors (in g/gal) by the fuel consumption rates (in million-gal/yr) to give annual emission rates (in metric tons per year). This metric estimate can be converted to standard tons (or short tons) per year by multiplying it by 1.1.

In the United States, the great majority of fuel consumed by locomotives each year is used in line-haul freight service. Smaller amounts are also used in switching and passenger service. EPA's estimates of these fuel volumes are shown in Table 7. EPA's estimates of annual emission rates calculated from these fuel consumption rates are shown in Table 8.

Table 7 - 1996 Locomotive Fuel Consumption by Service Category (million gal/year)	
National Freight Line-Haul	3,331
National Freight Switching	270
Local and Regional Freight	215
Passenger	133

Table 8 - Estimated 1996 Nationwide Locomotive Emission Rates (thousand short tons per year)			
HC	CO	NOx	PM
47	119	1,202	30

For More Information

For further information on emission factors for locomotives, please write to:

U.S. Environmental Protection Agency
Engine Programs and Compliance Division
2565 Plymouth Road
Ann Arbor, MI 48105

Additional documents on locomotive emission standards are available electronically from the EPA Internet server at:

http://www.epa.gov/OMSWWW/locomotv.htm

or by calling (734) 668-4333.

Table 9 - Fleet Average Emission Factors For All Locomotives								
	(g/bhp-hr)				(g/gal)			
Year	HC	CO	NOx	PM	HC	CO	NOx	PM
1999	0.52	1.32	13.30	0.33	10.7	27.4	276.7	6.8
2000	0.52	1.32	13.16	0.33	10.7	27.4	273.8	6.8
2001	0.52	1.32	12.74	0.33	10.7	27.4	265.0	6.8
2002	0.52	1.32	11.96	0.33	10.7	27.4	248.8	6.8
2003	0.52	1.32	11.22	0.33	10.7	27.4	233.3	6.8
2004	0.51	1.32	10.49	0.33	10.7	27.4	218.1	6.8
2005	0.50	1.32	9.60	0.32	10.4	27.4	199.8	6.6
2006	0.48	1.32	8.92	0.31	10.1	27.4	185.6	6.4
2007	0.47	1.32	8.51	0.30	9.8	27.4	177.0	6.2
2008	0.46	1.32	8.29	0.29	9.6	27.4	172.5	6.0
2009	0.45	1.32	8.09	0.28	9.4	27.4	168.3	5.9
2010	0.44	1.32	7.84	0.28	9.1	27.4	163.0	5.7
2011	0.44	1.32	7.74	0.27	9.1	27.4	161.1	5.7
2012	0.43	1.32	7.62	0.27	8.9	27.4	158.5	5.6
2013	0.42	1.32	7.50	0.26	8.8	27.4	155.9	5.5
2014	0.42	1.32	7.37	0.26	8.7	27.4	153.4	5.4
2015	0.41	1.32	7.26	0.25	8.5	27.4	151.0	5.3
2016	0.40	1.32	7.14	0.25	8.4	27.4	148.5	5.2
2017	0.40	1.32	7.04	0.25	8.3	27.4	146.5	5.1
2018	0.39	1.32	6.94	0.24	8.2	27.4	144.4	5.1
2019	0.39	1.32	6.84	0.24	8.1	27.4	142.4	5.0
2020	0.38	1.32	6.75	0.24	7.9	27.4	140.3	4.9
2021	0.38	1.32	6.65	0.23	7.8	27.4	138.3	4.8
2022	0.37	1.32	6.56	0.23	7.7	27.4	136.4	4.7
2023	0.37	1.32	6.46	0.22	7.6	27.4	134.4	4.7
2024	0.36	1.32	6.37	0.22	7.5	27.4	132.5	4.6
2025	0.36	1.32	6.29	0.22	7.4	27.4	130.7	4.5
2026	0.35	1.32	6.20	0.21	7.3	27.4	129.0	4.4
2027	0.35	1.32	6.12	0.21	7.2	27.4	127.2	4.4
2028	0.34	1.32	6.04	0.21	7.1	27.4	125.6	4.3
2029	0.34	1.32	5.96	0.20	7.0	27.4	124.0	4.2
2030	0.33	1.32	5.88	0.20	6.9	27.4	122.3	4.2
2031	0.33	1.32	5.80	0.20	6.8	27.4	120.7	4.1
2032	0.32	1.32	5.73	0.19	6.7	27.4	119.2	4.0
2033	0.32	1.32	5.66	0.19	6.6	27.4	117.6	4.0
2034	0.31	1.32	5.58	0.19	6.5	27.4	116.1	3.9
2035	0.31	1.32	5.54	0.19	6.4	27.4	115.3	3.9
2036	0.31	1.32	5.52	0.19	6.4	27.4	114.9	3.9
2037	0.31	1.32	5.49	0.18	6.3	27.4	114.3	3.8
2038	0.30	1.32	5.47	0.18	6.3	27.4	113.7	3.8
2039	0.30	1.32	5.44	0.18	6.2	27.4	113.2	3.7
2040	0.30	1.32	5.41	0.18	6.2	27.4	112.6	3.7

Appendix B-1
Summary of Construction Related Emissions
Early Start Scenario

Table B.1
Summary of Construction Related Emissions (Tons/Day)
HAR Units 2 and 3

Daily Emissions for Winter 2011 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.42	0.084	1.12
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00076	0.00014	0.0013
Total, Construction Emissions, tons/day	0.44	0.090	1.21

Daily Emissions for Summer 2011 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.42	0.084	1.12
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00071	0.00014	0.0012
Total, Construction Emissions, tons/day	0.44	0.090	1.21

Daily Emissions for Winter 2012 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.38	0.079	1.03
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00066	0.00013	0.0011
Total, Construction Emissions, tons/day	0.39	0.085	1.12

Daily Emissions for Summer 2012 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.38	0.079	1.03
Onsite Rail Idling	0.0167	0.0061	0.087
Onsite Trucks (1) (2)	0.00062	0.00013	0.0011
Total, Construction Emissions, tons/day	0.39	0.085	1.12

Daily Emissions for Winter 2013 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.69	0.15	1.91
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0032	0.00084	0.0066
Total, Construction Emissions, tons/day	0.71	0.16	2.01

Table B.1
Summary of Construction Related Emissions (Tons/Day)
HAR Units 2 and 3

Daily Emissions for Summer 2013 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.69	0.15	1.91
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0030	0.00082	0.0061
Total, Construction Emissions, tons/day	0.71	0.16	2.01

Daily Emissions for Winter 2014 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.64	0.14	1.74
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0028	0.00080	0.0056
Total, Construction Emissions, tons/day	0.66	0.15	1.84

Daily Emissions for Summer 2014 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.64	0.14	1.74
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0027	0.00079	0.0052
Total, Construction Emissions, tons/day	0.66	0.15	1.84

Daily Emissions for Winter 2015 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.57	0.13	1.54
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0025	0.00076	0.0049
Total, Construction Emissions, tons/day	0.59	0.14	1.63

Daily Emissions for Summer 2015 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.57	0.13	1.54
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0023	0.00075	0.0045
Total, Construction Emissions, tons/day	0.59	0.14	1.6

Table B.1
Summary of Construction Related Emissions (Tons/Day)
HAR Units 2 and 3

Daily Emissions for Winter 2016 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.33	0.074	0.88
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0016	0.00053	0.0030
Total, Construction Emissions, tons/day	0.34	0.081	0.97

Daily Emissions for Summer 2016 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.33	0.074	0.88
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0015	0.00052	0.0029
Total, Construction Emissions, tons/day	0.34	0.081	0.97

Daily Emissions for Winter 2017 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.11	0.029	0.33
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00031	0.00011	0.00055
Total, Construction Emissions, tons/day	0.13	0.035	0.42

Daily Emissions for Summer 2017 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.11	0.029	0.33
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.00030	0.00011	0.00052
Total, Construction Emissions, tons/day	0.13	0.035	0.42

Notes:
(1) Delivery and concrete mix trucks.
(2) Includes emissions from delivery trucks during normal operation and idling.

Appendix B-2
Calculation of Construction Emissions from On- and Off-road Diesel Engines (2011–2017) Early Start Scenario

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2011

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2011 Activity Factor: 50 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	1.59	0.22	3.89	0.96	0.38	101	13.8	248	61.3	24.5
- Crawler Pumps	262	152	6	238,944	0.59	1.10	0.25	3.23	0.95	0.41	171	38.7	502	148	64.3
D-Class (85 ton pickers)		6					0.32				0	0	0	0	0
E-Class (150 ton truck Crane)		5					0.98				0	0	0	0	0
F-Class (200 ton Link Belt Crawlers)		15									0	0	0	0	0
G-Class (300 ton Link belt Crawlers)		8									0	0	0	0	0
H-Class (Lmason)		2									0	0	0	0	0
M-Class (300 ton Crawler)		2									0	0	0	0	0
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.77	0.34	5.34	0.96	0.42	419	80.6	1265	228	100
Cat 345C Excavator		4									0	0.0	0	0	0
Cat 740 Articulating Trucks		32									0	0.0	0	0	0
Cat 637 Scraper		6									0	0.0	0	0	0
Cat 631 Water Wagon		2									0	0.0	0	0	0
Cat 100 in Roller		4									0	0.0	0	0	0
Cat D-9 Dozer		1									0	0.0	0	0	0
Cat D-8 Dozer		3									0	0.0	0	0	0
Cat D-6 Dozer		1									0	0.0	0	0	0
Cat 16 Grader		2									0	0.0	0	0	0
4M Water Truck		2									0	0.0	0	0	0
Diesel Light Plants		16									0	0.0	0	0	0
Cat 623 Scrapper		1									0	0.0	0	0	0
Cat 320/EX300 Excavator		1									0	0.0	0	0	0
Cat 450 Backhoe		4									0	0.0	0	0	0
Cat 416E Backhoe		2									0	0.0	0	0	0
Small Equipment	175	155	6	162,750	0.21	3.85	0.93	6.09	1.15	0.77	145	35.0	230	43.2	29.1
M&F 4x4		4									0	0.0	0	0.0	0.0
6 in portable Dewatering Pumps		12									0	0.0	0	0.0	0.0
6 in Deep Well Pumps		100									0	0.0	0	0.0	0.0
Portable air compressors 750		2									0	0.0	0	0.0	0.0
Portable Generator 50 kw		1									0	0.0	0	0.0	0.0
Portable Generator 10 kw		1									0	0.0	0	0.0	0.0
Support Vehicles		15									0	0.0	0	0.0	0.0
Boom DSL 4WD 80'		1									0	0.0	0	0.0	0.0
Boom DSL 4WD 60'		1									0	0.0	0	0.0	0.0
Welding Machine 400 amp Diesel		1									0	0.0	0	0.0	0.0
Wood Chipper		1									0	0.0	0	0.0	0.0
Rubber Tire Bobcat		1									0	0.0	0	0.0	0.0
Cat 580 Rubber Tire Backhoe		1									0	0.0	0	0.0	0.0

Cat 980 Frontend Loader		1									0	0.0	0	0.0	0.0
Cat 330 Excavator		1									0	0.0	0	0.0	0.0
Cat D-6		1									0	0.0	0	0.0	0.0
Cat D-4		1									0	0.0	0	0.0	0.0
Cat 12ft 140 hp Motor Grader		1									0	0.0	0	0.0	0.0
Cat 825 Vibratory Compactor		1									0	0.0	0	0.0	0.0
Meyers Trash Pumps 2 in		4									0	0.0	0	0.0	0.0
Meyers Trash Pumps 4 in		2									0	0.0	0	0.0	0.0
Motar Mixers 8 cu ft & 12 cu ft		2									0	0.0	0	0.0	0.0
TOTAL EMISSIONS											**836**	**168**	**2,244**	**480**	**218**

(1) Total daily usage for each unit is provided in the table
(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.
(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.
(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table
(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.
(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997
(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]			0
TOTAL (Trucks)			125

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	4.06	0.81	7.55	0.013	0.19	1.12E+00	2.24E-01	2.08E+00	3.64E-03	5.31E-02
Mix Trucks - HDDV	Default	0	0	4.06	0.81	7.55	0.013	0.19	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**1.12**	**0.22**	**2.1**	**0.004**	**0.05**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	18.0	2.95	25.1	0.033	0.48	3.98E-01	6.49E-02	5.53E-01	7.28E-04	1.06E-02
TOTAL EMISSIONS									**3.98E-01**	**6.49E-02**	**5.53E-01**	**7.28E-04**	**1.06E-02**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	3.81	0.79	7.02	0.013	0.18	1.05E+00	2.18E-01	1.93E+00	3.64E-03	5.03E-02
Mix Trucks - HDDV	Default	0	0	3.81	0.79	7.02	0.013	0.18	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**1.05**	**0.22**	**1.9**	**0.004**	**0.05**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	16.90	2.87	23.3	0.033	0.46	3.73E-01	6.33E-02	5.14E-01	7.28E-04	1.01E-02
TOTAL EMISSIONS									**3.73E-01**	**6.33E-02**	**5.14E-01**	**7.28E-04**	**1.01E-02**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2012

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2012 Activity Factor: 50 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	1.42	0.20	3.56	0.94	0.45	90.6	13.0	227	59.8	28.5
- Crawler Pumps	262	152	6	238,944	0.59	0.97	0.23	2.90	0.92	0.50	151	35.4	451	143	78.3
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.60	0.32	4.96	0.94	0.48	380	75.9	1176	222	113
Small Equipment	175	155	6	162,750	0.21	3.52	0.90	5.70	1.13	0.80	133	34.0	215	42.5	30.1
TOTAL EMISSIONS											**754**	**158**	**2,068**	**467**	**250**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.23**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]			0
TOTAL (Trucks)			125

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	3.54	0.75	6.50	0.013	0.17	9.76E-01	2.07E-01	1.79E+00	3.64E-03	4.64E-02
Mix Trucks - HDDV	Default	0	0	3.54	0.75	6.50	0.013	0.17	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**0.98**	**0.21**	**1.8**	**0.004**	**0.05**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	15.7	2.73	21.6	0.033	0.42	3.47E-01	6.01E-02	4.76E-01	7.28E-04	9.29E-03
TOTAL EMISSIONS									**3.47E-01**	**6.01E-02**	**4.76E-01**	**7.28E-04**	**9.29E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	3.32	0.74	6.06	0.013	0.16	9.15E-01	2.03E-01	1.67E+00	3.64E-03	4.42E-02
Mix Trucks - HDDV	Default	0	0	3.32	0.74	6.06	0.013	0.16	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**0.92**	**0.20**	**1.67**	**0.0036**	**0.044**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	14.75	2.67	20.1	0.03	0.40	3.25E-01	5.88E-02	4.44E-01	7.28E-04	8.84E-03
TOTAL EMISSIONS									**3.25E-01**	**5.88E-02**	**4.44E-01**	**7.28E-04**	**8.84E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2013

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2013 Activity Factor: 100 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	1.26	0.19	3.25	0.92	0.51	161	24.6	414	117	64.8
- Crawler Pumps	262	152	6	238,944	0.59	0.86	0.21	2.60	0.89	0.59	266	65.0	809	276	183
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.52	0.31	4.64	0.91	0.54	722	147	2202	433	256
Small Equipment	175	155	6	162,750	0.21	3.20	0.83	5.32	1.11	0.82	241	62.6	401	83.7	61.9
TOTAL EMISSIONS											**1,390**	**299**	**3,826**	**909**	**566**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	30	30.0	900
TOTAL (Trucks)			1,025

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	2.71	0.72	5.62	0.013	0.15	7.46E-01	1.98E-01	1.55E+00	3.64E-03	4.18E-02
Mix Trucks - HDDV	Default	30	900	2.71	0.72	5.62	0.013	0.15	5.37E+00	1.43E+00	1.12E+01	2.62E-02	3.01E-01
TOTAL EMISSIONS									**6.12**	**1.63**	**12.7**	**0.030**	**0.34**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	12.0	2.61	18.7	0.033	0.38	2.65E-01	5.74E-02	4.12E-01	7.28E-04	8.36E-03
TOTAL EMISSIONS									**2.65E-01**	**5.74E-02**	**4.12E-01**	**7.28E-04**	**8.36E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	2.55	0.70	5.24	0.013	0.14	7.02E-01	1.94E-01	1.44E+00	3.64E-03	3.99E-02
Mix Trucks - HDDV	Default	30	900	2.55	0.70	5.24	0.013	0.14	5.06E+00	1.40E+00	1.04E+01	2.62E-02	2.87E-01
TOTAL EMISSIONS									**5.76**	**1.59**	**11.8**	**0.030**	**0.33**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	11.32	2.55	17.4	0.033	0.36	2.50E-01	5.63E-02	3.84E-01	7.28E-04	7.98E-03
TOTAL EMISSIONS									**2.50E-01**	**5.63E-02**	**3.84E-01**	**7.28E-04**	**7.98E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2014

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2014 Activity Factor: 100 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	1.13	0.18	2.89	0.89	0.57	144	23.0	368	114	72.3
- Crawler Pumps	262	152	6	238,944	0.59	0.74	0.19	2.20	0.86	0.67	231	59.7	685	267	209
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.46	0.30	4.35	0.89	0.60	694	143	2064	423	285
Small Equipment	175	155	6	162,750	0.21	2.89	0.76	4.89	1.09	0.85	218	57.5	368	82.1	63.7
TOTAL EMISSIONS											**1,286**	**283**	**3,486**	**886**	**630**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	30	30.0	900
TOTAL (Trucks)			1,025

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	2.40	0.69	4.79	0.013	0.13	6.61E-01	1.89E-01	1.32E+00	3.64E-03	3.59E-02
Mix Trucks - HDDV	Default	30	900	2.40	0.69	4.79	0.013	0.13	4.76E+00	1.36E+00	9.51E+00	2.62E-02	2.59E-01
TOTAL EMISSIONS									**5.42**	**1.55**	**10.8**	**0.030**	**0.29**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	10.6	2.48	15.9	0.033	0.33	2.35E-01	5.47E-02	3.51E-01	7.28E-04	7.18E-03
TOTAL EMISSIONS									**2.35E-01**	**5.47E-02**	**3.51E-01**	**7.28E-04**	**7.18E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	2.26	0.67	4.47	0.013	0.13	6.23E-01	1.85E-01	1.23E+00	3.64E-03	3.45E-02
Mix Trucks - HDDV	Default	30	900	2.26	0.67	4.47	0.013	0.13	4.49E+00	1.34E+00	8.87E+00	2.62E-02	2.48E-01
TOTAL EMISSIONS									**5.11**	**1.52**	**10.1**	**0.030**	**0.28**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	10.04	2.44	14.8	0.033	0.31	2.21E-01	5.37E-02	3.27E-01	7.28E-04	6.90E-03
TOTAL EMISSIONS									**2.21E-01**	**5.37E-02**	**3.27E-01**	**7.28E-04**	**6.90E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2015

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2015 Activity Factor: 100 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	1.00	0.18	2.55	0.87	0.63	128	22.6	326	111	79.7
- Crawler Pumps	262	152	6	238,944	0.59	0.63	0.18	1.57	0.80	0.82	196	56.0	488	249	255
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.32	0.28	4.08	0.87	0.66	628	134	1934	413	311
Small Equipment	175	155	6	162,750	0.21	2.60	0.70	4.48	1.07	0.87	196	52.7	337	80.8	65.4
TOTAL EMISSIONS											**1,148**	**265**	**3,085**	**854**	**711**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	30	30.0	900
TOTAL (Trucks)			1,025

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	2.10	0.65	4.16	0.013	0.11	5.78E-01	1.79E-01	1.15E+00	3.64E-03	3.16E-02
Mix Trucks - HDDV	Default	30	900	2.10	0.65	4.16	0.013	0.11	4.16E+00	1.29E+00	8.25E+00	2.62E-02	2.28E-01
TOTAL EMISSIONS									**4.74**	**1.47**	**9.4**	**0.030**	**0.26**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	9.31	2.36	13.8	0.033	0.29	2.05E-01	5.19E-02	3.04E-01	7.28E-04	6.32E-03
TOTAL EMISSIONS									**0.21**	**0.052**	**0.30**	**0.00073**	**0.0063**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.98	0.64	3.89	0.013	0.11	5.46E-01	1.76E-01	1.07E+00	3.64E-03	3.05E-02
Mix Trucks - HDDV	Default	30	900	1.98	0.64	3.89	0.013	0.11	3.93E+00	1.27E+00	7.71E+00	2.62E-02	2.20E-01
TOTAL EMISSIONS									**4.48**	**1.45**	**8.79**	**0.030**	**0.25**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	8.80	2.32	12.9	0.033	0.28	1.94E-01	5.11E-02	2.84E-01	7.28E-04	6.10E-03
TOTAL EMISSIONS									**1.94E-01**	**5.11E-02**	**2.84E-01**	**7.28E-04**	**6.10E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2016

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2016 Activity Factor: 60 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.89	0.17	2.24	0.85	0.68	68.1	13.0	172	65.2	52.0
- Crawler Pumps	262	152	6	238,944	0.59	0.74	0.17	1.72	0.83	0.80	138	31.7	321	155	150
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.20	0.26	3.82	0.85	0.71	341	75.1	1087	242	202
Small Equipment	175	155	6	162,750	0.21	2.33	0.64	4.08	1.05	0.89	105	28.8	185	47.7	40.2
TOTAL EMISSIONS											**652**	**149**	**1,764**	**510**	**444**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174.3**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	20	30.0	600
TOTAL (Trucks)			725

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 20 trucks/day x 10 trips/truck x 3 miles/trip = 600 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.86	0.63	3.64	0.013	0.11	5.14E-01	1.74E-01	1.00E+00	3.64E-03	2.93E-02
Mix Trucks - HDDV	Default	20	600	1.86	0.63	3.64	0.013	0.11	2.47E+00	8.33E-01	4.82E+00	1.75E-02	1.41E-01
TOTAL EMISSIONS									**2.98**	**1.01**	**5.82**	**0.021**	**0.17**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	8.28	2.28	12.1	0.033	0.27	1.83E-01	5.03E-02	2.66E-01	7.28E-04	5.87E-03
TOTAL EMISSIONS									**0.18**	**0.050**	**0.27**	**0.00073**	**0.0059**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.77	0.62	3.41	0.013	0.10	4.87E-01	1.71E-01	9.40E-01	3.64E-03	2.84E-02
Mix Trucks - HDDV	Default	20	600	1.77	0.62	3.41	0.013	0.10	2.34E+00	8.22E-01	4.51E+00	1.75E-02	1.36E-01
TOTAL EMISSIONS									**2.82**	**0.99**	**5.45**	**0.021**	**0.16**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	7.84	2.25	11.3	0.033	0.26	1.73E-01	4.96E-02	2.49E-01	7.28E-04	5.68E-03
TOTAL EMISSIONS									**1.73E-01**	**4.96E-02**	**2.49E-01**	**7.28E-04**	**5.68E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2017

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2017 Activity Factor: 25 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.78	0.16	2.0	0.83	0.73	25.0	5.2	62.3	26.6	23.4
- Crawler Pumps	262	152	6	238,944	0.59	0.42	0.16	1.3	0.78	0.88	32.6	12.5	100	60.5	68.6
Large Equipment > 750 hp	750	81	6	364,500	0.59	1.08	0.25	3.6	0.83	0.76	128	29.3	424	98.6	90.2
Small Equipment	175	155	6	162,750	0.21	2.13	0.59	3.7	1.04	0.91	40.2	11.1	70.5	19.6	17.2
TOTAL EMISSIONS											**226**	**58.1**	**657**	**205**	**199**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	0	0.0	0
TOTAL (Trucks)			125

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.66	0.61	3.16	0.013	0.097	4.59E-01	1.69E-01	8.72E-01	3.64E-03	2.68E-02
Mix Trucks - HDDV	Default	0	0	1.66	0.61	3.16	0.013	0.097	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**0.46**	**0.17**	**0.87**	**0.0036**	**0.027**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	7.39	2.22	10.5	0.033	0.24	1.63E-01	4.89E-02	2.31E-01	7.28E-04	5.37E-03
TOTAL EMISSIONS									**0.16**	**0.049**	**0.23**	**0.00073**	**0.0054**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	125	1.58	0.61	2.97	0.013	0.097	4.36E-01	1.67E-01	8.19E-01	3.64E-03	2.68E-02
Mix Trucks - HDDV	Default	0	0	1.58	0.61	2.97	0.013	0.097	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**0.44**	**0.17**	**0.82**	**0.0036**	**0.027**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	7.02	2.19	9.9	0.03	0.24	1.55E-01	4.83E-02	2.17E-01	7.28E-04	5.37E-03
TOTAL EMISSIONS									**0.15**	**0.048**	**0.22**	**0.00073**	**0.0054**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

Appendix B-3
Summary of Construction Related Emissions
Late Start Scenario

Table B.3
Summary of Construction Related Emissions (Ton/Day) - Late Start Scenario
HAR Units 2 and 3

Daily Emissions for Winter 2018 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.20	0.054	0.60
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.00027	0.00011	0.0005
Total, Construction Emissions, ton/day	0.22	0.061	0.69

Daily Emissions for Summer 2018 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.20	0.054	0.60
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.00026	0.00010	0.0004
Total, Construction Emissions, ton/day	0.22	0.061	0.69

Daily Emissions for Winter 2019 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.17	0.052	0.55
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.00025	0.00010	0.0004
Total, Construction Emissions, ton/day	0.19	0.059	0.64

Daily Emissions for Summer 2019 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.17	0.052	0.55
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.00024	0.00010	0.0004
Total, Construction Emissions, ton/day	0.19	0.059	0.64

Daily Emissions for Winter 2020 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.31	0.10	1.01
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.0014	0.00067	0.0025
Total, Construction Emissions, ton/day	0.32	0.11	1.10

Table B.3
Summary of Construction Related Emissions (Ton/Day) - Late Start Scenario
HAR Units 2 and 3

Daily Emissions for Summer 2020 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.31	0.10	1.01
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0014	0.00067	0.0023
Total, Construction Emissions, ton/day	0.32	0.11	1.10

Daily Emissions for Winter 2021 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.27	0.095	0.93
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0013	0.00066	0.0022
Total, Construction Emissions, ton/day	0.29	0.10	1.02

Daily Emissions for Summer 2021 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.27	0.095	0.93
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0012	0.00066	0.0021
Total, Construction Emissions, ton/day	0.29	0.10	1.02

Daily Emissions for Winter 2022 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.24	0.091	0.87
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0012	0.00064	0.0019
Total, Construction Emissions, ton/day	0.26	0.098	0.96

Daily Emissions for Summer 2022 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.24	0.091	0.87
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks (1) (2)	0.0012	0.00064	0.0018
Total, Construction Emissions, ton/day	0.26	0.098	0.96

Table B.3
Summary of Construction Related Emissions (Ton/Day) - Late Start Scenario
HAR Units 2 and 3

Daily Emissions for Winter 2023 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.13	0.054	0.50
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.0008	0.00046	0.0012
Total, Construction Emissions, ton/day	0.14	0.060	0.59

Daily Emissions for Summer 2023 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.13	0.054	0.50
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.0008	0.00045	0.0012
Total, Construction Emissions, ton/day	0.14	0.060	0.59

Daily Emissions for Winter 2024 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.047	0.021	0.20
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.00016	0.00010	0.00023
Total, Construction Emissions, ton/day	0.064	0.028	0.29

Daily Emissions for Summer 2024 (tons/day)

Activities	CO	VOC	NO_X
Construction Equipment	0.047	0.021	0.20
Onsite Rail Idling	0.017	0.0061	0.087
Onsite Trucks [1] [2]	0.00016	0.00010	0.00022
Total, Construction Emissions, ton/day	0.064	0.028	0.29

Notes:
(1) Delivery and concrete mix trucks.
(2) Includes emissions from delivery trucks during normal operation and idling.

Appendix B-4
Calculation of Construction Emissions from On- and Off-road Diesel Engines (2018–2024) Late Start Scenario

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2018

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2018 Activity Factor: 50 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.69	0.16	1.70	0.81	0.78	44	10.2	108	51.7	49.7
- Crawler Pumps	262	152	6	238,944	0.59	0.32	0.15	1.00	0.76	0.94	50	23.3	155	118	146.1
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.97	0.23	3.40	0.81	0.81	230	54.5	806	192	192
Small Equipment	175	155	6	162,750	0.21	1.96	0.55	3.40	1.02	0.94	74	20.7	128	38.4	35.4
TOTAL EMISSIONS											**398**	**109**	**1,198**	**400**	**423**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]			0
TOTAL (Trucks)			125

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.46	0.60	2.71	0.013	0.086	4.02E-01	1.65E-01	7.47E-01	3.64E-03	2.38E-02
Mix Trucks - HDDV	Default	0	0	1.46	0.60	2.71	0.013	0.086	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**4.02E-01**	**1.65E-01**	**7.47E-01**	**3.64E-03**	**2.38E-02**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	6.49	2.16	9.0	0.033	0.22	1.43E-01	4.76E-02	1.99E-01	7.28E-04	4.85E-03
TOTAL EMISSIONS									**1.43E-01**	**4.76E-02**	**1.99E-01**	**7.28E-04**	**4.85E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.39	0.59	2.55	0.013	0.084	3.83E-01	1.63E-01	7.03E-01	3.61E-03	2.32E-02
Mix Trucks - HDDV	Default	0	0	1.39	0.59	2.55	0.013	0.084	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**3.83E-01**	**1.63E-01**	**7.03E-01**	**3.61E-03**	**2.32E-02**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	6.19	2.14	8.50	0.033	0.21	1.36E-01	4.72E-02	1.87E-01	7.28E-04	4.63E-03
TOTAL EMISSIONS									**1.36E-01**	**4.72E-02**	**1.87E-01**	**7.28E-04**	**4.63E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2019

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2019 Activity Factor: 50 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.59	0.16	1.50	0.80	0.83	37.6	10.2	96	51.0	52.9
- Crawler Pumps	262	152	6	238,944	0.59	0.24	0.15	0.80	0.74	0.99	37	23.3	124	115	153.9
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.87	0.22	3.20	0.80	0.86	206	52.2	759	190	204
Small Equipment	175	155	6	162,750	0.21	1.80	0.51	3.10	1.01	0.96	68	19.2	117	38.1	36.2
TOTAL EMISSIONS											**349**	**105**	**1,096**	**394**	**447**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]			0
TOTAL (Trucks)			125

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.32	0.58	2.39	0.013	0.082	3.64E-01	1.60E-01	6.59E-01	3.61E-03	2.27E-02
Mix Trucks - HDDV	Default	0	0	1.32	0.58	2.39	0.013	0.082	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**3.64E-01**	**1.60E-01**	**6.59E-01**	**3.61E-03**	**2.27E-02**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	5.87	2.11	7.96	0.033	0.21	1.29E-01	4.65E-02	1.76E-01	7.28E-04	4.63E-03
TOTAL EMISSIONS									**1.29E-01**	**4.65E-02**	**1.76E-01**	**7.28E-04**	**4.63E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.26	0.58	2.25	0.013	0.081	3.47E-01	1.60E-01	6.20E-01	3.61E-03	2.23E-02
Mix Trucks - HDDV	Default	0	0	1.26	0.58	2.25	0.013	0.081	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**3.47E-01**	**1.60E-01**	**6.20E-01**	**3.61E-03**	**2.23E-02**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	5.61	2.09	7.51	0.033	0.20	1.24E-01	4.61E-02	1.66E-01	7.28E-04	4.41E-03
TOTAL EMISSIONS									**1.24E-01**	**4.61E-02**	**1.66E-01**	**7.28E-04**	**4.41E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2020

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2020 Activity Factor: 100 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.51	0.15	1.30	0.78	0.88	65	19.1	166	99	112.2
- Crawler Pumps	262	152	6	238,944	0.59	0.20	0.15	0.70	0.73	1.02	62	46.6	218	227	317
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.77	0.21	3.00	0.78	0.90	365	100	1423	370	427
Small Equipment	175	155	6	162,750	0.21	1.60	0.47	2.80	0.99	0.99	121	35.4	211	74.6	74.6
TOTAL EMISSIONS											**613**	**201**	**2,017**	**771**	**931**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	30	30.0	900
TOTAL (Trucks)			1,025

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.20	0.57	2.10	0.013	0.079	3.31E-01	1.57E-01	5.79E-01	3.61E-03	2.18E-02
Mix Trucks - HDDV	Default	30	900	1.20	0.57	2.10	0.013	0.079	2.38E+00	1.13E+00	4.17E+00	2.60E-02	1.57E-01
TOTAL EMISSIONS									**2.71E+00**	**1.29E+00**	**4.75E+00**	**2.96E-02**	**1.79E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	5.34	2.07	7.0	0.033	0.20	1.18E-01	4.56E-02	1.55E-01	7.28E-04	4.41E-03
TOTAL EMISSIONS									**1.18E-01**	**4.56E-02**	**1.55E-01**	**7.28E-04**	**4.41E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.15	0.57	1.99	0.013	0.078	3.17E-01	1.57E-01	5.48E-01	3.61E-03	2.14E-02
Mix Trucks - HDDV	Default	30	900	1.15	0.57	1.99	0.013	0.078	2.28E+00	1.13E+00	3.95E+00	2.60E-02	1.54E-01
TOTAL EMISSIONS									**2.60E+00**	**1.29E+00**	**4.50E+00**	**2.96E-02**	**1.76E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	5.12	2.06	6.64	0.033	0.19	1.13E-01	4.54E-02	1.46E-01	7.28E-04	4.19E-03
TOTAL EMISSIONS									**1.13E-01**	**4.54E-02**	**1.46E-01**	**7.28E-04**	**4.19E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2021

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2021 Activity Factor: 100 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.43	0.15	1.10	0.76	0.92	55	19.1	140	97	117.3
- Crawler Pumps	262	152	6	238,944	0.59	0.18	0.14	0.50	0.72	1.03	56	43.5	155	224	320
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.68	0.20	2.90	0.76	0.95	322	95	1375	360	450
Small Equipment	175	155	6	162,750	0.21	1.51	0.43	2.50	0.98	1.01	114	32.4	188	73.9	76.1
TOTAL EMISSIONS											**547**	**190**	**1,859**	**755**	**964**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	30	30.0	900
TOTAL (Trucks)			1,025

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.10	0.56	1.87	0.013	0.076	3.03E-01	1.54E-01	5.15E-01	3.61E-03	2.10E-02
Mix Trucks - HDDV	Default	30	900	1.10	0.56	1.87	0.013	0.076	2.18E+00	1.11E+00	3.71E+00	2.60E-02	1.51E-01
TOTAL EMISSIONS									**2.49E+00**	**1.27E+00**	**4.23E+00**	**2.96E-02**	**1.72E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	4.88	2.04	6.23	0.033	0.19	1.08E-01	4.50E-02	1.37E-01	7.28E-04	4.19E-03
TOTAL EMISSIONS									**1.08E-01**	**4.50E-02**	**1.37E-01**	**7.28E-04**	**4.19E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.06	0.56	1.77	0.013	0.075	2.92E-01	1.54E-01	4.88E-01	3.61E-03	2.07E-02
Mix Trucks - HDDV	Default	30	900	1.06	0.56	1.77	0.013	0.075	2.10E+00	1.11E+00	3.51E+00	2.60E-02	1.49E-01
TOTAL EMISSIONS									**2.40E+00**	**1.27E+00**	**4.00E+00**	**2.96E-02**	**1.70E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	4.69	2.02	5.91	0.033	0.19	1.03E-01	4.45E-02	1.30E-01	7.28E-04	4.19E-03
TOTAL EMISSIONS									**1.03E-01**	**4.45E-02**	**1.30E-01**	**7.28E-04**	**4.19E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2022

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2022 Activity Factor: 100 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.35	0.15	0.90	0.75	0.96	45	19.1	115	96	122.4
- Crawler Pumps	262	152	6	238,944	0.59	0.16	0.14	0.40	0.72	1.04	50	43.5	124	224	323
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.60	0.19	2.80	0.75	0.99	285	90	1328	356	469
Small Equipment	175	155	6	162,750	0.21	1.38	0.39	2.30	0.96	1.03	104	29.4	173	72.3	77.6
TOTAL EMISSIONS											**483**	**182**	**1,740**	**747**	**993**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	30	30.0	900
TOTAL (Trucks)			1,025

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	1.01	0.55	1.63	0.013	0.074	2.78E-01	1.52E-01	4.49E-01	3.61E-03	2.03E-02
Mix Trucks - HDDV	Default	30	900	1.01	0.55	1.63	0.013	0.074	2.00E+00	1.09E+00	3.23E+00	2.60E-02	1.46E-01
TOTAL EMISSIONS									**2.28E+00**	**1.24E+00**	**3.68E+00**	**2.96E-02**	**1.67E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	4.49	2.01	5.43	0.033	0.18	9.90E-02	4.43E-02	1.20E-01	7.28E-04	3.97E-03
TOTAL EMISSIONS									**9.90E-02**	**4.43E-02**	**1.20E-01**	**7.28E-04**	**3.97E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	0.98	0.55	1.55	0.013	0.073	2.70E-01	1.52E-01	4.27E-01	3.61E-03	2.01E-02
Mix Trucks - HDDV	Default	30	900	0.98	0.55	1.55	0.013	0.073	1.94E+00	1.09E+00	3.08E+00	2.60E-02	1.44E-01
TOTAL EMISSIONS									**2.21E+00**	**1.24E+00**	**3.50E+00**	**2.96E-02**	**1.65E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	4.33	1.99	5.17	0.033	0.18	9.55E-02	4.39E-02	1.14E-01	7.28E-04	3.97E-03
TOTAL EMISSIONS									**9.55E-02**	**4.39E-02**	**1.14E-01**	**7.28E-04**	**3.97E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2023

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2023 Activity Factor: 60 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.29	0.14	0.80	0.74	0.99	22.2	10.7	61	56.6	75.8
- Crawler Pumps	262	152	6	238,944	0.59	0.15	0.14	0.40	0.71	1.05	28	26.1	75	132	196
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.52	0.19	2.70	0.74	1.02	148	54.1	768	211	290
Small Equipment	175	155	6	162,750	0.21	1.25	0.36	2.10	0.95	1.05	57	16.3	95	43.0	47.5
TOTAL EMISSIONS											**255**	**107**	**999**	**443**	**609**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	20	30.0	600
TOTAL (Trucks)			725

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles
Mix Trucks (miles/day) - 20 trucks/day x 10 trips/truck x 3 miles/trip = 600 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	0.94	0.55	1.45	0.013	0.072	2.59E-01	1.52E-01	4.00E-01	3.61E-03	1.98E-02
Mix Trucks - HDDV	Default	20	600	0.94	0.55	1.45	0.013	0.072	1.24E+00	7.28E-01	1.92E+00	1.73E-02	9.50E-02
TOTAL EMISSIONS									**1.50E+00**	**8.79E-01**	**2.32E+00**	**2.09E-02**	**1.15E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	4.16	1.98	4.84	0.033	0.18	9.17E-02	4.37E-02	1.07E-01	7.28E-04	3.97E-03
TOTAL EMISSIONS									**9.17E-02**	**4.37E-02**	**1.07E-01**	**7.28E-04**	**3.97E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	0.91	0.54	1.38	0.013	0.071	2.51E-01	1.49E-01	3.80E-01	3.61E-03	1.96E-02
Mix Trucks - HDDV	Default	20	600	0.91	0.54	1.38	0.013	0.071	1.20E+00	7.14E-01	1.83E+00	1.73E-02	9.39E-02
TOTAL EMISSIONS									**1.45E+00**	**8.63E-01**	**2.21E+00**	**2.09E-02**	**1.14E-01**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_x	SO_x	PM	CO	VOC	NO_x	SO_x	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	4.03	1.97	4.62	0.033	0.18	8.89E-02	4.34E-02	1.02E-01	7.28E-04	3.97E-03
TOTAL EMISSIONS									**8.89E-02**	**4.34E-02**	**1.02E-01**	**7.28E-04**	**3.97E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.0 Calculation of Emissions from Off Road Diesel Engines and Vehicles for 2024

1.1 Activity Factor

An Activity Factor is used to account for the percentage of equipment operating during calendar year

2024 Activity Factor: 25 percent

1.2 Calculation of Criteria Pollutant Emission Rates for Construction Equipment

Type of Unit	Rated HP (hp)	# of Units	Total Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
300 Ton Link Belt Crawler	430	38	6	98,040	0.59	0.25	0.14	0.70	0.73	1.01	8.0	4.5	22.3	23.3	32.2
- Crawler Pumps	262	152	6	238,944	0.59	0.14	0.14	0.40	0.71	1.06	10.9	10.9	31	55.2	82.4
Large Equipment > 750 hp	750	81	6	364,500	0.59	0.45	0.18	2.60	0.73	1.04	53	21.3	308	86.5	123.3
Small Equipment	175	155	6	162,750	0.21	1.13	0.33	1.80	0.94	1.08	21.3	6.2	33.9	17.7	20.3
TOTAL EMISSIONS											**93.5**	**42.9**	**396**	**183**	**258**

(1) Total daily usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) U.S. EPA's NONROAD2008 model was used to calculate emission factors. U.S EPA, April 2009. NONROAD2008. Available from EPA's web site -http://epa.gov/otaq/nonrdmdl.htm.

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x Activity Factor = Actual Emission (lb/day)

1.3 Calculation of Criteria Pollutant Emission Rates for Onsite Rail Idling

Type of Unit	Rated HP (hp)	# of Units	Typical Daily Usage (hr/day)	Total Usage (hp-hr/day)	Load Factor [2]	Emission Factor (gm/hp-hr) [3]					Actual Emissions (lb/day) [4]				
						CO	VOC	NOx	SO_2	PM	CO	VOC	NOx	SO_2	PM
Rail Delivery	5000	1	4	20,000	0.59	1.28	0.47	6.70	-	0.32	33.3	12.2	174	0.00	8.33
TOTAL EMISSIONS											**33.3**	**12.2**	**174**	**0.00**	**8.33**

(1) Total annual usage for each unit is provided in the table

(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.

(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997

(4) Rated HP (hp) x Number of Units x Daily Usage (hr/day) = Total Usage (hp-hr/day). Total Usage (hp-hr/day) x Emission Factor (gm-hp/hr) x Load Factor x 0.002205 (lb/gm) x 100% of Typical Day = Actual Emission (lb/day)

1.4 Calculation of Criteria Pollutant Emission for Onsite Concrete and Delivery Trucks

1.4.1 Calculation of Mileage for Onsite Concrete and Delivery Trucks

Vehicle Type[1]	Trucks/day	Miles/Truck/ Day [2]	Total Miles/ Day
Delivery Trucks - HDDV	25	5.0	125
Mix Trucks - HDDV [3]	0	0.0	0
TOTAL (Trucks)			125

(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds
(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles

1.4.2 Calculation of Criteria Pollutant Emission Rates during Winter

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	25	125	0.87	0.54	1.31	0.013	0.070	2.40E-01	1.49E-01	3.61E-01	3.61E-03	1.93E-02
Mix Trucks - HDDV	Default	0	0	0.87	0.54	1.31	0.013	0.070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**2.40E-01**	**1.49E-01**	**3.61E-01**	**3.61E-03**	**1.93E-02**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.3 Calculation of Criteria Pollutant Emission Rates during Winter (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	3.88	1.96	4.37	0.033	0.17	8.56E-02	4.32E-02	9.64E-02	7.28E-04	3.75E-03
TOTAL EMISSIONS									**8.56E-02**	**4.32E-02**	**9.64E-02**	**7.28E-04**	**3.75E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.4 Calculation of Criteria Pollutant Emission Rates during Summer

Vehicle Type	Vehicle Model Year	Number of Vehicles	Daily Mileage [1]	Vehicle Emission Factors (gm/mile) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	125	0.85	0.54	1.25	0.013	0.070	2.34E-01	1.49E-01	3.45E-01	3.61E-03	1.92E-02
Mix Trucks - HDDV	Default	0	0	0.85	0.54	1.25	0.013	0.070	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
TOTAL EMISSIONS									**2.34E-01**	**1.49E-01**	**3.45E-01**	**3.61E-03**	**1.92E-02**

(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.
(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)

1.4.5 Calculation of Criteria Pollutant Emission Rates during Summer (Idling)

Vehicle Type	Vehicle Model Year	Number of Vehicles	Idling Time Hours [1]	Vehicle Emission Factors (gm/hr) [2] [3]					Actual Emissions (lb/day) [4]				
				CO	VOC	NO_X	SO_X	PM	CO	VOC	NO_X	SO_X	PM
Delivery Trucks													
Delivery Trucks - HDDV	Default	NA	10	3.77	1.95	4.19	0.033	0.17	8.31E-02	4.30E-02	9.24E-02	7.28E-04	3.75E-03
TOTAL EMISSIONS									**8.31E-02**	**4.30E-02**	**9.24E-02**	**7.28E-04**	**3.75E-03**

(1) 40 percent of the daily delivery trucks will run their engines onsite for less than 1 hour. 60 percent of the daily delivery truck will not idle onsite.
(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.
(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.
(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)

Appendix C-1
Progress Energy's Levy Nuclear Plant
Construction Equipment Summary

Estimated Noise Generating Construction Equipment Spread Sheet

Add the following traffic/equipment:
Rail deliveries: 8/week
Truck deliveries: 25/day
Construction Worker Traffic: 3300 workers/day (peak year)

Peak Construction Period

Shaw® Stone & Webster, Inc.

Levy Site Equipment List

* Identified equipment will operate 85%/ 8.5hrs of all schedule 10hr. work shift days during peak construction Phase II,III,IV, V,

Equipment Discription 2-13-08	No. Units	dBA@ 50ft	Phase I 1/1/10-1/12/10	Phase II 1/1/11-1/12/11	Phase III 1/1/12-1/12/12	Phase IV 1/1/13-1/12/13	Phase V 1/1/2014-1/12/14	Phase VI 1/1/2015-1/12/15	Phase VII 1/1/2016-1/12/16	Power Block Req'd.	Haul Road Req'd	River Intake Req'd
			Approx. 38 mo. N. I. Site Earth Excva. & Prep Cycle Start to Finish									
Cat 345C Excavator	4	81	4	4	4	4				2	1	1
Cat 740 & Volvo Articulating Trucks	32	76	32	32	32	32				26	4	2
Cat 637 Scraper	6	84	6	6	6	6				4	1	1
Cat 631 Water Wagon	2	76	2	2	2	2				1	1/2	1/2
Cat 100 in Roller	4	80	4	4	4	4				2	1	1
Cat D-9 Dozer	1	82	1	1	1	1				1/2	1/2	
Cat D-8 Dozer	3	82	3	3	3	3				1	1	1
Cat D-6 Dozer	1	82	1	1	1	1				1/3	1/3	1/3
Cat 16 Grader	2	83	2	2	2	2				1	1	
M&F 4X4 Tractor for BeeGee & Disk	4	82	4	4	4	4				2	2	
Bee Gee	2	n/a	2	2	2	2				1	1	
42 inch Disk	2	n/a	2	2	2	2				1	1	
4M Water Truck	2	76	2	2	2	2				1	1/2	1/2
Diesel Light Plants	16	81	16	16	16	16				15		1
6 inch Portable Dewatering Pumps	12	81	12	12	12	12				6	6	
6 inch Deep Welll Pumps	100	81	100	100	100	100				94	1	5
Cat 623 Scraper	1	84	1	1	1					1		
Cat 320 / EX300 Excavator	1	81	1	1	1					1/3	1/3	1/3
Cat. 450E Backhoe	4	78	4	4	4	Approx. 42 mo.Duration from Nuclear Island 1st Concrete to Construction Completion				3	1/2	1/2
Cat. 416E Backhoe	2	78	2	2	2					1	1/2	1/2
Misc.SSWN Dist Maintance Equipment & Skids	-	-										
Portable Air Compressors 750	2	78	2	2	2	2	2	2		2		
Portable Generators 50kw	1	81	1	1	1	1	1	1		1		
Portable Generators 10kw	1	73	1	1	1	1	1	1	1	1		
Support Vehicles	15	75	15	15	15	15	15	15		11	2	2
D- Class (85 ton Picker)	1	81	1	1	1	1	1	1		1		
1 switchback locomotive	1	84	1	1	1	1	1	1	1	1/3	1/3	1/3
E-Class (150 ton Truck Crane)	1	84	1	1	1	1	1	1	1	1		
Boom DSL 4WD 60'	1	81	1	1	1	1	1	1	1	1		
Boom DSL 4WD 80'	1	81	1	1	1	1	1	1		1		
Construction Eletric Elevator	1	63	1	1	1	1	1	1		1		
Welding M achine 400 Amp Diesel	1	81	1	1	1	1	1	1	1	1		
Gas Powered Wood Chipper	1	90	1	1	1	1	1	1		1/2	1/2	
Rubber Tire Bobcat	1	78	1	1	1	1	1	1		1/3	1/3	1/3
Cat 580 Rubber Tire Backhoe	1	78	1	1	1	1	1	1	1	1/3	1/3	1/3
Cat 980 Frontend Loader	1	79	1	1	1	1	1	1	1	1/3	1/3	1/3
Cat 330 Excavator	1	81	1	1	1	1	1			1/2	1/2	
Cat D-6	1	82	1	1	1	1	1			1/3	1/3	1/3
Cat D-4	1	82	1	1	1	1	1	1		1/2	1/2	
Cat 12ft 140 hp Motor Grader	1	83	1	1	1	1	1	1	1	1/2	1/2	
Highway Rear Dump Truck 10-12CY	1	76	1	1	1	1	1	1	1	1/3	1/3	1/3
Cat 825 Vibratory Compactor	1	83	1	1	1	1	1	1		1/3	1/3	1/3
Meyers Water Gas Powered Trash Pumps 2inch	4	81	4	4	4	4	4	4	4	2	1	1
Meyers Water Gas Powered Trash Pumps 4inch	2	81	2	2	2	2	2	2	2	1		1
Gas Powered Motar Mixers 8cu. Ft. & 12cu ft	2	70	2	2	2	2	2	2	2	2		
Site Const. Area & Module Support Cranes	-	-										
D- Class (85 ton Pickers)	5	84	5	5	5	5	5	5	5	3	1	1
E-Class (150 ton Truck Crane)	4	84	4	4	4	4	4	4	4	3	1	
F-Class (200 ton Link Belt Crawlers	15	84	15	15	15	15	15	15		15		
G-Class (300 ton Link Belt Crawlers	8	84	8	8	8	8	8	8		8		
H-Class (Lamson)	2	84			2	2	2	2		2		
M-Class (300 ton Crawler with Maxier trailor	2	84			2	2	2			2		
Dewatering Contractor Equipmen (Details TBD @ Raleigh	-	-										
Bauer BG50 Hydromill	2	86	2	2						2		
Marine Construction Contractor Equipment	-	-										1
Shore Pile Driving Rig	1	101		1	1							1
Dredge Boat Twin V 14 winch	1	87		1	1							1
40 ft. River Tug	1	87		1	1							1
Tender Boat	1	84		1	1							1
Spud Barges	3	81		3	3							3
On-Site Concrete Batch Plants & Mix trucks	-	-										
Vince Hagan Central Mix (HSM-CM-124000D150-4-800-600)	2	70	2	2	2	2	2	2		2		
Concrete 12yd, Mix Trucks	30	79	30	30	30	30	30	30		20	5	5

Delete for Harris Plant

Appendix C-2
Assumptions for HAR Units 2 and 3 Construction Emissions

JVT - REQUEST FOR INFORMATION

RFI # 368 CWO # ____ COLA: **PEF** WBS# ____

RFI TITLE: *(be concise)*	HAR Air Emissions During Construction - Clarification of Assumptions		
Date of Request:	June 1, 2009	*Date information is needed?*	June 3, 2009
To:	Arun Kapur/Progress Energy	***From:***	George Howroyd/CH2M HILL
(Name and Organization)		(Name and Organization)	

Item Requested (Please provide detailed description, title, dates, etc., if known):

Clarification is requested on the basic assumptions that will be used for the estimation of air emissions during the construction of HAR Units 2 and 3. Additional detail on the requested clarifications was provided in an e-mail dated May 20, 2009 from George Howroyd to Arun Kapur.

How would you like this information sent to you (e-mail, hard copy, CD, etc.)?

E-mail to George Howroyd/CH2M HILL (ghowroyd@ch2m.com) . Tel: 678-530-4170

Provide any additional information here:

It is my understanding that Progress Energy will meet with George Druitt/Shaw on June 1 to discuss and resolve the items of interest. Following the meeting, Progress Energy will prepare a summary of those discussions as they relate to the requested information and provide to George Howroyd by e-mail by Wednesday June 3.

PROGRESS ENERGY – RFI RESPONSE

Responding Person:	Arun Kapur	***Date of Response:***	June 3, 2009

Source of Information:

Collaborative effort between PE, Shaw and CH2

Response (what was sent):

Word document summarizing the information.

Transmittal method (how it was sent:)

e-mail

FOR PGN FILE MANAGEMENT USE

Readily available QA document? (yes or no) ____ *Hard copy filed? (yes or no)* ____

Sent to PGN Server Path: ____

Progress Energy

Nuclear Plant Development

Subject: HAR RFI # 368 - HAR Air Emissions During Construction - Clarification of Assumptions

Date: June 2, 2009

Wake County, NC is a maintenance area or non-attainment for several air quality standards, a conformity determination needs to be performed for the Harris (HAR) 2&3 construction. Previously, PE had provided NRC emissions estimates for the construction equipment and vehicles but the North Carolina Division of Air Quality (NC-DAQ) had determined no conformity determination was necessary. Subsequent discussions between NRC and NC-DAQ have determined a conformity determination now needs to be performed using updated modeling software to compare with emissions estimated in the current State Implementation Plan (SIP).

The data and assumptions used for emissions estimation were based on a similar nuclear power generation construction project based in Levy, Florida completed by the same firm for the same plant design and were adjusted for anticipated and site-specific conditions at the HAR 2&3 location.

On June 1, 2009, the personnel listed below collaborated to determine construction equipment and operating assumptions that would be appropriate for HAR 2&3 construction using the Levy, Florida plant construction data as a basis.

George Drewett, Shaw
Jim Nevill, PE
Linda Hickok, PE
Joe Pavletich, PE Contractor
Arun Kapur, PE
George Howroyd, CH2

Table 1(attached) summarizes the assumptions for construction equipment usage addressing data points like on-site travel distance, hours of equipment operation, equipment usage linked to level of construction human resource loading, etc. The following information should be also used for the emissions estimates and conformance determination:

- Use of the year & equipment breakdown provided by Shaw on RFI #324.
- The construction time period is 7 yrs which includes pre-construction activities. It was assumed that construction would start in 2011 and end in 2017.
- The construction equipment requirements and usage for the HAR cut-and-fill are considered comparable to Levy cut-and-fill.
- The construction equipment requirements and usage for the HAR cooling towers considered comparable to Levy cooling towers.

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Table 1 - Assumptions for HAR 2 and 3 Air Quality Conformity Determination

Construction time period	7 yrs	Starting Year 2011 Site prep	2012 Site prep	2013 Construction	2014 Construction	2015 Construction	2016 Construction	Last (ending) Year 2017 Construction and Startup
Construction schedule	5 days/week, 10 hours per day							
Construction equipment operation	6 hrs/day avg.							
Equipment age	<2 years old at construction start							
Construction equipment use See table provided by Shaw in RFI #324.	First 2 years	50% of site equipment operating	50% of site equipment operating					
	from 2 to 4.5 years			100% of site equipment operating	100% of site equipment operating	100% of site equipment operating (1/2 year) 60% of site equipment operating (1/2 year)		
	From 4.5 to 7 years						60% of site equipment operating	25% of site equipment operating
Concrete trucks	Pour concrete in first 2-2.5			30 trucks, 10 trips per truck per	30 trucks, 10 trips per truck per	30 trucks, 10 trips per truck per	20 trucks, 10 trips per truck per	

	years of construction 30 trucks, 10 trips per truck per day, 3 miles per trip			day, 3 miles per trip	day, 3 miles per trip	day, 3 miles per trip	day, 3 miles per trip.	
Truck deliveries[1]	25 deliveries/day avg (TYPICAL) 35 deliveries/day max 60% will not idle but run for 30 min. 40% will idle onsite <1 hr	Same	Same	Same	Same	Same	Same	Same
Rail (no on site transportation needed)	4 deliveries/ week avg. 4 hours onsite running (idle) time, avg (TYPICAL) 6 deliveries/ week 4 hours onsite running (idle) time, max.	1/4 TYPICAL	1/2 TYPICAL	TYPICAL	TYPICAL	TYPICAL	½ TYPICAL	¼ TYPICAL

Notes:

[1] Truck Deliveries - 60% of the 25 trucks per day will not idle onsite but spend 15 minutes on site from the gate to the delivery and 15 minutes going back, but have their engine off while unloading. The 40 percent will not turn their engine off but will be onsite less than an hour.