



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.

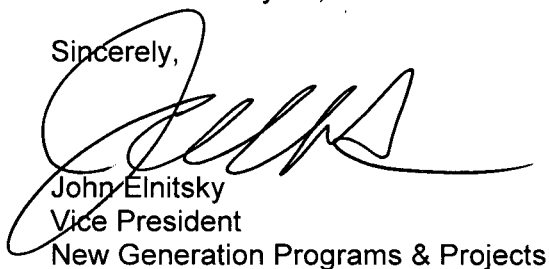
A response to the NRC request is addressed in Enclosure 1. An attachment to the response is provided on the attached CD and has been prepared in accordance with NRC electronic submittal guidance. A pre-flight report is included as Enclosure 2 which identifies that the file does not pass pre-flight, but 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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D084
NRC

bc (without attached CD):

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bc: NGPP Document Control Inbox (Records: Correspondence)
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**

<u>NRC RAI #</u>	<u>Progress Energy RAI #</u>	<u>Progress Energy Response</u>
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:

<u>Pollutant</u>	<u>2013 emissions (tons/yr)</u>
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:

<u>Pollutant</u>	<u>2020 emissions (tons/yr)</u>
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		
Reviewer	George C. Howroyd/Task Lead	7/6/2010	
	Name/Position	Date	
	SIGNATURE ON FILE WITH DCRM		
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:

<u>Appendix</u>	<u>Title</u>
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:

$$\begin{aligned}
 &= 25 \text{ trucks/day} \times 5 \text{ miles/truck/day} \\
 &= 125 \text{ miles/day}
 \end{aligned}$$

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:

$$\begin{aligned}
 &= 25 \text{ trucks/day} \times 0.40 \times 1 \text{ hour} \\
 &= 10 \text{ hours/day}
 \end{aligned}$$

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

$$\begin{aligned}
 &= 30 \text{ trucks/day} \times 30 \text{ miles/truck/day} \\
 &= 900 \text{ miles/day}
 \end{aligned}$$

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:

$$\begin{aligned}
 &\text{Daily Mileage for Delivery Trucks (HDDV)} \times \text{Vehicle Emission Factor} \times \text{Conversion Factor} \\
 &= 125 \text{ miles/day} \times 2.71 \text{ grams/mile} \times 0.002205 \text{ lb/gram} \\
 &= 0.75 \text{ lb/day}
 \end{aligned}$$

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

$$\begin{aligned} &= 10 \text{ hr/day} \times 12.0 \text{ grams/mile} \times 0.002205 \text{ lb/gram} \times 1 \text{ mile/hr} \\ &= 0.26 \text{ lb/day} \end{aligned}$$

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:

$$\begin{aligned} &= 5000 \text{ hp} \times 1 \text{ delivery/day} \times 4 \text{ hours/delivery} \\ &= 20,000 \text{ hp-hr/day} \end{aligned}$$

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

$$\begin{aligned} &= 430 \text{ hp} \times 38 \text{ units} \times 6 \text{ hours/day} \\ &= 98,040 \text{ hp-hr/day} \end{aligned}$$

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

$$\begin{aligned} &= 262 \text{ hp} \times 38 \text{ crawlers} \times 4 \text{ pumps/crawler} \times 6 \text{ hours/day} \\ &= 238,944 \text{ hp-hr/day} \end{aligned}$$

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

$$= 750 \text{ hp} \times 81 \text{ units} \times 6 \text{ hours/day}$$

$$= 364,500 \text{ hp-hr/day}$$

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

$$= 175 \text{ hp} \times 155 \text{ units} \times 6 \text{ hours/day}$$

$$= 162,750 \text{ hp-hr/day}$$

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

$$= 20,000 \text{ hp-hr/day} \times 0.59 \times 1.28 \text{ grams/hp-hr} \times 0.002205 \text{ lb/gram} \times 1.0$$

$$= 33.3 \text{ lb/day}$$

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

$$= 98,040 \text{ hp-hr/day} \times 0.59 \times 1.26 \text{ grams/hp-hr} \times 0.002205 \text{ lb/gram} \times 1.0$$

$$= 161 \text{ lb/day}$$

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 ***** progress.in

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 Description of 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

progress.in

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

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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

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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

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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.
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BAROMETRIC PRES : 30.0
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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 : 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.
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PARTICLE SIZE : 10.0
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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.
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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.
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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.
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 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.
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 BAROMETRIC PRES : 30.0
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 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.
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 BAROMETRIC PRES : 30.0
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 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.
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 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.
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 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.
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 BAROMETRIC PRES : 30.0
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 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.
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 57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
 BAROMETRIC PRES : 30.0
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 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.
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 RELATIVE HUMIDITY : 96. 96. 88. 80. 77. 68. 64. 54. 53. 50. 49. 51.
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 BAROMETRIC PRES : 30.0
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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.
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 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.
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 57. 60. 67. 70. 75. 82. 86. 90. 93. 94. 95. 96.
 BAROMETRIC PRES : 30.0
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 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.
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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 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.
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 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.
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 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.
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BAROMETRIC PRES : 30.0
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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 2023 - Idle
CALENDAR YEAR : 2023
EVALUATION MONTH : 7
HOURLY TEMPERATURES: 73. 73. 74. 77. 78. 81. 82. 85. 86. 89. 89. 88.
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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.
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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

 PROGRESS.TXT

 * 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 Emission 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:
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 |

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PROGRESS.TXT

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

Page 2

PROGRESS.TXT

* #####
 * 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:
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 : | 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

PROGRESS.TXT

* 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:
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 : | 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:
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 : | 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.

| | |
|----------------------|---------------|
| 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

PROGRESS.TXT

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: | 0.3321 | 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

PROGRESS.TXT

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 : | 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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VT 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 |
|------------------------|-------|-----------------|-----------------|---------------|-------|-------|-------|-------|-------|---------|
| | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |

| | | | | | | | | | |
|------------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| VTM 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 | 4.382 |
| Composite CO : | 31.69 | 30.96 | 44.27 | 34.34 | 44.11 | 2.221 | 1.768 | 3.724 | 31.517 |
| Composite NOX : | 0.681 | 0.882 | 1.627 | 1.072 | 0.864 | 0.255 | 0.708 | 5.518 | 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) | | | | | | |
| VTM Distribution: | 0.3001 | 0.4252 | 0.1450 | | 0.0358 | 0.0003 | 0.0021 | 0.0863 | 0.0052 | 1.0000 |
| ----- | | | | | | | | | | |

Composite Emission Factors (g/mi):

| | PROGRESS.TXT | | | | | | | | | |
|-----------------|--------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
| 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: | LDGV | LDGT12
<6000 | LDGT34
>6000 | LDGT
(All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| GVWR: | | | | | | | | | | |
| 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 |

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PROGRESS.TXT

* #####
 * 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: | 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 : | 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.
 * #####

PROGRESS.TXT

* 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

PROGRESS.TXT

* 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:
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 : | 3.528 | 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

PROGRESS.TXT

* 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

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* 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: | LDGV | LDGT12 | LDGT34 | LDGT | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|---------|
| GVWR: | | <6000 | >6000 | (All) | | | | | | |
| 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.

there are no sales for vehicle class HDGV8b

```
there are no sales for vehicle class LDDT12
```

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

```

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

```

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

```

| | |
|----------------------|----|
| 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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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

PROGRESS.TXT

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

PROGRESS.TXT

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: | LDGV | LDGT12
GVWR: | LDGT34
<6000 | LDGT
>6000
(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

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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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VTM 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

PROGRESS.TXT

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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| VTM 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

PROGRESS.TXT

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
<6000 | LDGT34
>6000 | LDGT
(All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| GVWR: | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| 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)

PROGRESS.TXT

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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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)

PROGRESS.TXT

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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VT 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

PROGRESS.TXT

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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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

PROGRESS.TXT

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
<6000 | LDGT34
>6000 | LDGT
(All) | HDGV | LDDV | LDDT | HDDV | MC | All Veh |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| GVWR: | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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

PROGRESS.TXT

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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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

PROGRESS.TXT

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 : | 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

PROGRESS.TXT

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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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

PROGRESS.TXT

ATP Program: No
Reformulated Gas: No

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

PROGRESS.TXT

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

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| 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 |
|------------------------------------|--------|-----------------|-----------------|---------------|--------|--------|--------|--------|--------|---------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM 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 |
|---------------|------|--------|--------|------|------|------|------|------|----|---------|
|---------------|------|--------|--------|------|------|------|------|------|----|---------|

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|------------------------------------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| 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) | | | | | | |

| | | | | | | | | | | |
|-------------------|--------|--------|--------|--|--------|--------|--------|--------|--------|--------|
| VTM 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) | ----- | ----- | ----- | ----- | ----- | ----- |
| VTM Distribution: | 0.2788 | 0.4388 | 0.1507 | | 0.0365 | 0.0003 | 0.0022 | 0.0876 | 0.0051 | 1.0000 |

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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: | 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 |

PROGRESS.TXT

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_coll.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_coll.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 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 emissions 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
```

```

PE_CO11.opt
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\evrun1s.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\evrun1s.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: ds1 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 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 emissions 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: ds1 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 emissions 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: ds1 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_col4.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_col4.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 emissions 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: ds1 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/

PE_C015.opt

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\NR POLLUT.CSV
/END/

```

```

/DAILY FILES/
DAILY TEMPS/RVP :
/END/

```

```

PM Base Sulfur
cols 1-10: ds1 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 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 emissions 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: ds1 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 10:48:20 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

PE_CO17.opt
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 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 emissions 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: ds1 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 emissions 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: ds1 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/

PE_CO19.opt

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 emissions 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 emissions 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/

PE_CO21.opt

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 emissions 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/

```

PE_CO21.opt

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: ds1 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_CO22.opt
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 emissions 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 emissions 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: ds1 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 emissions 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: ds1 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 2:31:24 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_0311.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0311.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 emissions 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
RunningLoss     : 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
RunningLoss     : 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_o312.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_o312.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 emissions 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 separated into "packets" based 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_0313.msg
OUTPUT DATA   : c:\nonroad\outputs\pe_0313.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 emissions 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: ds1 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 2:28:17 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_0314.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0314.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 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 emissions 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: ds1 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/

PE_0315.opt

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_0315.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0315.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 emissions 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: ds1 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/

PE_0316.opt

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_0316.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0316.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 emissions 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: ds1 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_0317.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0317.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/

PE_0318.opt

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_0318.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0318.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 emissions 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: ds1 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 2:12:31 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_0319.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0319.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 emissions 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: ds1 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_0320.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0320.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 emissions 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_0321.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0321.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 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 emissions 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\NR POLLUT.CSV
/END/

```

```

/DAILY FILES/
DAILY TEMPS/RVP  :
/END/

```

```

PM Base Sulfur
cols 1-10: ds1 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 emissions 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: ds1 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_0323.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0323.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 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 emissions 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: ds1 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/

PE_0324.opt

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_0324.msg
OUTPUT DATA    : c:\nonroad\outputs\pe_0324.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 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 emissions 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: ds1 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/

```

SEASON.DAT

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 be 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 |

SEASON.DAT

| | | | |
|-------|-----------------------|-------|-------------------|
| 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 |

| SEASON.DAT | | | | | | | | | | | | | |
|------------|------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 |
| 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 |
| CW | 2265004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| CW | 2265005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 | 0.02 |
| 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 |
| 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 |
| 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 |
| CW | 2267000000 | Average | 0.081 | 0.081 | 0.075 | 0.075 | 0.075 | 0.101 | 0.101 | 0.101 | 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 | 0.027 |
| CW | 2267001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.070 |
| 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 |
| 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 | 0.02 |
| 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 |
| 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 |
| CW | 2267004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| CW | 2267005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 | 0.02 |
| 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 |
| 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 |
| 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 |
| CW | 2268000000 | Average | 0.081 | 0.081 | 0.075 | 0.075 | 0.075 | 0.101 | 0.101 | 0.101 | 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 | 0.027 |
| CW | 2268001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.070 |
| 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 |
| 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 | 0.02 |
| 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 |
| 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 |
| CW | 2268004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| CW | 2268005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 | 0.02 |
| 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 |
| 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 |
| 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 |
| CW | 2270000000 | Average | 0.081 | 0.081 | 0.075 | 0.075 | 0.075 | 0.101 | 0.101 | 0.101 | 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 | 0.027 |
| CW | 2270001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.070 |
| 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 |
| 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 | 0.02 |
| 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 |
| 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 |
| CW | 2270004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| CW | 2270005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 | 0.02 |
| 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 |
| 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 |
| 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 |
| 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 |
| CW | 2282000000 | Recreational Marine | 0.023 | 0.023 | 0.075 | 0.075 | 0.075 | 0.16 | 0.16 | 0.16 | 0.075 | 0.075 | 0.023 |
| 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 |
| MIDAT | 2260000000 | Average | 0.08 | 0.08 | 0.074 | 0.074 | 0.074 | 0.103 | 0.103 | 0.103 | 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 | 0.04 |
| MIDAT | 2260001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.072 |
| 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 |
| 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 | 0.02 |
| 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 |
| 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 |
| MIDAT | 2260004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| MIDAT | 2260005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 | 0.02 |
| 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 |
| 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 |
| 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 |
| MIDAT | 2265000000 | Average | 0.08 | 0.08 | 0.074 | 0.074 | 0.074 | 0.103 | 0.103 | 0.103 | 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 | 0.04 |
| MIDAT | 2265001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |

| SEASON.DAT | | | | | | | | | | | | | |
|------------|------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| MIDAT | 2265002000 | Construction | 0.072 | 0.072 | 0.079 | 0.079 | 0.079 | 0.098 | 0.098 | 0.098 | 0.098 | 0.085 | 0.085 |
| 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 |
| MIDAT | 2265004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| MIDAT | 2265004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2265004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2265005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| 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 |
| MIDAT | 2267000000 | Average | 0.08 | 0.08 | 0.074 | 0.074 | 0.074 | 0.103 | 0.103 | 0.103 | 0.103 | 0.074 | 0.074 |
| MIDAT | 2267001000 | Recreational Equipment | 0.04 | 0.04 | 0.078 | 0.078 | 0.078 | 0.137 | 0.137 | 0.137 | 0.137 | 0.078 | 0.078 |
| MIDAT | 2267001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2267002000 | Construction | 0.072 | 0.072 | 0.079 | 0.079 | 0.079 | 0.098 | 0.098 | 0.098 | 0.098 | 0.085 | 0.085 |
| 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 |
| MIDAT | 2267004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| MIDAT | 2267004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2267004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2267005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| 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 |
| MIDAT | 2268000000 | Average | 0.08 | 0.08 | 0.074 | 0.074 | 0.074 | 0.103 | 0.103 | 0.103 | 0.103 | 0.074 | 0.074 |
| MIDAT | 2268001000 | Recreational Equipment | 0.04 | 0.04 | 0.078 | 0.078 | 0.078 | 0.137 | 0.137 | 0.137 | 0.137 | 0.078 | 0.078 |
| MIDAT | 2268001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2268002000 | Construction | 0.072 | 0.072 | 0.079 | 0.079 | 0.079 | 0.098 | 0.098 | 0.098 | 0.098 | 0.085 | 0.085 |
| 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 |
| MIDAT | 2268004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| MIDAT | 2268004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2268004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2268005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| 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 |
| MIDAT | 2270000000 | Average | 0.08 | 0.08 | 0.074 | 0.074 | 0.074 | 0.103 | 0.103 | 0.103 | 0.103 | 0.074 | 0.074 |
| MIDAT | 2270001000 | Recreational Equipment | 0.04 | 0.04 | 0.078 | 0.078 | 0.078 | 0.137 | 0.137 | 0.137 | 0.137 | 0.078 | 0.078 |
| MIDAT | 2270001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2270002000 | Construction | 0.072 | 0.072 | 0.079 | 0.079 | 0.079 | 0.098 | 0.098 | 0.098 | 0.098 | 0.085 | 0.085 |
| 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 |
| MIDAT | 2270004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| MIDAT | 2270004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2270004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MIDAT | 2270005000 | Agricultural | 0.02 | 0.02 | 0.09 | 0.09 | 0.09 | 0.133 | 0.133 | 0.133 | 0.133 | 0.09 | 0.09 |
| 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 |
| 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 |
| 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 |
| 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 |
| MIDAT | 2282000000 | Recreational Marine | 0.007 | 0.007 | 0.068 | 0.068 | 0.068 | 0.19 | 0.19 | 0.19 | 0.19 | 0.068 | 0.068 |
| 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 |
| MW | 2260000000 | Average | 0.076 | 0.076 | 0.07 | 0.07 | 0.07 | 0.118 | 0.118 | 0.118 | 0.118 | 0.07 | 0.07 |
| MW | 2260001000 | Recreational Equipment | 0.027 | 0.027 | 0.077 | 0.077 | 0.077 | 0.153 | 0.153 | 0.153 | 0.153 | 0.077 | 0.077 |
| MW | 2260001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW | 2260002000 | Construction | 0.061 | 0.061 | 0.089 | 0.089 | 0.089 | 0.099 | 0.099 | 0.099 | 0.099 | 0.086 | 0.086 |
| MW | 2260003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.1 | 0.1 | 0.083 | 0.083 |
| MW | 2260004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.167 | 0.167 | 0.073 | 0.073 |
| 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 |
| 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 |
| MW | 2260004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW | 2260004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW | 2260005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.167 | 0.167 | 0.073 | 0.073 |
| 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 |
| 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 |
| 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 |

| SEASON.DAT | | | | | | | | | | | | |
|------------|------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| MW | 2265000000 | Average | 0.076 | 0.076 | 0.07 | 0.07 | 0.118 | 0.118 | 0.118 | 0.07 | 0.07 | 0.07 |
| MW | 2265001000 | Recreational Equipment | 0.027 | 0.027 | 0.077 | 0.077 | 0.077 | 0.153 | 0.153 | 0.077 | 0.077 | 0.077 |
| MW | 2265001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2265002000 | Construction | 0.061 | 0.061 | 0.089 | 0.089 | 0.099 | 0.099 | 0.099 | 0.086 | 0.086 | 0.086 |
| MW | 2265003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.083 | 0.083 | 0.083 |
| MW | 2265004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| 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 |
| 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 |
| MW | 2265004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2265004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2265005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| MW | 2265006000 | Light Commercial | 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 |
| MW | 2265008000 | Airport Service | 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 | 0.118 | 0.118 | 0.118 | 0.07 | 0.07 | 0.07 |
| MW | 2267001000 | Recreational Equipment | 0.027 | 0.027 | 0.077 | 0.077 | 0.077 | 0.153 | 0.153 | 0.077 | 0.077 | 0.077 |
| MW | 2267001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.086 | 0.086 | 0.086 |
| MW | 2267003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.083 | 0.083 | 0.083 |
| MW | 2267004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| 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 |
| 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 |
| MW | 2267004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2267004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2267005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| MW | 2267006000 | Light Commercial | 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 |
| MW | 2267008000 | Airport Service | 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 | 0.118 | 0.118 | 0.118 | 0.07 | 0.07 | 0.07 |
| MW | 2268001000 | Recreational Equipment | 0.027 | 0.027 | 0.077 | 0.077 | 0.077 | 0.153 | 0.153 | 0.077 | 0.077 | 0.077 |
| MW | 2268001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.086 | 0.086 | 0.086 |
| MW | 2268003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.083 | 0.083 | 0.083 |
| MW | 2268004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| 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 |
| 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 |
| MW | 2268004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2268004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2268005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| MW | 2268006000 | Light Commercial | 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 |
| MW | 2268008000 | Airport Service | 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 | 0.118 | 0.118 | 0.118 | 0.07 | 0.07 | 0.07 |
| MW | 2270001000 | Recreational Equipment | 0.027 | 0.027 | 0.077 | 0.077 | 0.077 | 0.153 | 0.153 | 0.077 | 0.077 | 0.077 |
| MW | 2270001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.086 | 0.086 | 0.086 |
| MW | 2270003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.083 | 0.083 | 0.083 |
| MW | 2270004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| 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 |
| 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 |
| MW | 2270004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2270004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| MW | 2270005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| MW | 2270006000 | Light Commercial | 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 |
| MW | 2270008000 | Airport Service | 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 |
| MW | 2282000000 | Recreational Marine | 0 | 0 | 0.05 | 0.05 | 0.05 | 0.233 | 0.233 | 0.05 | 0.05 | 0.05 |
| MW | 2285000000 | Railway Maintenance | 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 | 0.069 | 0.069 | 0.078 |
| NE | 2260001000 | Recreational Equipment | 0.047 | 0.047 | 0.07 | 0.07 | 0.07 | 0.146 | 0.146 | 0.07 | 0.07 | 0.07 |
| NE | 2260001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.086 | 0.086 | 0.086 |
| NE | 2260003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.083 | 0.083 | 0.083 |
| NE | 2260004000 | Lawn and Garden excl. chainsaws | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |
| 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 |
| 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 |
| NE | 2260004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| NE | 2260004036 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.333 |
| NE | 2260005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.073 | 0.073 | 0.073 |

| SEASON.DAT | | | | | | | | | | | | | |
|------------|------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 |
| 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 |
| 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 |
| NE | 2265000000 | Average | 0.078 | 0.078 | 0.069 | 0.069 | 0.069 | 0.117 | 0.117 | 0.117 | 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 | 0.047 |
| NE | 2265001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.059 |
| NE | 2265003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.1 | 0.083 | 0.083 | 0.067 |
| 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 | 0.02 |
| 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 |
| 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 |
| NE | 2265004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| NE | 2265005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.167 | 0.073 | 0.073 | 0.02 |
| 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 |
| 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 |
| 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 |
| NE | 2267000000 | Average | 0.078 | 0.078 | 0.069 | 0.069 | 0.069 | 0.117 | 0.117 | 0.117 | 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 | 0.047 |
| NE | 2267001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.059 |
| NE | 2267003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.1 | 0.083 | 0.083 | 0.067 |
| 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 | 0.02 |
| 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 |
| 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 |
| NE | 2267004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| NE | 2267005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.167 | 0.073 | 0.073 | 0.02 |
| 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 |
| 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 |
| 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 |
| NE | 2268000000 | Average | 0.078 | 0.078 | 0.069 | 0.069 | 0.069 | 0.117 | 0.117 | 0.117 | 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 | 0.047 |
| NE | 2268001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.059 |
| NE | 2268003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.1 | 0.083 | 0.083 | 0.067 |
| 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 | 0.02 |
| 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 |
| 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 |
| NE | 2268004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| NE | 2268005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.167 | 0.073 | 0.073 | 0.02 |
| 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 |
| 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 |
| 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 |
| NE | 2270000000 | Average | 0.078 | 0.078 | 0.069 | 0.069 | 0.069 | 0.117 | 0.117 | 0.117 | 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 | 0.047 |
| NE | 2270001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.059 |
| NE | 2270003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.1 | 0.083 | 0.083 | 0.067 |
| 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 | 0.02 |
| 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 |
| 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 |
| NE | 2270004035 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.333 |
| NE | 2270005000 | Agricultural | 0.02 | 0.02 | 0.073 | 0.073 | 0.073 | 0.167 | 0.167 | 0.167 | 0.073 | 0.073 | 0.02 |
| 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 |
| 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 |
| 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 |
| 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 |
| NE | 2282000000 | Recreational Marine | 0.003 | 0.003 | 0.052 | 0.052 | 0.052 | 0.23 | 0.23 | 0.23 | 0.052 | 0.052 | 0.003 |
| 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 |
| NW | 2260000000 | Average | 0.077 | 0.077 | 0.071 | 0.071 | 0.071 | 0.113 | 0.113 | 0.113 | 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 | 0.043 |
| NW | 2260001020 | Snowblowers/Snowmobiles | 0.333 | 0.333 | 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 | 0.069 |
| NW | 2260003000 | Industrial | 0.067 | 0.067 | 0.083 | 0.083 | 0.083 | 0.1 | 0.1 | 0.1 | 0.083 | 0.083 | 0.067 |
| 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 | 0.02 |
| 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 |
| 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 |

| SEASON.DAT | | | | | | | | | | | | | |
|------------|------------|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 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 |

| SEASON.DAT | | | | | | | | | | | | | |
|------------|------------|---------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 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 |
| WCST | 2270004035 | Snowblowers/Snowmobiles | 0.2 | 0.2 | 0.18 | 0.06 | 0.02 | 0 | 0 | 0 | 0 | 0 | 0.14 |
| WCST | 2270004036 | Snowblowers/Snowmobiles | 0.2 | 0.2 | 0.18 | 0.06 | 0.02 | 0 | 0 | 0 | 0 | 0 | 0.14 |
| 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 |
| 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 |
| 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 |
| 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 |
| 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 |
| WCST | 2282000000 | Recreational Marine | 0.023 | 0.023 | 0.075 | 0.075 | 0.075 | 0.16 | 0.16 | 0.16 | 0.075 | 0.075 | 0.023 |
| 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 |
| US | 2260001000 | | 0.0422 | 0.0422 | 0.0777 | 0.0785 | 0.0793 | 0.1330 | 0.1330 | 0.1330 | 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 | 0.3321 |
| US | 2260002000 | | 0.0699 | 0.0699 | 0.0848 | 0.0848 | 0.0848 | 0.0941 | 0.0941 | 0.0941 | 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 | 0.0764 |
| US | 2260004000 | | 0.0240 | 0.0251 | 0.0865 | 0.0865 | 0.0874 | 0.1354 | 0.1354 | 0.1354 | 0.0874 | 0.0865 | 0.0251 |
| US | 2260004016 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2260004020 | | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 |
| US | 2260004021 | | 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 | 0.0280 |
| US | 2260004031 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2260004035 | | 0.3308 | 0.3308 | 0.0035 | 0.0012 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3308 |
| US | 2260004036 | | 0.3298 | 0.3298 | 0.0048 | 0.0016 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3298 |
| US | 2260004071 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2260005000 | | 0.0210 | 0.0210 | 0.0817 | 0.0817 | 0.0824 | 0.1488 | 0.1488 | 0.1488 | 0.0824 | 0.0814 | 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 |
| US | 2260007000 | | 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 |
| US | 2265001000 | | 0.0419 | 0.0419 | 0.0778 | 0.0786 | 0.0794 | 0.1332 | 0.1332 | 0.1332 | 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 | 0.0407 |
| US | 2265002000 | | 0.0699 | 0.0699 | 0.0848 | 0.0848 | 0.0848 | 0.0941 | 0.0941 | 0.0941 | 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 | 0.0764 |
| US | 2265004000 | | 0.0240 | 0.0251 | 0.0865 | 0.0865 | 0.0874 | 0.1354 | 0.1354 | 0.1354 | 0.0874 | 0.0865 | 0.0251 |
| US | 2265004011 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004016 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004026 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004031 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004035 | | 0.3308 | 0.3308 | 0.0035 | 0.0012 | 0.0004 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3308 |
| US | 2265004036 | | 0.3298 | 0.3298 | 0.0048 | 0.0016 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3298 |
| US | 2265004041 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004046 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004051 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004056 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004066 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004071 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265004076 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2265005000 | | 0.0210 | 0.0210 | 0.0817 | 0.0817 | 0.0824 | 0.1488 | 0.1488 | 0.1488 | 0.0824 | 0.0814 | 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 |
| US | 2265007000 | | 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 |
| US | 2265010010 | | 0.0823 | 0.0823 | 0.0769 | 0.0765 | 0.0765 | 0.0980 | 0.0980 | 0.0980 | 0.0764 | 0.0763 | 0.0823 |
| US | 2267001060 | | 0.0419 | 0.0419 | 0.0778 | 0.0786 | 0.0794 | 0.1332 | 0.1332 | 0.1332 | 0.0794 | 0.0794 | 0.0427 |
| US | 2267002000 | | 0.0699 | 0.0699 | 0.0848 | 0.0848 | 0.0848 | 0.0941 | 0.0941 | 0.0941 | 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 | 0.0764 |
| US | 2267004066 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2267005000 | | 0.0210 | 0.0210 | 0.0817 | 0.0817 | 0.0824 | 0.1488 | 0.1488 | 0.1488 | 0.0824 | 0.0814 | 0.0210 |
| US | 2267006000 | | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 |
| US | 2267008000 | | 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 | 0.0699 |
| US | 2268003000 | | 0.0764 | 0.0764 | 0.0832 | 0.0832 | 0.0832 | 0.0905 | 0.0905 | 0.0905 | 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 | 0.0210 |
| US | 2268006000 | | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 | 0.0833 |
| US | 2268010010 | | 0.0823 | 0.0823 | 0.0769 | 0.0765 | 0.0765 | 0.0980 | 0.0980 | 0.0980 | 0.0764 | 0.0763 | 0.0823 |
| US | 2270001060 | | 0.0419 | 0.0419 | 0.0778 | 0.0786 | 0.0794 | 0.1332 | 0.1332 | 0.1332 | 0.0794 | 0.0794 | 0.0427 |
| US | 2270002000 | | 0.0699 | 0.0699 | 0.0848 | 0.0848 | 0.0848 | 0.0941 | 0.0941 | 0.0941 | 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 | 0.0764 |
| US | 2270004031 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2270004036 | | 0.3298 | 0.3298 | 0.0048 | 0.0016 | 0.0005 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3298 |
| US | 2270004046 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2270004056 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |
| US | 2270004066 | | 0.0263 | 0.0280 | 0.0878 | 0.0878 | 0.0893 | 0.1298 | 0.1298 | 0.1298 | 0.0893 | 0.0878 | 0.0280 |

| | | SEASON.DAT | | | | | | | | | | | |
|----|------------|------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 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 |

SEASON.DAT

| | | | |
|------------|---------------------------------|-----------|-----------|
| 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 |

/END/

Appendix A-3

Emission Factors for Locomotives



Technical Highlights

Emission Factors for Locomotives

The Environmental Protection Agency (EPA) has established emission standards for oxides of nitrogen (NO_x), 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 NO_x 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/locomotiv.htm>

or by calling (734) 668-4333.

| Year | (g/bhp-hr) | | | | (g/gal) | | | |
|------|------------|------|-------|------|---------|------|-------|-----|
| | 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 | 0.35 | 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 Scraper | | 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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> <p>Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles</p> | | | |

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 |
| <p>(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1</p> <p>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</p> <p>(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.</p> <p>(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)</p> | | | | | | | | | | | | | |

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 |
| <p>(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.</p> <p>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</p> <p>(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.</p> <p>(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)</p> | | | | | | | | | | | | | |

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 |
| <p>(1) Total daily usage for each unit is provided in the table</p> <p>(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.</p> <p>(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.</p> <p>(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)</p> | | | | | | | | | | | | | | | |

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 |
| <p>(1) Total annual usage for each unit is provided in the table</p> <p>(2) Load factors from Appendix A of "Median Life, Annual Activity, and Load Factor Values for Nonroad Engine Emissions Modeling", EPA, 2004.</p> <p>(3) Emission Factors for Locomotives. EPA420-F-97-051. U.S. EPA December 1997</p> <p>(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)</p> | | | | | | | | | | | | | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> <p>Mix Trucks (miles/day) - 20 trucks/day x 10 trips/truck x 3 miles/trip = 600 miles</p> | | | |

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 |
| <p>(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1</p> <p>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</p> <p>(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.</p> <p>(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)</p> | | | | | | | | | | | | | |

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 |
| <p>(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.</p> <p>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</p> <p>(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.</p> <p>(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)</p> | | | | | | | | | | | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> | | | |

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 |
| <p>(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1</p> <p>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</p> <p>(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.</p> <p>(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)</p> | | | | | | | | | | | | | |

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 |
| <p>(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.</p> <p>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</p> <p>(3) The vehicle emission factors for the Delivery Trucks were estimated based on a speed of 2.5 mph.</p> <p>(4) Emission Factor (gm/hr) x Idling Time (hr) x 0.002205 (lb/gm) = Actual Emissions (lb/day)</p> | | | | | | | | | | | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> | | | |

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 | |
| <div>(1) Daily mileage is for all the vehicles in a vehicle category. Input the appropriate mileage estimated in Section 1.4.1</div> <div>(2) U.S. EPA's MOBILE 6.2 model was used to calculate vehicle emission factors.</div> <div>(3) The vehicle emission factors for the Concrete and Delivery Trucks were estimated based on a speed of 10 mph.</div> <div>(4) Emission Factor (gm/mile) x Daily Mileage x 0.002205 (lb/gm) = Actual Emissions (lb/day)</div> | | | | | | | | | | | | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> <p>Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles</p> | | | |

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 - HDDDV | 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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> <p>Mix Trucks (miles/day) - 30 trucks/day x 10 trips/truck x 3 miles/trip = 900 miles</p> | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> <p>Mix Trucks (miles/day) - 20 trucks/day x 10 trips/truck x 3 miles/trip = 600 miles</p> | | | |

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 |
| <p>(1) HDDV - Heavy-Duty Diesel Vehicles with a GVWR exceeding 8500 pounds</p> <p>(2) Delivery Trucks (miles/day) - 25 trucks/day x 5 miles/truck/day = 125 miles</p> | | | |

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 Description | 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 Exca & 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 Well Pumps | 100 | 81 | 100 | 100 | 100 | 100 | | | | 94 | 1 | 5 |
| Cat 623 Scraper | 1 | 84 | 1 | 1 | 1 | 1 | | | | 1 | | |
| Cat 320 / EX300 Excavator | 1 | 81 | 1 | 1 | 1 | 1 | | | | 1/3 | 1/3 | 1/3 |
| Cat. 450E Backhoe | 4 | 78 | 4 | 4 | 4 | 4 | | | | 3 | 1/2 | 1/2 |
| Cat. 416E Backhoe | 2 | 78 | 2 | 2 | 2 | 2 | | | | 1 | 1/2 | 1/2 |
| Misc.SSWN Dist Maintenance 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 | 1 | | |
| Construction Electric Elevator | 1 | 83 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | |
| Welding Machine 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 | 1/2 | 1/2 | |
| Rubber Tire Bobcat | 1 | 78 | 1 | 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 | | 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 Motor 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 trailer | 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 |

Approx. 42 mo.Duraton from Nuclear Island 1st Concrete to Construction Completion

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: _____

CH2MHILL

NUCLEAR BUSINESS GROUP CONTROLLED DOCUMENT
THE INFORMATION IN THIS DOCUMENT IS PROPRIETARY AND COMPANY CONFIDENTIAL

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.

Arun Kapur
TPP 15A5
Raleigh, NC 27602
arun.kapur@pgnmail.com
(919) 546-5285

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 | 1/2 TYPICAL | 1/4 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.