

EPA National Nonroad Emissions Inventory Model (NONROAD)

Mobile Source Present and
Future Models Workshop

Ann Arbor, Michigan

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Today's Focus

- Update on Recent Model Revisions
- Provide Basis for 1999 NEI Final v.2 and NEI/HAPS Draft v.3

Agenda

- Introduction
- Technical Developments
 - Model Results
 - Default Inputs
- Code Modifications
- Geographic Allocations
- Sensitivity Analysis
- Model Release and Guidance
- Questions and Answers

NONROAD Team

- Office of Transportation and Air Quality
 - Assessment and Standards Division
 - Penny Carey
 - Craig Harvey
 - Greg Janssen
 - Jim Warila
 - Rich Wilcox

Model Overview

- Stand Alone (*No User Data Necessary*)
- All Nonroad Sources
(*except locomotives, aircraft and commercial marine*)
- Differentiated by Equipment Type and Other Characteristics
- HC, CO, NO_x, PM, SO_x, CO₂
- Fuel Consumption

Model Overview

- Past, Present and Future Year Inventories
- Temporal Allocation
- Geographic Allocation

Model Overview

- Graphical User Interface (Visual Basic)
 - Scenario definition
- Core Model (Fortran)
 - Calculations
- Reporting Utility (Microsoft Access)
 - Output content selection

Model Overview

- Input Options
 - Year
 - Temporal Period
 - Geographic Area
 - Equipment Types
 - Fuel Characteristics
 - (altitude unused)

Model Overview

- Output Options
 - ASCII File
 - Pre-formatted MS Access Reports
 - Access not required
 - Access database
 - Excel Spreadsheet

Model Overview

- Pre-Formatted Reports
 - By County
 - By Source Category
 - By Equipment type/code
 - By Horsepower

Model Overview

Exhaust Emissions Calculation

$$I = EF \cdot DF \cdot Act \cdot LF \cdot RP \cdot Pop$$

I = Exhaust Emissions Inventory (ton/year)

EF = Emission Factor (g/hp-hr)

DF = Deterioration Factor

Act = Activity (hours/year)

LF = Load Factor

RP = average rated power (hp)

Pop = Equipment population (units)

Future Model Enhancements

- New Reports
 - NIF Reporting Format
 - By County for Multi-County Scenarios
- Add Rec Equip/Lg SI Final Rules
- Add SI Fuel Permeation Emissions
- Expand GSE Equipment Types
- Incorporate Data from New Sources