

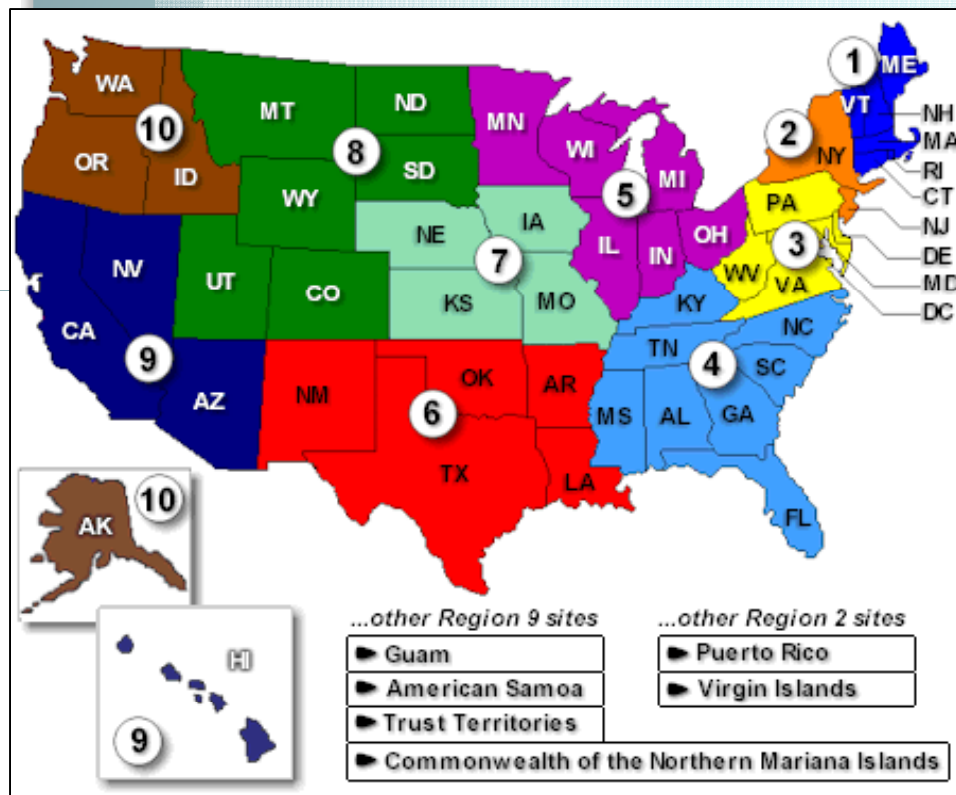
Emissions Inventories and Implementing the Clean Air Act in EPA Region 4

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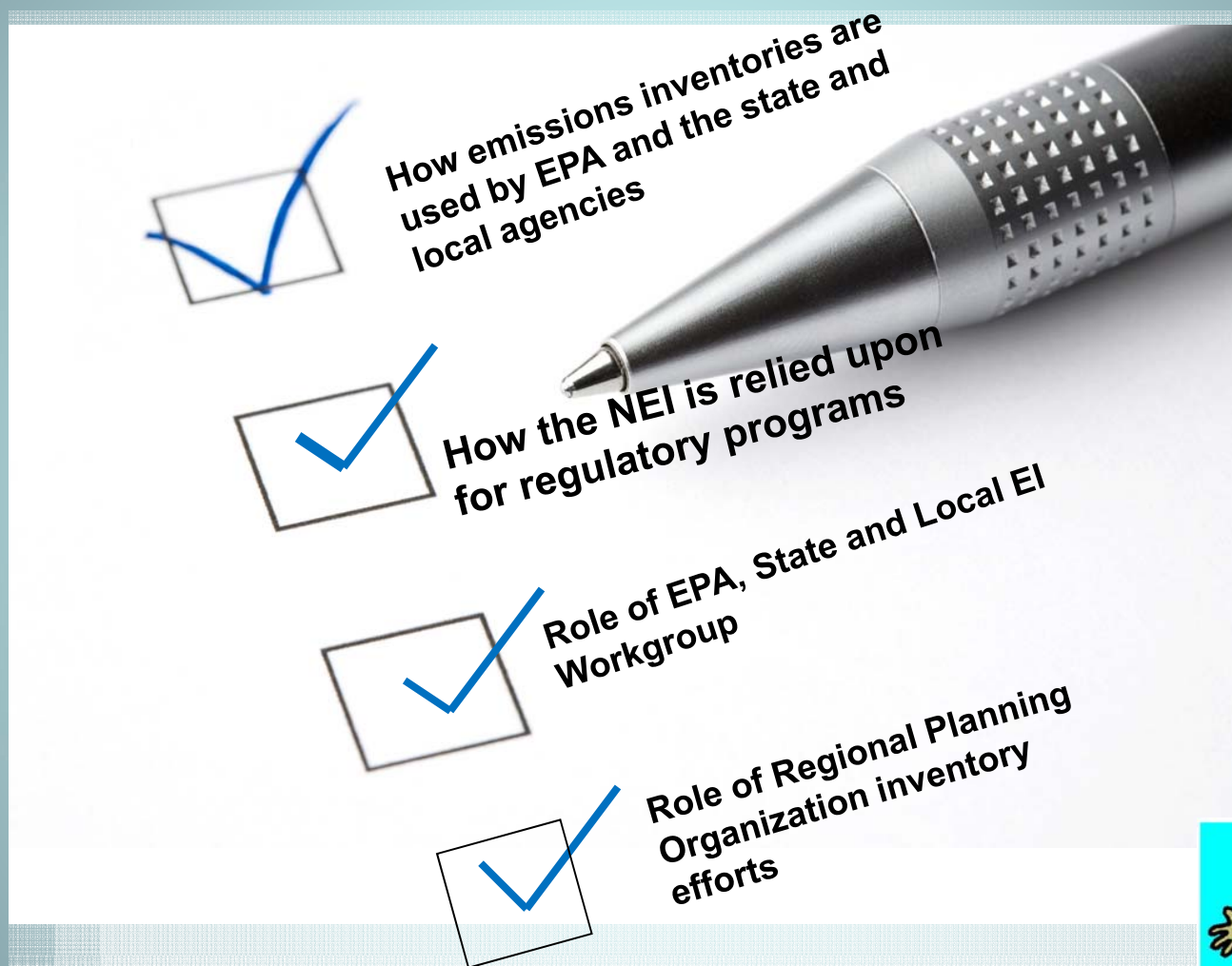
U.S. Environmental Protection Agency



Lisa Jackson
EPA Administrator

EPA's Mission Is To Protect Human Health And The Environment

The Approach....



EPA Region 4- APTMD

- **Our primary mission is to provide technical, enforcement, and regulatory support to many internal and external customers.**
- **One major goal is to ensure compliance with the Agency's health and welfare standards (NAAQS) through monitoring, air quality assessments, permitting, and development of voluntary and mandatory control options and measures.**
- **The Air, Pesticides and Toxics Management Division is comprised of a diverse group of specialized personnel.**

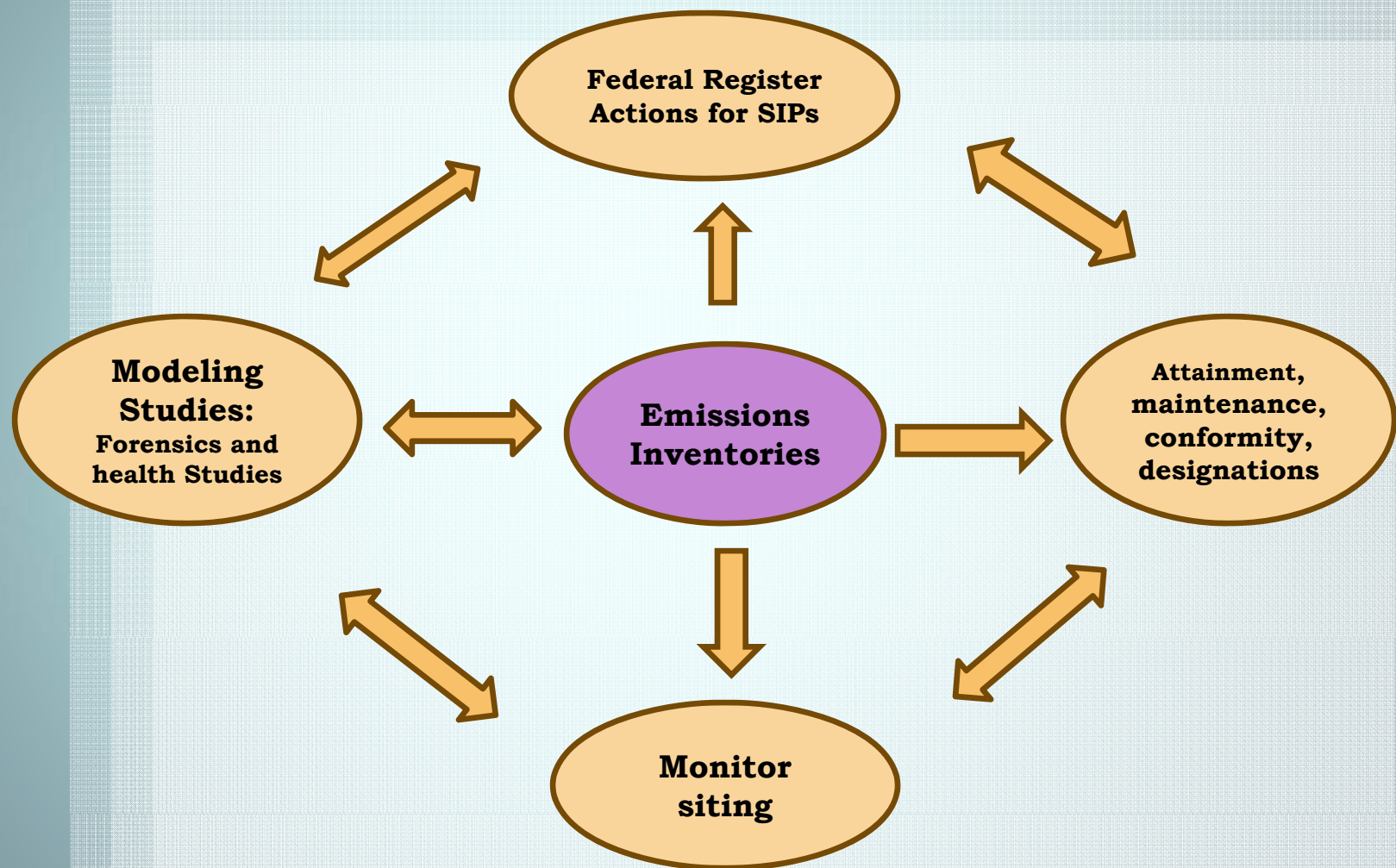


Emissions Inventories

- ☐ **A current, comprehensive and accurate emissions inventory is essential for the development of the State Implementation Plan (SIP) and a regulatory program.**
 - ☐ **You cannot control or regulate what you don't know or does not exist.**
- ☐ **Effective evaluation, management and control of emissions by States through SIPs, permits, and technical analyses can result in compliance with EPA's air quality health and welfare standards.**
 - ☐ **Emissions decreases should result in air quality improvements.**
- ☐ **The submittal of an accurate assessment and inventory of emissions in a state for a SIP, permit, or technical demonstration are critical in EPA's regulatory actions and programs.**
 - ☐ **Required by Clean Air Act, Air Emissions Reporting Rule, Implementation plans, etc.**



EPA Region 4's Use of NEIs



- **Attainment SIP**

- Evaluation for the entire NAA
- Identification and Evaluation of Precursors
- Technical Adequacy of Attainment Demonstration
- SIP Attainment **Emission Inventory**
- Reasonable Further Progress Demonstration
- RACT/RACM
- Contingency Measures
- Conformity (Motor Emission Vehicle Budgets)
- Enforceability

- **110(a)(1) Maintenance SIP**

- Evaluation for the entire area
- Attainment **Emission Inventory**
- Maintenance Demonstration
- Ambient Air Quality Monitoring
- Verification of Continued Attainment
- Contingency Plan

- **Modeling Demonstration**

Conceptual Description

Modeling/Analysis Protocol

Emissions Inventory Preparations and Results

Air Quality/Meteorology Preparations and Results

Performance Evaluation for Air Quality Model (and Other Analyses)

Description of the Strategy Demonstrating Attainment

Supplemental Analyses/Weight of Evidence Determination

Data Access

- **Redesignation (175A)**

- Evaluation for the entire nonattainment areas
- EPA determined NAAQS has been attained
- SIP fully approved by EPA under §110(k)
- Improvement in AQ due to Enforceable and permanent reductions in emissions
- State has met all applicable §110 & Part D requirements
 - Plus Conformity i.e., (Motor Emission Vehicle Budgets, MVEB)
- EPA has fully approved Maintenance Plan under §175A
 - Attainment **Emission Inventory**
 - Maintenance demonstration
 - Commitment to continue monitoring network
 - Verification of Continued Attainment
 - Contingency Plan

Emissions Inventory Requirements

Types of Emissions Inventories

- **Emissions inventories used by EPA, the States and Local Agencies are varied.**

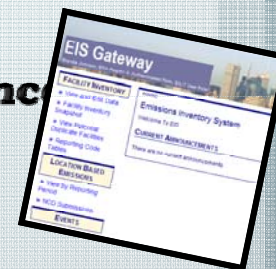
- **NEI – National Emissions Inventory**

- **Statewide emissions submitted directly to EPA through the Emissions Inventory System (EIS)**
- **No public notice or documentation requirement**
- **Complies with Air Emission Reporting Regulation (AERR)**

- **SIP Emissions Inventory**

- **Must undergo the public notice process**
- **Extensive and detailed documentation**
- **Only addresses the nonattainment or maintenance area**

- **Modeling Inventories**

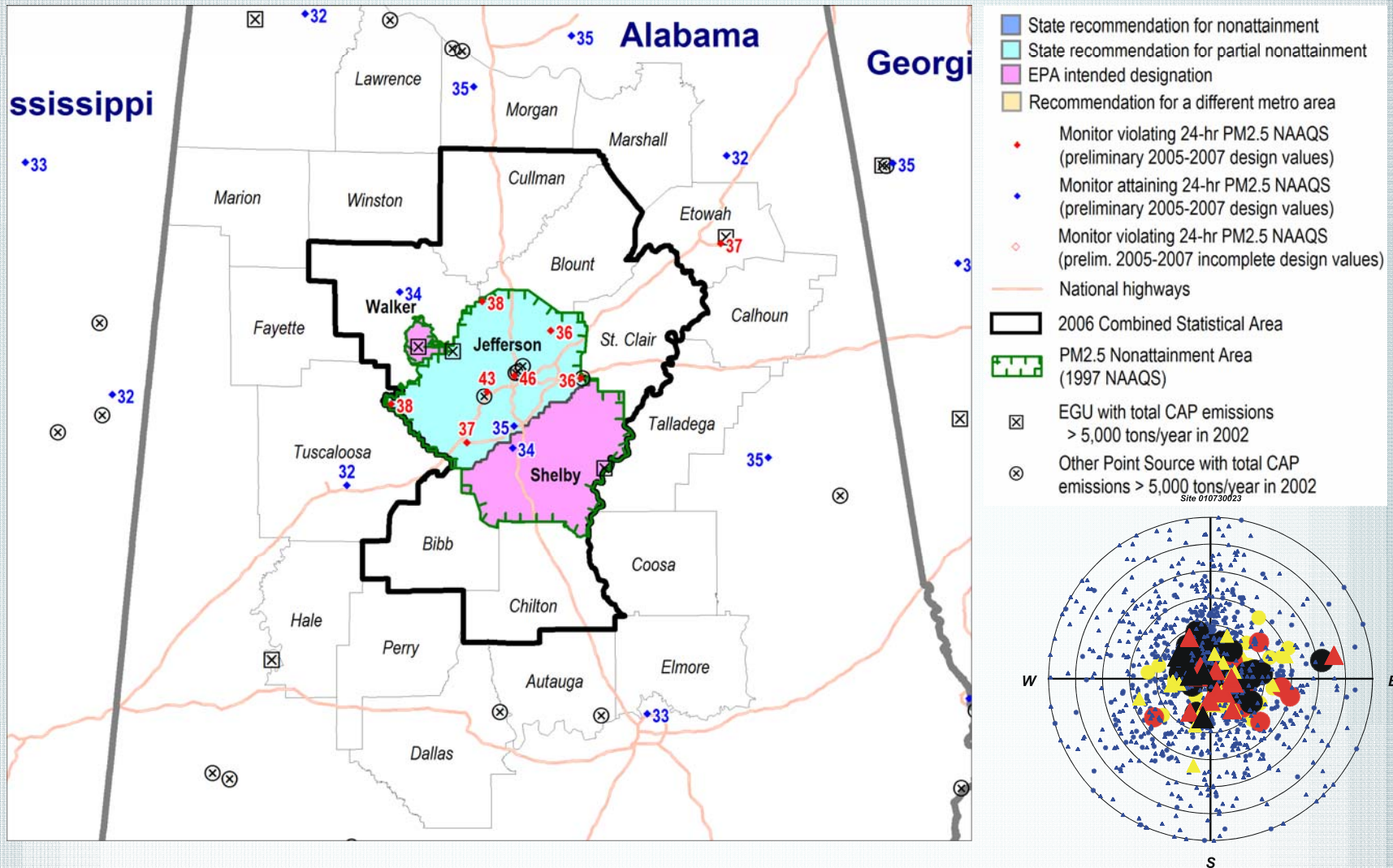


Emissions and Designations

- ❑ EPA and states have used five (5) factors in the determination of ozone nonattainment area designations and nine (9) factors for the PM_{2.5} designations
- ❑ Stationary point and vehicle miles travelled (VMT) emissions data used from most recent and available NEI are used.
- ❑ The emissions analysis factor is an examination of the contributions of ozone and PM_{2.5} precursors emissions.
- ❑ The emissions analysis can indicate the potential for a county/area to contribute to violations at an ambient air quality monitor.

Designations

Birmingham, AL



Counties labeled in bold reflect PM_{2.5} NAAs under 2006 NAAQS

Modeling: Forensic and Health Studies



- **The NEI is a good resource to obtain emission and modeling data for EPA Region 4.**

- **The NEI is sometimes used as a source of emissions and data for modeling past operations of facilities in compliance and enforcement cases**

- **Risk assessment air modeling studies benefit from criteria and hazardous air pollutant data obtained from the NEI.**



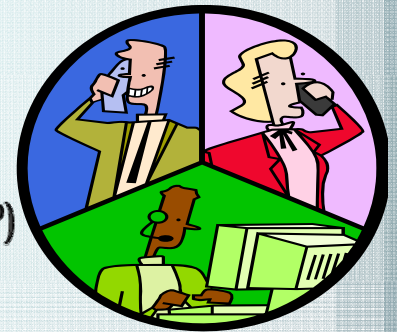
Monitoring and the NEI

- ❑ Monitors can be sited using emissions, wind data and / or modeling
- ❑ Monitoring regulations require the use of NEI or other scientifically justifiable methods and data for the lead (Pb) monitoring network
 - See 40 CFR Part 58, Appendix D, paragraph 4.5(a)
- ❑ EPA modified the SO₂ NAAQS and associated network design criteria on June 2, 2010.
 - The new rule requires operation of monitors in populated areas with high SO₂ emissions by January 1, 2013.
 - 2008 NEI was used to identify largest emitters to site monitors for source-oriented pollutants
 - To implement the monitoring requirements of the new rule, EPA developed the population weighted emissions index (PWEI) to determine if SO₂ monitoring is required within a metropolitan statistical area.



Region 4 E I Workgroup

- Calls with EPA Region 4, States, and Local agencies are held quarterly with emissions inventory contacts
- A way to share experiences, new EI updates and information on planning related items
- Excellent way to use EI experts in assisting state/local personnel
- Example topics from past calls:
 - EI Quality Assurance Planning Project (QAPP)
 - EI documentation and EIS Submittals
 - Condensable particulate matter, MOVES model
 - Quantifiable, enforceable, real, permanent and surplus (QERPS) emissions



- **SouthEastern Modeling, Analysis, and Planning (SEMAP) Project**

- **Managed through Southeastern States Air Resource Managers (SESARM)**
- **Participating States: AL, FL, GA, KY, MS, NC, TN, VA, WV**
- **Same group of states that were involved with SAMI, VISTAS, and ASIP**
- **Inventories have been used in SIP and EIS submittals**

Provides assistance to states in the development of emissions inventories, documentation and other technical products

Reconciling RPO Inventories with 2008 NEI

- ❑ The RPO inventories can be different (i.e., higher or lower in magnitude) than the NEI.
- ❑ The RPO inventories represent actual, typical, and projected (future) emissions
 - ❑ Actual RPO emissions for most stationary point emissions are used for baseline modeling and for some states to use in their NEI submittals
 - ❑ Typical emissions are developed for electrical generating units and wildfires
 - ❑ Projected emissions are developed for assessments for future compliance with NAAQS or visibility
 - ❑ NEI represents actual emissions

For Questions contact...

