

# **Enhancing EPA Region 4's Emission Inventory for Air Toxics**

**Egide Louis, Ph.D. and Kenneth L. Mitchell, Ph.D.**  
**U.S. Environmental Protection Agency, Region 4**  
**61 Forsyth Street, SW., Atlanta, GA 30303**  
**Louis.egide@epa.gov**

## **ABSTRACT**

This paper reports the results of an analysis of hazardous air pollutant (HAP) national emission inventory (NEI) activities within EPA Region 4. EPA Region 4 conducted this analysis in conjunction with its state, local, tribe air agencies (SLTs). The goal was to identify the status of data quality and reporting by Region 4 SLT to the national HAP NEI and to develop a strategy to improve the process. We found that SLTs differed in the number of air toxics reported to the NEI, categories of sources from which these emissions were collected, and in the schedule and time of reporting. Suggestions to address these issues for a consistent and accurate air emissions inventory in EPA Region 4 have been developed and are under consideration for enhancing the Regional HAP NEI over time.

## **INTRODUCTION**

The EPA Consolidated Emissions Reporting Requirements (CERR) of 2002 and later the Air Emissions Reporting Requirements (AERR) of 2008 (73 FR 76539) require the collection and reporting of emissions from criteria air pollutants. However, no regulation requires SLTs to collect and report air toxics emissions. As a result, EPA Region 4's NEI, like in other regions of the country, is currently compiled from voluntary information submitted by air agencies supplemented with data developed in-house by EPA (e.g., Toxic Release Inventory data). The air toxics data in the HAP NEI have several critically important applications including development of air toxics regulations and exposure assessment at national, regional, and local scales. They are also used to track trend/progress in emissions from point, nonpoint, and mobile sources, and to site ambient monitors. NEI users need data that are collected and reported consistently and accurately from place to place, and with consistent QA/QC protocols.

## **BODY**

A workgroup of EPA Region 4 staff and SLTs was created and tasked to develop a strategy to enhance the Region's air toxics emission inventory. The workgroup sought to understand 1) what, when, and how SLTs reported their emissions; 2) the most critical changes that are needed to improve the quality of data and the consistency of submissions; and 3) a path forward to achieve these changes over time. The following timetable was developed to pursue these issues:

- December 2007: Convened EPA Region 4 SLT air toxic inventory contacts to form a Workgroup;
- March 2008: Workgroup members designed and administered questions to SLTs to evaluate data quality and their process of data submission;
- May – July 2008: Analyzed results; and
- August/September 2008: Developed suggestions/recommendations for a path forward.

The following are the questions used and a summary of responses to those questions:

1. How many air toxics do you report to the HAP NEI?
  - SLTs differ in the number of air toxics reported, with 88% reporting all 187 HAPs or more.
2. What types of emissions are reported to the HAP NEI (actual, potential, or maximum)?
  - Most SLTs report actual emissions (92%). One state reports potential emissions while another reports actual, potential, or maximum emissions.
3. What categories of sources are covered in your report?
  - Most SLTs report emissions only from point sources (71%). The remaining SLTs report emissions from point, nonpoint and mobile sources (21%), point and nonpoint sources (4%), and point and mobile sources (4%). In general, point source emissions reported are from the Clean Air Act Title V major sources only.
4. What are your Thresholds for Reporting?
  - Eighty three (83) percent of SLTs collect and report all amounts of air toxics without a minimum limit for reporting.
5. How often do you collect/update emissions inventory?
  - Fifty eight (58) percent of SLTs collect/update emissions annually while 42 % collect and report every three years.
6. When do you submit your air toxics emissions report to EPA?
  - By June 1 for most SLTs.
7. Is there an SLT regulation that requires you to collect and submit this data?
  - The answer was yes for 67% of SLTs.
8. Will you be collecting air toxics emissions data in 2008 and reporting to NEI?
  - The answer was yes for 68% of SLTs.
9. Will you be collecting/updating and reporting air toxics emissions data every year after 2008?
  - The answer was yes for 80% of SLTs but most of them will be reporting only for major point sources.

## **CONCLUSIONS**

Most of the differences between SLTs are in the number of air toxics collected and reported to NEI, the categories of sources from which these emissions are obtained, and the schedule and time of reporting to the NEI. As a result, the following suggestions have been put forward for developing a more accurate and consistent HAP emissions inventory in EPA Region 4.

- EPA Region 4 SLTs should collect and report actual emissions from all sources (point, nonpoint, and mobile) and for the same number of HAPs (187). From 2008 and forward;
- Emissions should be collected/updated and reported by June 01 of the following year (or on a schedule determined by OAQPS).

Ultimately, a mandatory program requiring the collection and reporting of HAP emissions to NEI will be needed to ensure the development of consistent, high-quality, data reported in a timely fashion for use by EPA, SLTs, and other stakeholders as they work to understand and mitigate the impacts of air toxics emissions in the United States.

**KEYWORDS:** air toxics; hazardous air pollutants (HAPs), emissions inventory, national emissions inventory for HAPs; emission inventory scheduling/reporting.

**ACKNOWLEDGEMENTS:** The authors would like to thank Christopher Jones, who worked on the Project while an EPA EIP intern.