



Design of an Inter-RPO Emissions Inventory Warehouse System

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Technical Oversight Committee

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Outline

- Background
- Identify Issue/ Challenge
- Web-based solution
- Solution requirements
- Design of warehouse solution to meet RPO needs



Regional Planning Organizations

- Established in 1999
 - MANE-VU
 - CENRAP
 - MWRPO
 - VISTAS
 - WRAP
- Support states in improving visibility in Class I areas



Introduction and Background

- Inventory Development/Sharing
 - Source types: point, area, nonroad, onroad, and biogenic sources
 - RPOs have developed 2002 Baseline Photochemical Modeling Inventory
 - PM_{2.5}, Regional Haze and Ozone State Implementation Plans (SIPs)



Issue/ Challenge



Challenge

- Inventories are continually updated
 - Each RPO has several versions of each inventory
- Making the most up-to-date, quality assured inventory available to large user community is difficult



Solution



Warehouse Solution

- Inter-RPO Emissions Inventory Warehouse
 - Web-based application to store and share inventory and associated data



Warehouse Requirements

- Easy and accessible data upload and download
 - Notify users in timely manner
- Track versions of inventories
- Secure Data Storage and Transmittal
- Low system operating and maintenance costs



Required Data Formats and Files

- NIF Records (all sources)
- RPO Data Exchange Protocol Files
 - Mobile emissions files
 - Continuous emissions monitoring (CEM) files
 - Temporal allocation and profile assignment files
 - Spatial surrogate files
 - Chemical speciation files
 - Growth and control factor files



Required Data Formats and Files

- Nonroad model inputs
- MOBILE6 model inputs
- NMIM inputs



Website Design



Web Site Functionality

- Upload
 - Load files to be stored in the database or file management server
- Download
 - Search for and download files stored and managed by the web site
- Maintenance
 - Manage users and modify limited portions of the website content



Web Site Functionality

- Reporting
 - Summarize and retrieve inventory data stored in the database
 - Reports include
 - Emissions summaries
 - Top 10 sources
 - Threshold Reports: sources that exceed pollutant and stack thresholds.
 - Reports can be generate for a subset of an inventory based on source type, geographic location, SCC level 1 or SCC level 2, pollutant, and stack parameters



User Groups

- Uploaders
 - Specifically designated by each RPO; read and write access
- General Public
 - View, report on, and download data and files; read-only access
- Administrators
 - Site maintenance user management, etc.; read and write access



Web Site Architecture

Open Source Solution

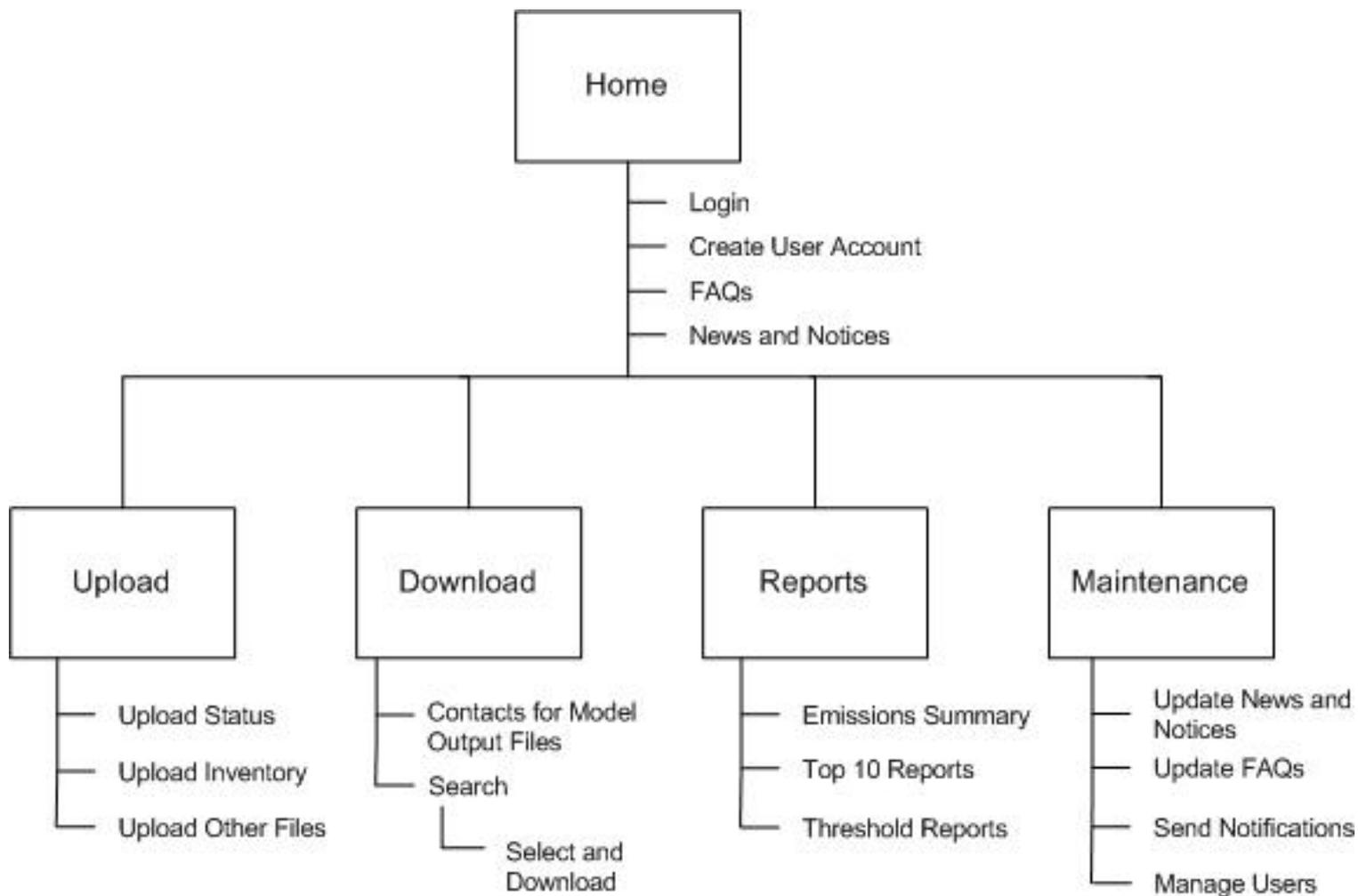
- Database: PostgreSQL

www.postgresql.org

- Procedural Language: PL/pgSQL
- Web interface: Java Server Pages (JSP)
- Servers: Linux, Apache



Web Site Map





Welcome to the Inter-RPO Emissions Inventory Warehouse

News & Notices:

[Baseline RPO Inventory available](#)

[MARAMA Inventory Version 2 now available](#)

[Call for 2009 Projection data submissions](#)

Development and maintenance of this site is funded by CENRAP, LADCO, MANEVU, MARAMA, MRPO, VISTAS, and WRAP.

Frequently Asked Questions

About the RPO Emissions Inventory Warehouse System

Welcome to the Inter-RPO Emissions Inventory Warehouse. We developed this site to organize and share up-to-date and quality-assured emissions inventory files, model input files, and ancillary files. You can summarize and download emissions inventory data or download model input and other files associated with a specific version of an inventory.

Files may be available in RPO Data Exchange Protocol (DEP) or a variety of other formats.

Login to get started with emissions inventory reporting and file downloading.

Users Login Here:

Username:

Password:

Would you like to create an account?

Did you forget your username/ password?



Welcome

Welcome to the Inter-RPO Emissions Inventory Warehouse. Click on one of the options above to get started.



Maintenance ▾

Download ▾

Upload ▾

Reports ▾

Logout



Upload Data and Files

← Upload Emissions Inventory Files

Upload files in the RPO DEP format that are consistent with NIF 3.0 format.

← Upload Related Inventory or Model Files

Upload other RPO DEP files, model input files, control strategy files, or other files associated with an inventory.

← File Upload Status

View the status of the files going through the uploaded process.

← Version Summary

View a listing of all files associated with an inventory version. Designate a version as ready for public release.



Inter-RPO Logo

[Maintenance](#) ▾

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Upload Emissions Inventory Files

Select/Enter upload criteria (* required):

File Name: *

Source Type: *

File Type: *

File Format: *

ASCII Text: **MS Access:**

Compression Format:

Zip

Description: *

Year:

Geographic Location:

RPO:

Tribe:

State:

County:

Reference URL:

Inventory Version: *

New:

Update:

Description of Update: *



Maintenance ▾

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Logout



Download Files

Enter search criteria:

[Model Output File Contacts](#)

File Type: ▾

Source Type: ▾

File Name:

Description:

Year: ▾

Inventory Version: ▾

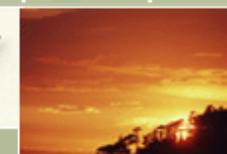
Enter one or more words
that might be in the description

Geographic Location: **RPO:** ▾

Tribe: ▾

State: ▾

County: ▾



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Reports

↶ Emissions Summary

Generate emissions summary reports by inventory, sector, geographic location, source classification code (SCC), pollutant, time period, unit of measure

↶ Top 10 Emission Sources

Generate a listing of Top 10 emissions sources by inventory, sector, geographic location, source classification code (SCC), pollutant, time period unit of measure

↶ Threshold Reports

Generate a report using pollutant thresholds for non-point sources, or a combination of pollutant and stack thresholds for point sources.

Report Exports:

[Baseline RPO Inventory - Final](#)

Saved 10/14/04 3:34 EST

[Threshold Report #1](#)

Saved 10/04/04 10:57 EST

[Baseline RPO Inventory - 2nd Draft](#)

Saved 9/14/04 3:30 EST



Emissions Summary Report

Select report criteria:

Inventory:

Select One ▾

Source Type:

Select One ▾

Version:

Select One ▾

**Geographic
Location:**

RPO: Select All ▾

Tribe: Select All ▾

State: Select All ▾

County: Select All ▾

SCC Level:

SCC Level 1: Select All ▾

SCC Level 2: Select All ▾

Pollutant:

Select One ▾

Inventory Version:

Select One ▾

Create Report

Cancel



Status and Next Steps

- Currently in Design Phase
- First Draft Prototyping Complete
- Database Design in progress

- Scheduled Implementation Date
– January 31, 2006



- Questions?