

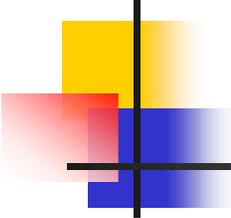
California Emission Inventory Development And Reporting System (CEIDARS)

Vijay Bhargava

Emission Inventory Workshop

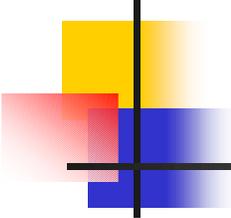
Air Resources Board

November 14, 2001



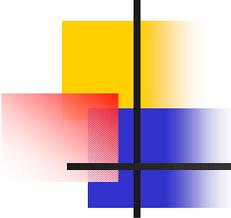
Presentation Overview

- Database Structure
- Reporting Options
- Update Process
- Code Assignments
- Area sources



Database Structure

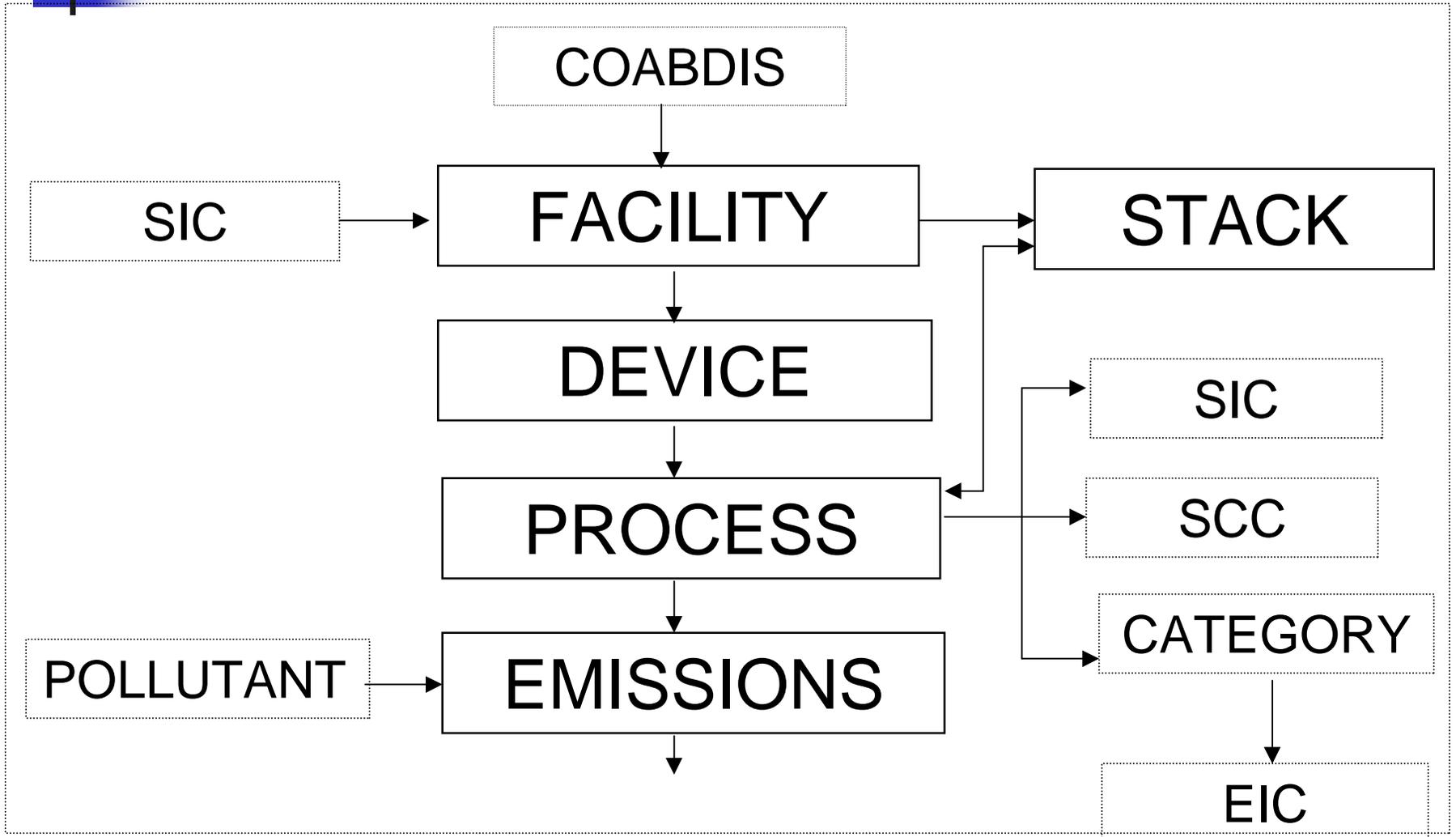
- Physical Characteristics
 - ORACLE based
 - Size of the database
 - Relational database
 - Data stored in tables
 - Join tables together using common fields
 - Reduced storage of redundant data
 - Easy to change structure

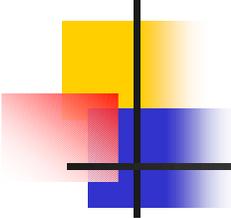


Database Structure

- Logical Design
 - Required Tables
 - Source information
 - Utility
 - Relationship Between Tables

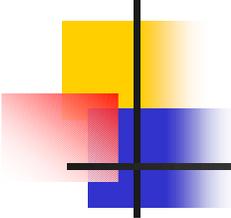
Database Structure





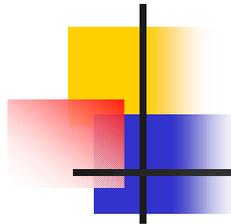
Reporting Options

- Turn Around Documents (TADS)
- Batch Transactions
- On-line
- HARP/CEIDARS-Lite



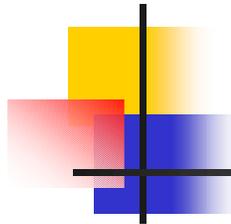
Update Process

- Guidelines
- New Database
- QA and Summary Reports
- District Updates
- QA/QC Checks
- Final Inventory



Guidelines

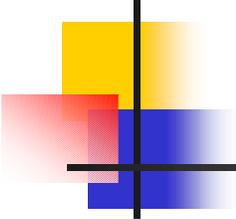
- Timeline/schedule for Updates
- Type of sources to be updated
- Responsibility of updates



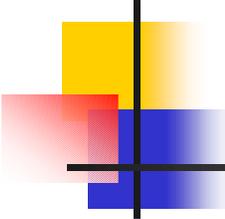
New Database

- Copy the latest point source data
- Grow the unreconciled emissions
- Reconcile to calculate area sources
- Add on-road and off-road data

QA and Summary reports

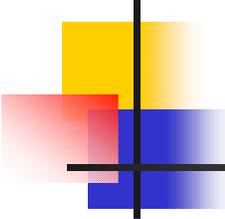


- QA reports
- One-line summary
- Area source summary



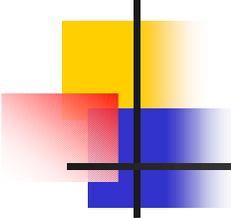
Districts Updates

- Type of Updates
 - replacement
 - selected changes



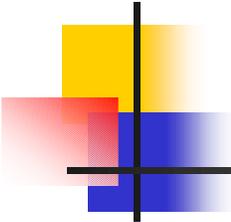
QA/QC Checks BY ARB

- Built-in checks for required fields
- Assign EIC codes
- Reconcile the database
- compare with the previous inventories



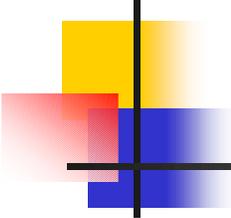
Final Inventory

- Published in the ARB Almanac of Emission and Air Quality
 - Posted on the ARB Website
 - Submitted to USEPA National Emission Inventory (NEI)
 - Posted to the USEPA website



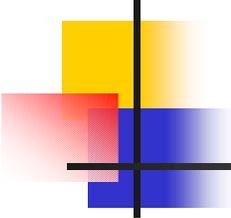
Code Assignments

- Source Classification Codes (SCC)
- Standard Industrial Codes (SIC)
- Emission Inventory Codes (EIC)
- Reconciliation EIC (REIC)
- New Codes
 - PCC
 - NAICS



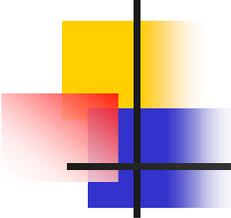
Reconciliation

- Purpose of reconciliation
 - To avoid double counting of emissions
- Procedure for reconciliation
 - Step 1:
 - sum all point source emissions for the same area source EIC



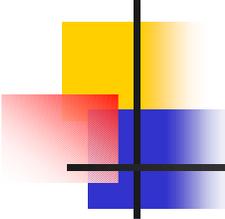
Reconciliation

- Step 2:
 - Subtract point source sum from the unreconciled (total) emissions for the same area source EIC
- Step 3:
 - Back calculate the reconcile process rate by dividing the emissions by the emission factor
 - Choose the pollutant with the highest emissions



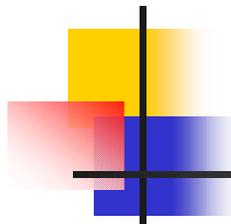
Area Sources

- Definition
- Importance of updates
- Significance of Methodologies
- Reconciliation
- Area Source Model



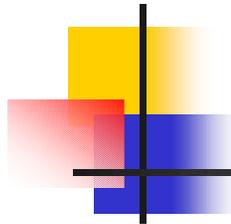
Proposed Changes to CEIDARS

- Option of reporting ROG and PM10
- Stack Table
- Other Tables



Definition

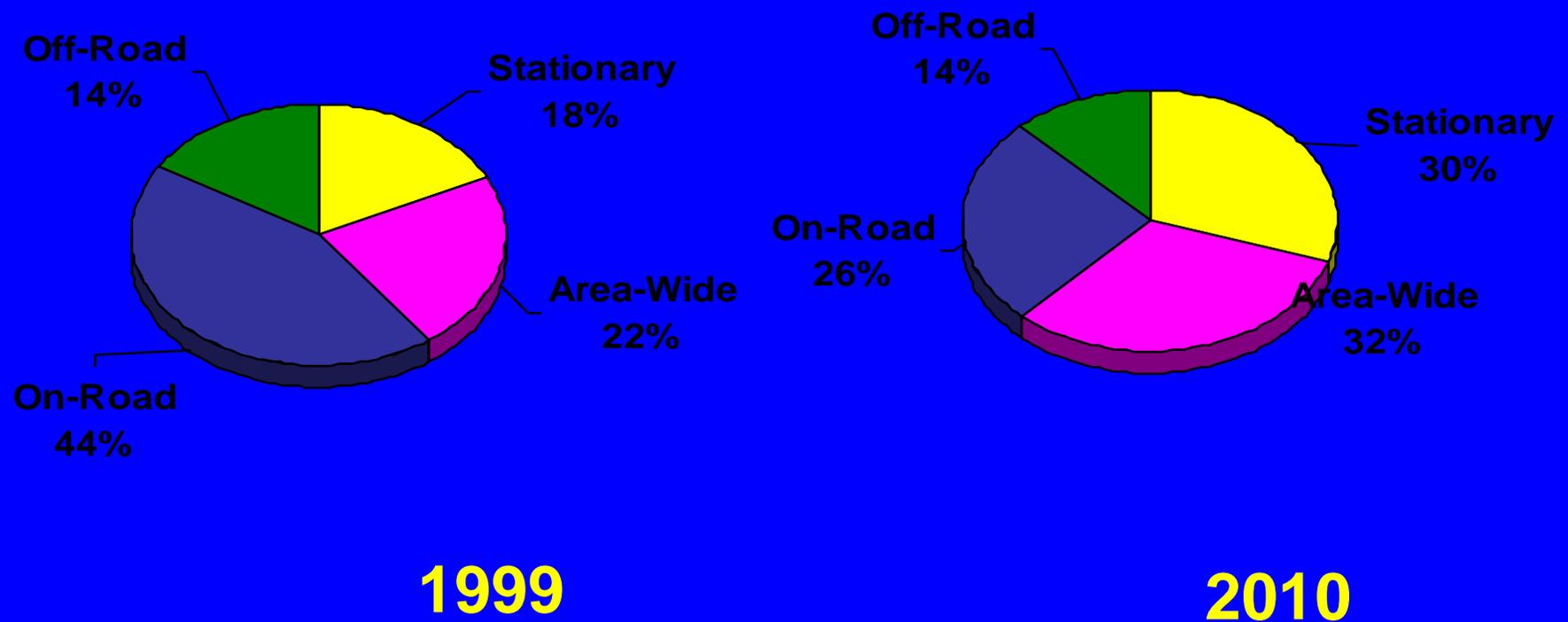
- Emissions not reported in the point source inventory
 - Aggregated point sources
 - Area-wide sources
 - Mobile-sources
 - Natural sources

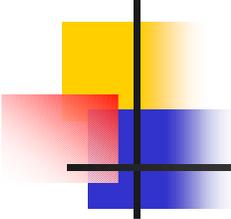


Importance of Updates

- Reconciliation with point sources
- Planning inventories
- Toxic area source inventories
- Area source contribution to the total inventory

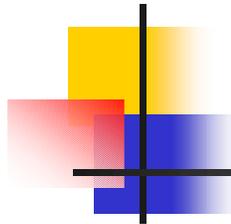
Change in ROG Emissions by Source Category 1999-2010





Significance of Methodologies

- Document emission estimation method
- Use in Area Source Model
- Form a source pool for others to use
 - Clearinghouse



Reference

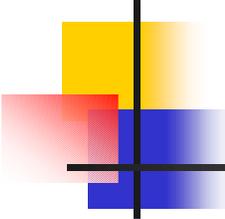
Introduction to Area Source Emission *Inventory* *Development*

Prepared by:
Eastern Research Group, Inc

Prepared for:
Area Source Committee
Emission Inventory Improvement Program

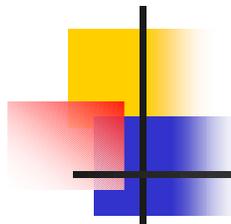
January 2001

[http://www.epa.gov/ttn/chief/eiip/techreport/volume03/
index.html](http://www.epa.gov/ttn/chief/eiip/techreport/volume03/index.html)



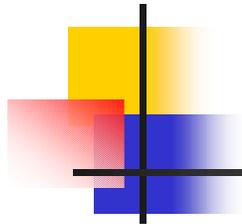
Area Source Model

- Introduction
- Model Development
- Model Benefits



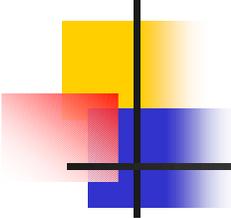
Introduction

- Combines the existing area source methodologies into a consolidated model.
- The area source model will facilitate
 - Use of consistent methodologies
 - Changing selected parameters and recalculating emissions
 - Development of summary outputs



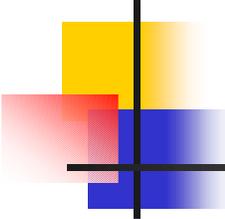
Introduction

- The development of the model is proceeding in a modular fashion.



Model Development

- Model design is completed
 - Include process, emission factor & emission modules
 - web based
- Tier 1 - ARB categories
- Tier 2- District Categories
- Source categories not covered by the Model
 - Mobile Sources



Model Benefits

- Automates the update process
 - saves time and resources in the long run
- Good tool for revision process
- Comprehensive documentation
- Complete and consistent inventory
- Data confidentiality where needed
- More current estimates than growing
- Toxic emissions