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The Air Emissions Inventory (AEI) Project: An Update on a Universal Schema

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Agenda

- Introduction & Background
- Goals of the Study
- A Brief History
- Current Status
- Remaining Milestones
- Future Impacts



Introduction & Background

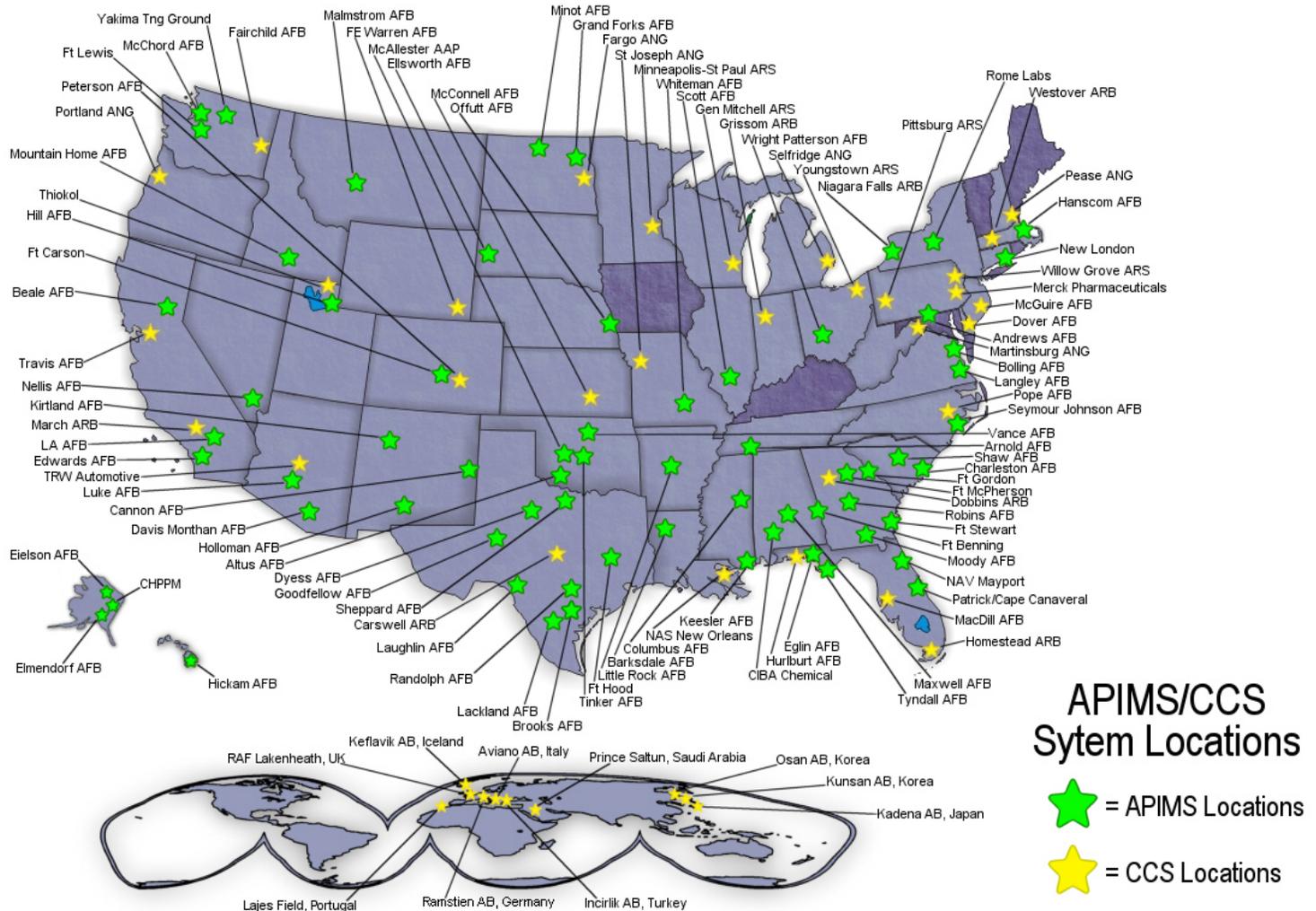
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- Currently the Air Force has active duty facilities in 31 states, with 13 of the 31 having multiple facilities
- APIMS is in use at 74 of 86 CONUS Air Force bases
- APIMS is also in use at 10 Army, 1 Marine and 2 Navy facilities



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Introduction & Background



Integrity - Service - Excellence

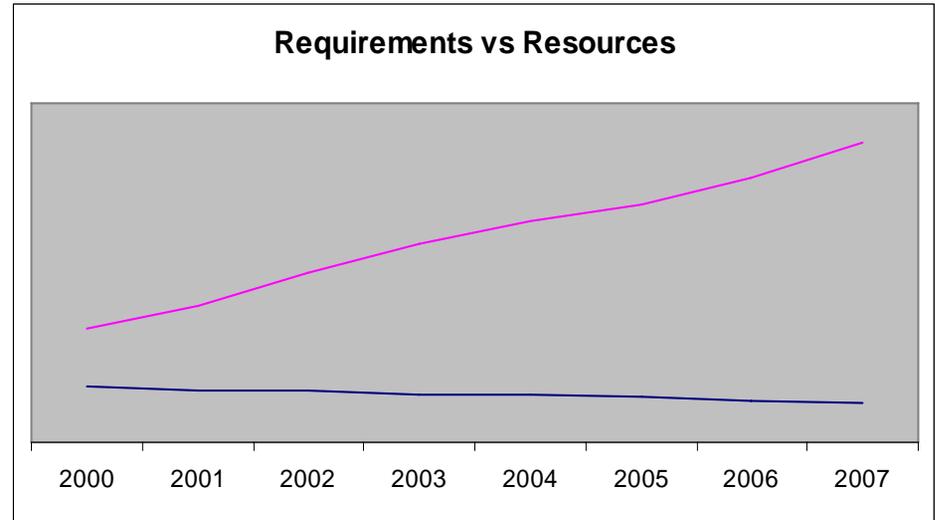


Introduction & Background

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Requirement Growth

- **Emission Inventories**
- Permits & Permit Limits
- NSR/PSD Reviews
- Title V, NESHAP
 - Material Phase Out
 - Self Regulation
 - Inspections
 - Certifications
- Area Source Categories
- Urban Air Toxics
- 8 Hr Ozone & PM 2.5 Stds
- More & More Recordkeeping



Declining Resources

- Manpower
- Turnover
- Funding Constraints



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Introduction & Background

- Overwhelming majority of APIMS users have some form of an annual emission inventory requirement
- 86 CONUS facilities meet this requirement in \approx 50 different formats which leads to substantial cost
- These factors have led to the current study



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Goals of the Pilot Study

- Develop a standardized format (a universal schema) for submission of emission inventories from a facility to its respective State
 - Work with partner States to ensure that the schema could be used for industrial or military facilities
- Utilize all available technologies to maximize cost savings for all participants
 - XML and XML Schema
 - The Exchange Network (www.exchangenetwork.net)
 - Schematron for data validation



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Goals of the Pilot Study

- Establish the Air Force node on the Exchange Network
 - Allows data flow from Air Force through CDX to the appropriate State & Local agencies
- Replace current AEI submission formats with electronic submission via the universal schema for all APIMS users in the participating States



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Pilot Study Participants

- Air Force / APIMS PMO
 - Total of 13 facilities using APIMS spread across the 5 participating States
- Nebraska
- North Carolina
- Texas
- Maine
- Washington
- OAQPS providing guidance and facilitation



A Brief History

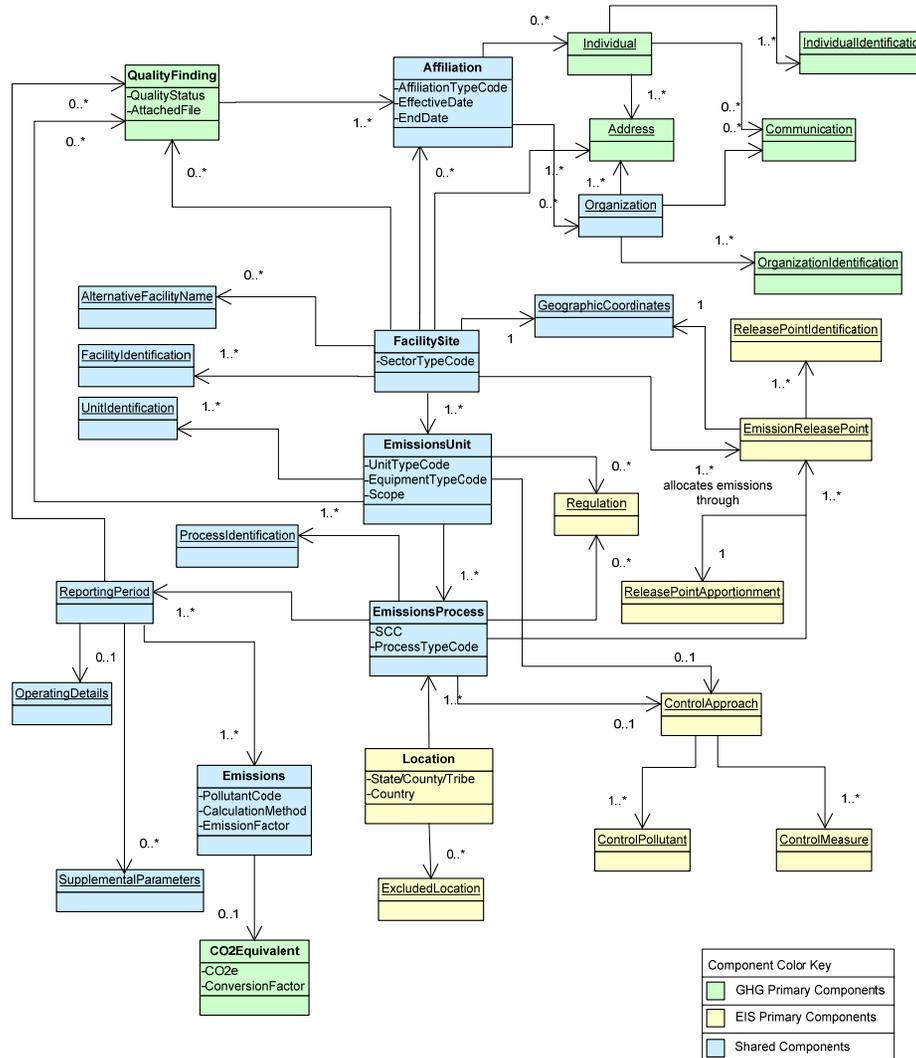
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- Initially, Air Force and participant States building a schema (“universal schema”): Facility to State
- EPA building a schema (“EIS schema”): State to EPA
- Majority of data elements were identical
- EPA incorporated the unique “universal schema” data elements into the “EIS schema”
- Result: Consolidated Emissions Reporting (CER) Schema



CER Domain Model

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Current Status

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- Air Force to use the Consolidated Emissions Reporting (CER) schema for Air Force Facility to State AEI submissions
- CER schema is nearly finished
- Participant review of CER schema (June, 2008)
- Final Draft of CER schema (October, 2008)



Advantages of a “Consolidated” Schema

- Consistency in data element naming and types between Facility to State and State to EPA AEI submissions
 - Simplifies a State’s task of consuming AEI data from a facility and producing AEI data for EPA
- Greenhouse Gas Emissions: CER schema can also be used to transmit GHG emissions data to The Climate Registry (www.theclimateregistry.org)



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Remaining Study Milestones

- Implement an Air Force Node on the Exchange Network (Summer, 2008)
- Complete Final Draft of the Consolidated Emissions Reporting (CER) Schema (October, 2008)
- Create a QA Data Validation process against the CER Schema for Air Force Facility to State AEI data submissions (Schematron)
 - Challenge: Who will own and maintain this process/code?



Remaining Study Milestones

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- CER Schema Testing (Facility to State)
 - Verify export from APIMS in CER schema format
 - Verify transfer from Air Force Exchange Network Node to each participant State node
- Create a Memorandum of Understanding (MOU) with all study partners
 - Initial draft created in May 2006
 - Finalized before data is passed from APIMS to the respective partner



Remaining Study Milestones

- State review of submission package
 - Completed in parallel with CER schema testing
 - Review package to ensure all needed data is included
- Develop converter for review of CER schema data
 - A converter will be developed to provide ease of review of the data included in the submission file



Remaining Study Milestones

- Move data transfer into full production
 - Dependent on successful completion of each previous milestone
- Eliminate previous reporting procedures
 - Dependent on verification of successful AEI submission via the CER schema



Future Impacts

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- CER schema design facilitates use by industry, as well as military
- Could provide cost savings to industrial sources
 - Standardization of business practices for companies with operations in multiple jurisdictions
 - Provides a stable, accepted format for electronic reporting
- Simplifies the “translation” task for States