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

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Agenda

- Introduction & Background
- Goals of the Study
- Update of Progress to Date
  - Development of the Universal Schema
- Remaining Milestones
- Future Impacts

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Introduction & Background

- Currently the Air Force has active duty facilities in 31 states, with 13 of the 31 having multiple facilities

- APIMS is in use at 50 of 62 CONUS Air Force bases

- APIMS is also in use at 10 Army, 1 Marine and 2 Navy facilities

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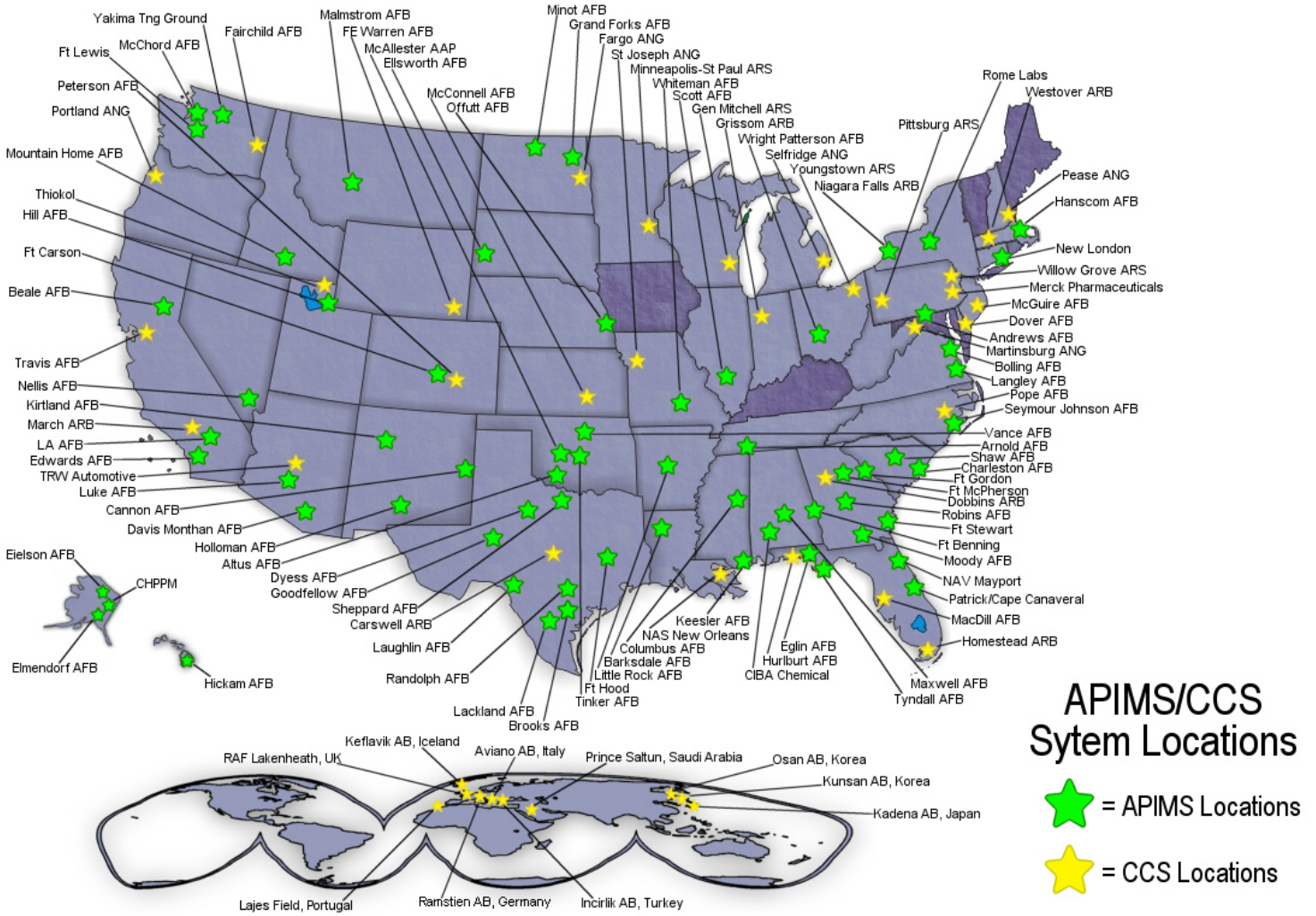
Introduction & Background



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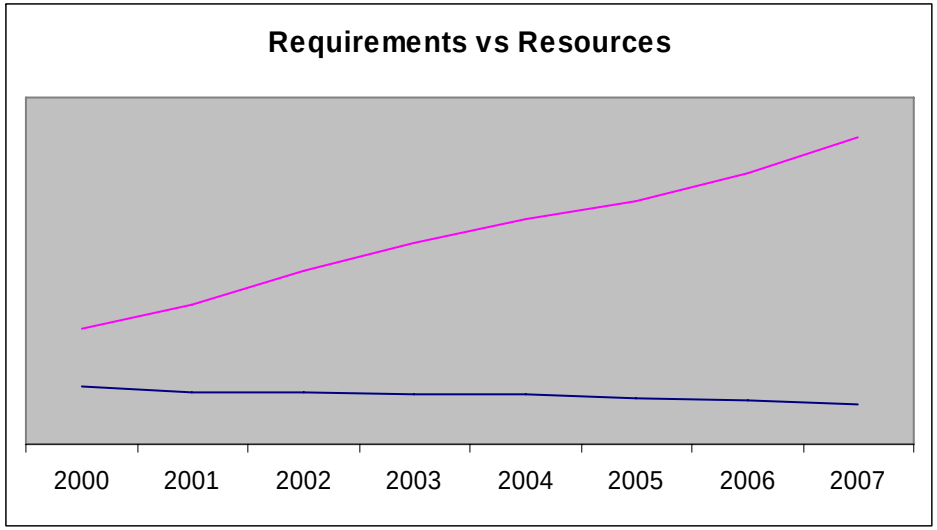
Introduction & Background

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

- 62 CONUS facilities meet this requirement in ≈ 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 universal schema for submission of emission inventories
  - Work with partnering 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
  - Schematron for data quality review
  - Electronic signature

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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 and 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 15 facilities using APIMS spread across the 5 participating States
- Nebraska
- North Carolina
- Texas
- Utah
- Washington
- OAQPS providing guidance and facilitation

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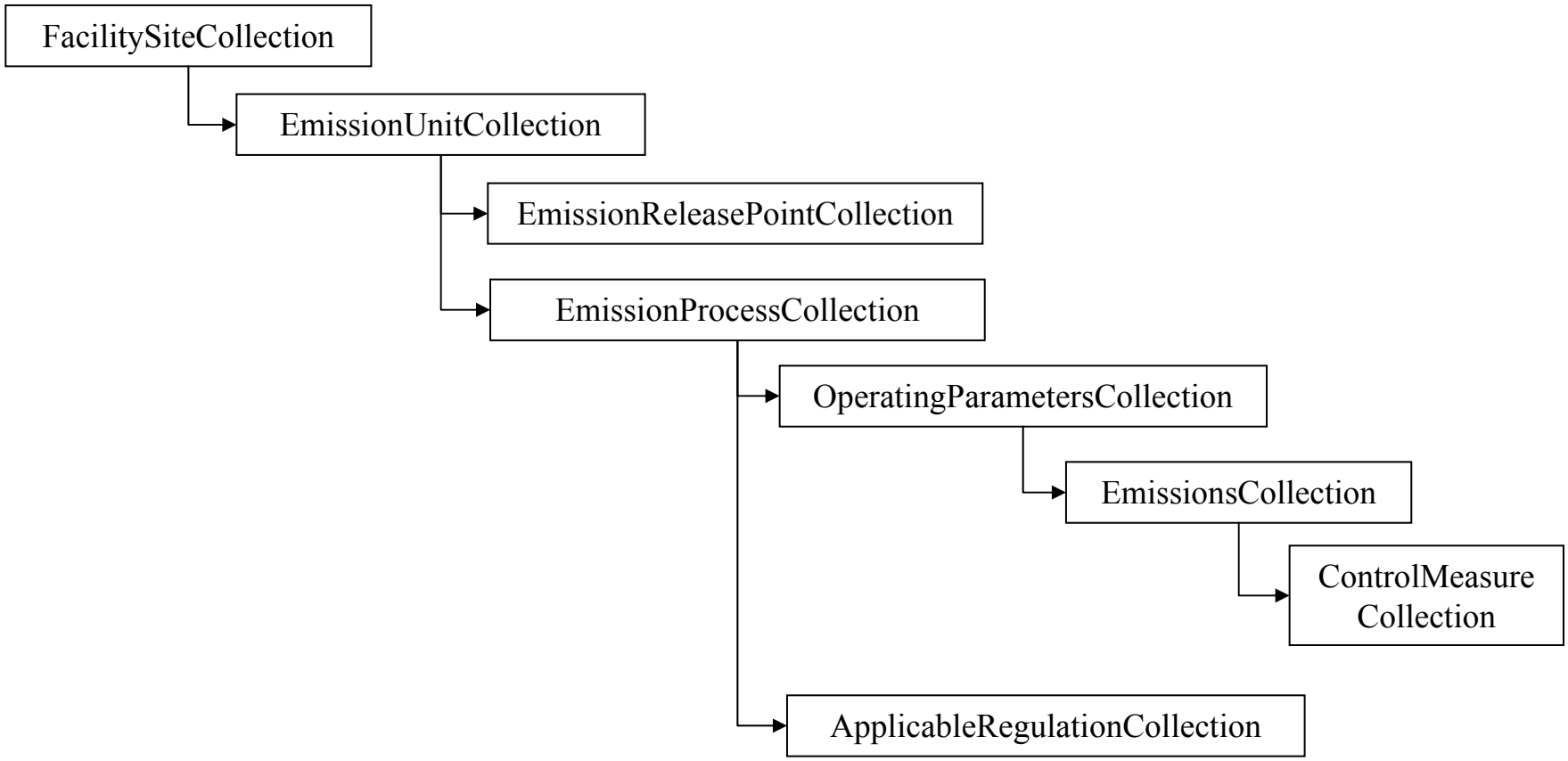
Progress To Date

- Universal schema has been developed
  - Reviewed by participating States to ensure their needs, as well as the Air Force needs, were addressed
  - Developed according to the data model structure of the Facility and Point Inventory Schema (EIS)
  - Utilizes a hierarchical structure instead of individual data element submissions

Universal Schema Conceptual Diagram



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Universal Schema Details

- Comprised of 9 “collections” of data
  - Facility/Site
  - Emission Unit
  - Emission Release Point
  - Emission Process
  - Operating Parameters
  - Emissions
  - Control Measures
  - Applicable Regulations
  - Configuration Structure *

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Universal Schema Details

- Configuration Structure data is only necessary when a single emission process is vented through two emission release points and accounted for as two separate data elements in the submission
  - i.e. Process 1 with Emissions Release Point A and Process 1 with Emission Release Point B
- Each collection is comprised of many data elements that provide the detail required for an AEI

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Remaining Study Milestones

- 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
- Create a Schematron process against the universal schema
  - Will be reviewed and modified as needed during the schema testing process

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Remaining Study Milestones

- Develop Flow Configuration Document
  - Will serve as the road map for data exchange between the Air Force and all participating partners
- Universal Schema Testing
  - Verify export from APIMS in universal schema format
  - Verify transfer from Air Force Node to each State node
  - Investigate options for electronic signature

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Remaining Study Milestones

- State review of submission package
  - Completed in parallel with universal schema testing
  - Review package to ensure all needed data is included
- Develop converters for each State
  - Converters will all transformation of data from the universal schema to an easier format for review

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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 universal schema

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Future Impacts

- Universal 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


Questions
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