
An Introduction to the Emissions Inventory System Reporting Format

June 2, 2008

Emissions Inventory Conference
Portland, OR

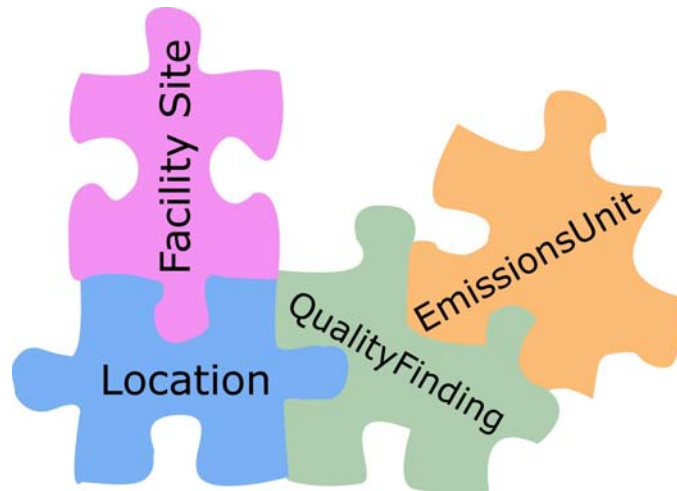
Purpose of the Course

Provide attendees with an overview of the EIS XML reporting format.

- ❑ **Part 1: Consolidated Emissions Reporting Schema**
- ❑ **Part 2: Exploring the EIS Domain**
- ❑ **Part 3: Preparing Your Data**
- ❑ **Part 4: Constructing the XML File**
- ❑ **Part 5: General Discussion**

Part 1:

The Consolidated Emissions Reporting Schema



Part 1 - Consolidated Emissions Reporting Schema

- Released draft EIS schema at the beginning of January
- EIS Project Team asked to investigate merging different program schemas
- Decision made to move forward and develop the Consolidated Emissions Reporting Schema

Part 1 - Supported Data Flows

- **State/Local/Tribes to EPA**
 - Emissions Inventory System (EIS)
- **Corporate Entities to Non-Regulatory Reporting Agencies**
 - The Climate Registry (TCR)
- **EPA to State**
 - Regional Green House Gas Initiative (RGGI)
 - New York Acid Deposition Allowance Tracking (NADATS)
- **Facility to State**
 - California Air Resource Board (GHG Emissions Tracking for AB-32)
 - Air Force Military Base Emissions Reporting

Part 1 - Benefits of a Consolidated Schema

- **Advances the goal of developing a standard schema for sharing emissions data among stakeholders**
- **Addresses the requests by States to have one schema to use for multiple programs**
- **Creates a building block for the upcoming mandatory Greenhouse Gas program**

Part 1 - Challenges of a Consolidated Schema

■ Governance issues

- ❑ Who owns the schema?
- ❑ Who is responsible for updating the schema?

■ Program-specific process

- ❑ Business rules for processing data
- ❑ Quality assurance checks
- ❑ Values for code tables
- ❑ Cross-walk identifiers to match inventory data

■ Requires buy-in from multiple entities (OAQPS, OAP, TCR)

Part 1 - Designing the Schema

- **Schema supported by the Exchange Network (EN) Framework**
- **Components can be shared among the different data categories**
- **Element tag names adhere to EPA's XML data standards**

Part 1 - Designing the Schema

- **Support the various data flows by adding**
 - ❑ New components
 - ❑ New data elements
- **Make certain data elements more generic so they can be used by all programs**
- **Process level emissions vs. scope levels and activity**
- **Reporting schema; additional schema may be necessary for publishing**

Part 1 - Schema Schedule

■ March 13th – April 2nd (complete)

- ❑ Resolve outstanding issues
- ❑ Develop domain model

■ April 2nd – April 30th (complete)

- ❑ Develop draft schema

■ May (complete)

- ❑ Internal review

■ June

- ❑ Release for stakeholder review

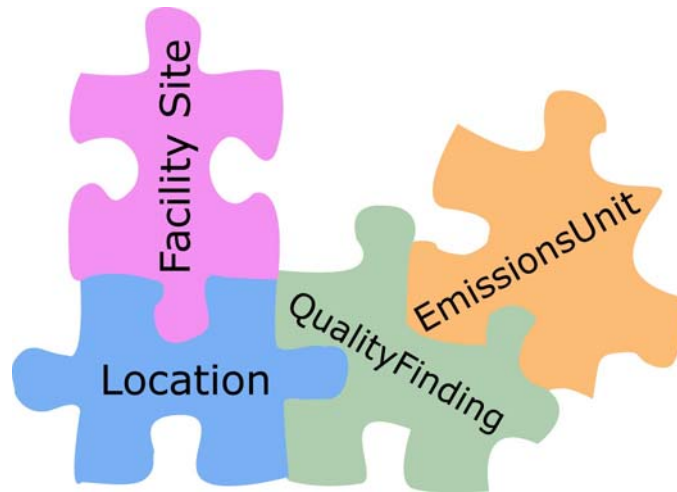
■ Finalize in October

Part 1- 2008 NEI/EIS Implementation Plan

- Portions released in draft at the beginning of January
- Reporting instructions based on the EIS schema
- Will be updated by October to reflect the Consolidated Emissions Reporting Schema

Part 2:

Exploring the EIS Domain



Part 2 - Exploring the EIS Domain

Overview

■ What is the EIS Domain?

- ❑ A model of the major blocks of data that represent the emissions inventory.
- ❑ A conceptual layout of the entities and their relationship to each other.
- ❑ A demonstration of the number of occurrences possible for each relationship.

Part 2 - Exploring the EIS Domain

Terminology

- **Domain** - A conceptual model describing the various entities involved in a system, as well as their relationships, using the key concepts and vocabulary of the system.
 - ❑ Accounting System, Library Catalog.
- **Entity** - A *thing* that can be modeled and which has characteristics.
 - ❑ Person, Account, Company.
- **Relationship** - The manner in which two things connect or relate to each other.
 - ❑ A person works for a company.
 - ❑ A person has many accounts.

Part 2 - Exploring the EIS Domain

Overview of EIS Domains

- **Facility Inventory**
- **Nonpoint Emissions**
- **Event Emissions**

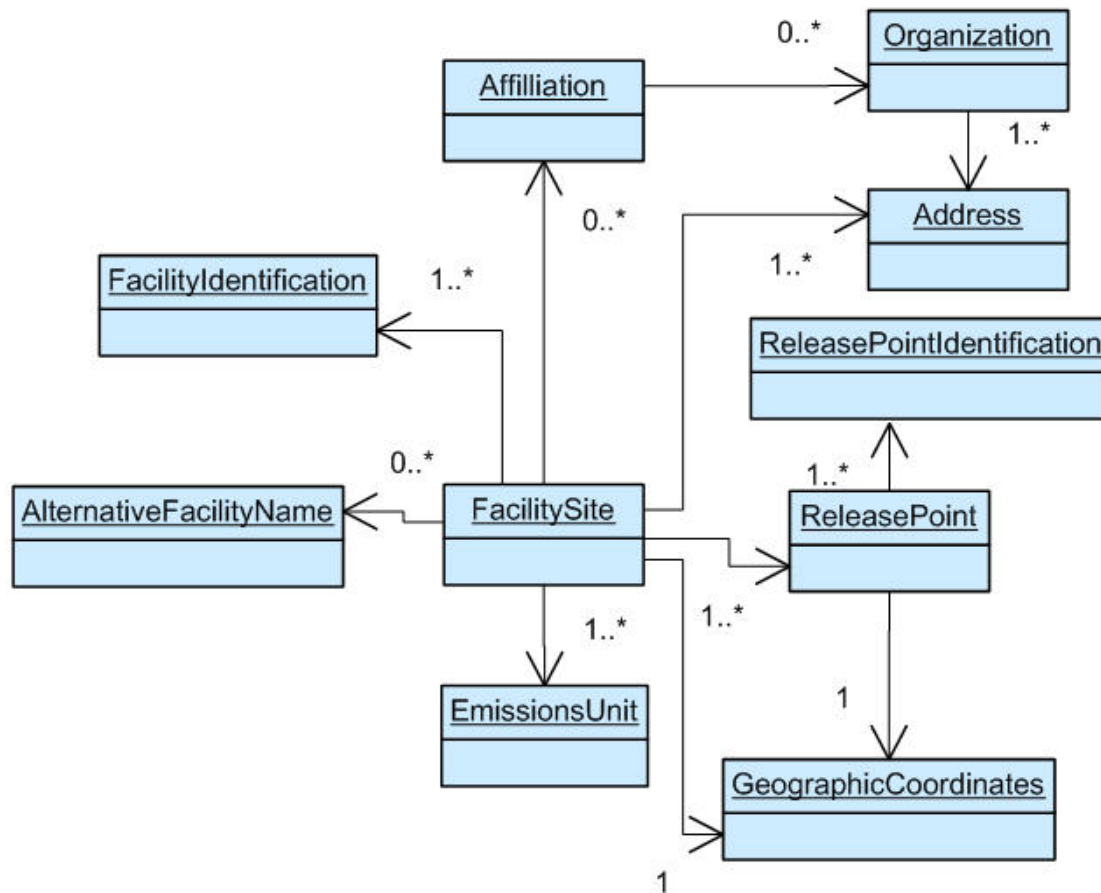
Part 2 - Exploring the EIS Domain

Facility Inventory

- **Facility Site - A place where activities resulting in air emissions occur.**
 - ❑ Must have identification (agency or EIS).
 - ❑ Must have an address (physical location).
 - ❑ Must have geographic coordinates (latitude/longitude).
 - ❑ Can be known by other names.
 - ❑ Must have emissions units and release points that are located at the facility site.

Part 2 - Exploring the EIS Domain

Facility Site Domain View



Part 2 - Exploring the EIS Domain

Facility Inventory

- **Emissions Unit - A source of significant activity, stationary article, process equipment, machine, or other device which emits air pollutants.**
 - ❑ Must have identification (agency or EIS).
 - ❑ Must have at least one emissions process.
 - ❑ May be subject to one or more regulations.
 - ❑ May have a control approach to reduce emissions.

Part 2 - Exploring the EIS Domain

Facility Inventory

- **Emissions Process - Operations or activities that produce emissions from emission units at a facility site.**
 - ❑ Must have identification (agency or EIS).
 - ❑ Occur during a reporting period.
 - ❑ May vent emissions to multiple release points (apportionment).
 - ❑ May have a control approach to reduce emissions.
 - ❑ May be subject to one or more regulations.

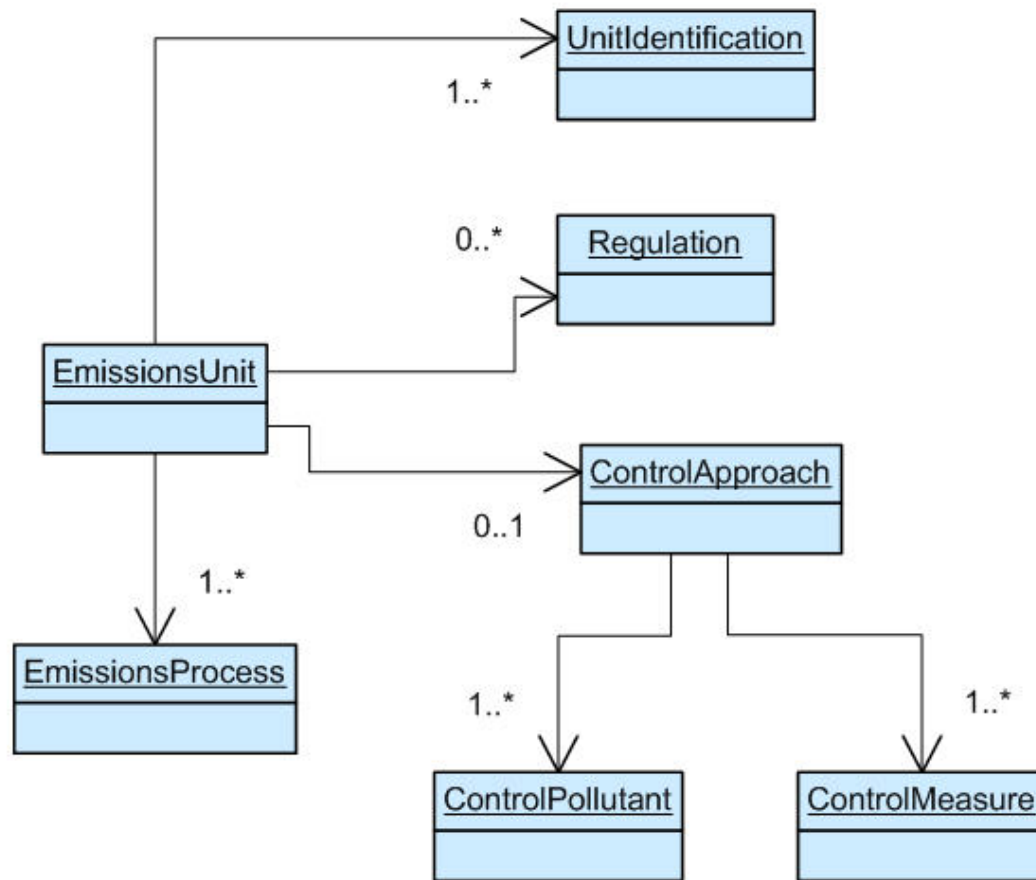
Part 2 - Exploring the EIS Domain

Facility Inventory

- **Control Approach - Identifies the overall control system applied to reduce emissions.**
 - ❑ Must have a control measure.
 - ❑ Must control a pollutant.

Part 2 - Exploring the EIS Domain

Emissions Unit Domain View



Part 2 - Exploring the EIS Domain

Facility Inventory

- **Release Point - The physical point where pollutants are released into the environment.**
 - ❑ Must have identification (agency or EIS).
 - ❑ Must have characteristics that define either a stack or fugitive release.
 - ❑ Must have geographic coordinates (latitude/longitude).
 - ❑ May vent a percentage of emissions from an emissions process (apportionment).

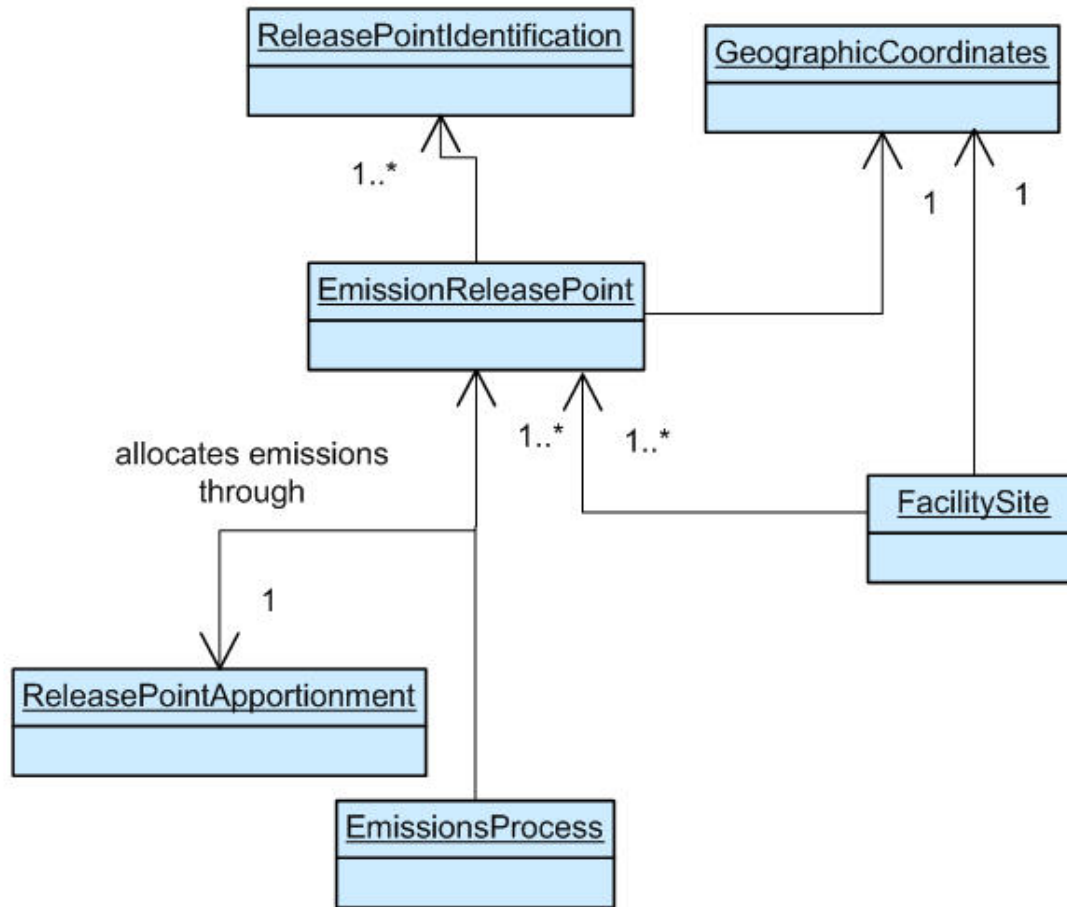
Part 2 - Exploring the EIS Domain

Facility Inventory

- **Geographic Coordinates - Provides information on latitude and longitude.**
 - ❑ May have additional MAD codes.
 - ❑ Must be reported for facility sites and release points.

Part 2 - Exploring the EIS Domain

Release Point Domain View



Part 2 - Exploring the EIS Domain

Facility Inventory

- **Reporting Period - The time period for which emissions and activity are reported.**
 - Includes calculation parameters (throughput or activity).
- **Operating Details - Shows the typical operating schedule during the reporting period.**
- **Supplemental Parameters - Additional input data used to calculate emissions.**
 - Example: Heat Content, Percent Ash Content, Percent Sulfur Content for combustion sources.
 - Other as defined.

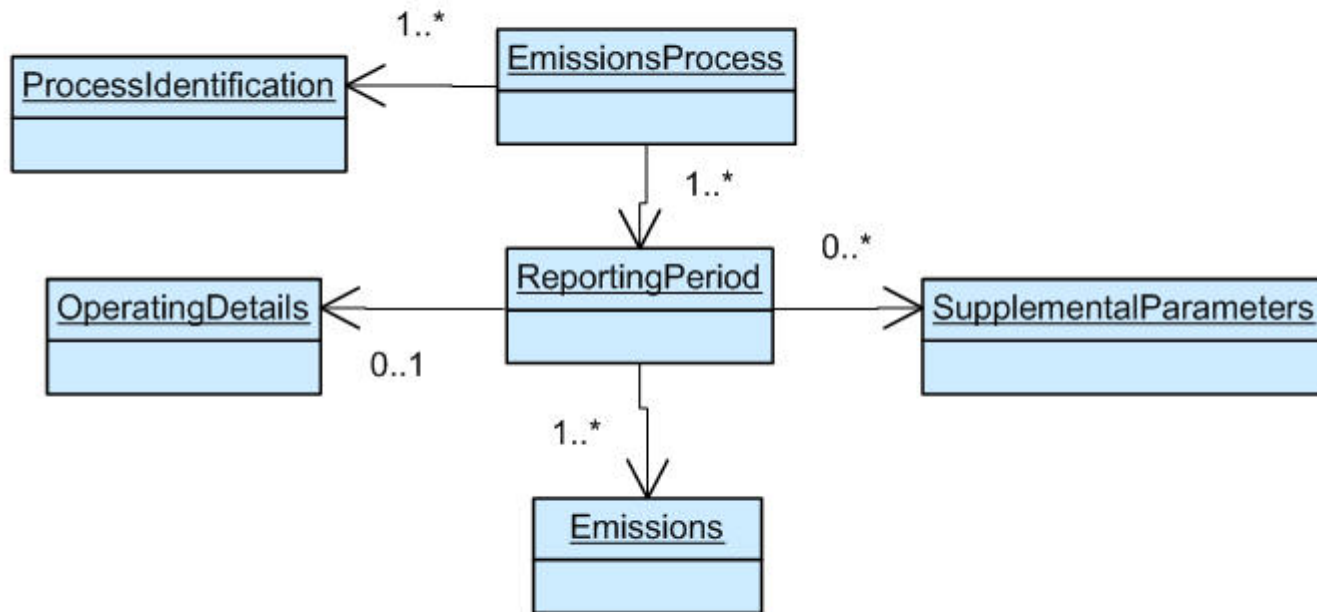
Part 2 - Exploring the EIS Domain

Facility Inventory

- **Emissions - Pollutants reported for a process and a reporting period.**
 - Must report an annual total of routine emissions.

Part 2 - Exploring the EIS Domain

Reporting Period, Process and Emissions Domain View



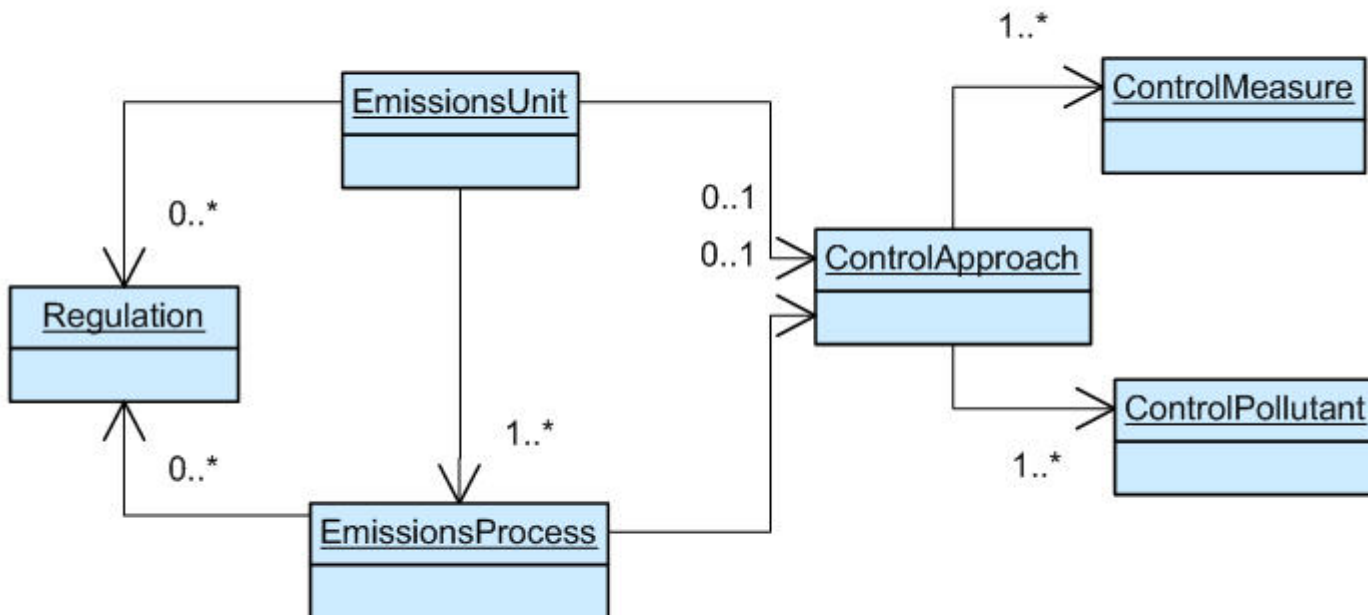
Part 2 - Exploring the EIS Domain

Facility Inventory

- **Regulation - Identifies the regulations that apply to an emissions unit or process.**
 - May report Federal and non-Federal programs.

Part 2 - Exploring the EIS Domain

Regulation and Controls Domain View



Part 2 - Exploring the EIS Domain

Nonpoint

- **Nonpoint - Emissions from stationary sources from which emissions have not been submitted as points emissions associated with facility sites in the EIS.**
- **Location**
 - May be identified by State, County, Tribal geographic boundaries.
 - May be identified by census block or census tract identifiers.
 - May be identified by geospatial shape file identifier.
- **Exclusions**
 - Locations where emissions are expected to be reported by another agency.

Part 2 - Exploring the EIS Domain

Nonpoint

- **Emissions Process - Operations or activities that produce emissions at a location.**
 - ❑ Occur during a reporting period.
 - ❑ May have a control system to reduce emissions.
 - ❑ May be subject to regulation.

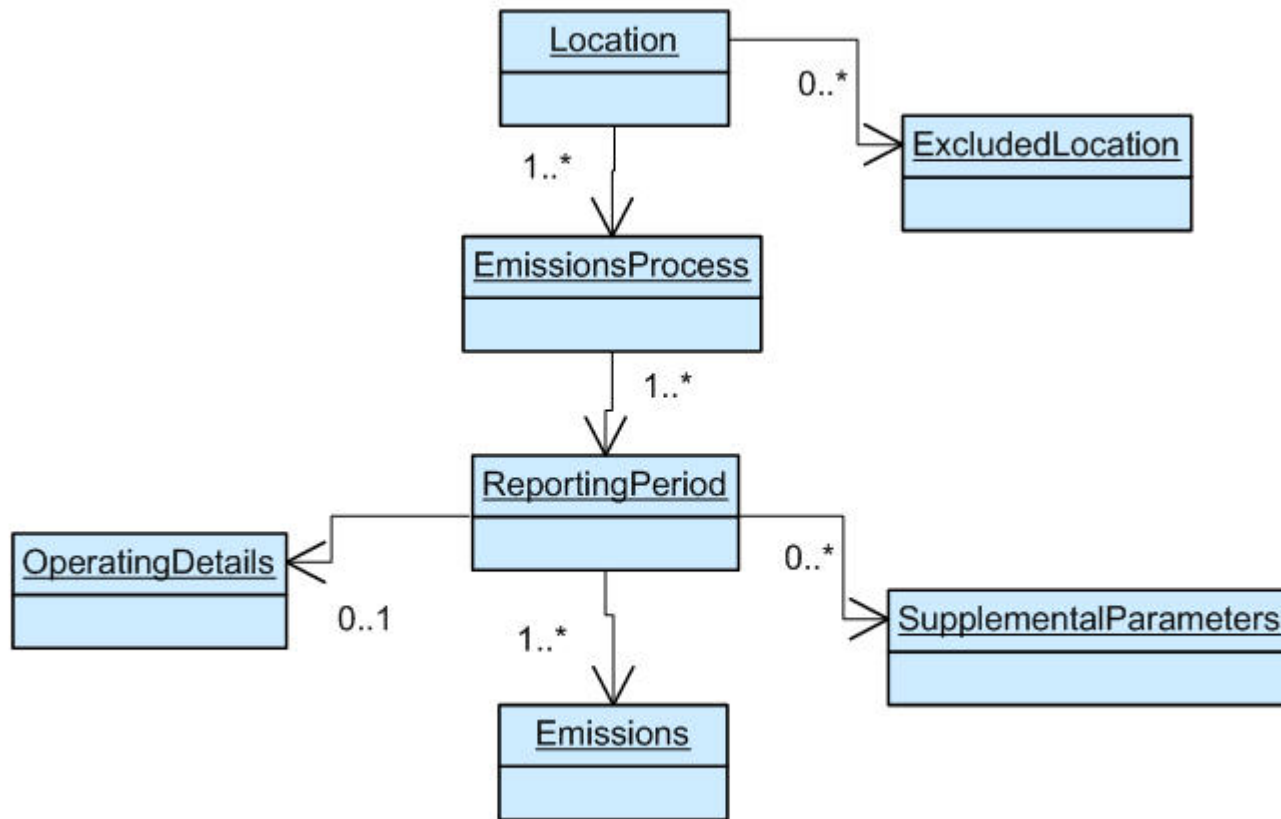
Part 2 - Exploring the EIS Domain

Nonpoint

- **Reporting Period - The time period for which emissions and activity are reported.**
 - Has Calculation Parameters (Throughput or Activity).
- **Operating Details - Shows the typical seasonal variation in activity during reporting period.**
- **Supplemental Parameters**
 - Identifies additional input data used to calculate emissions. (Example: Fuel Combustion).

Part 2 - Exploring the EIS Domain

Nonpoint Domain View



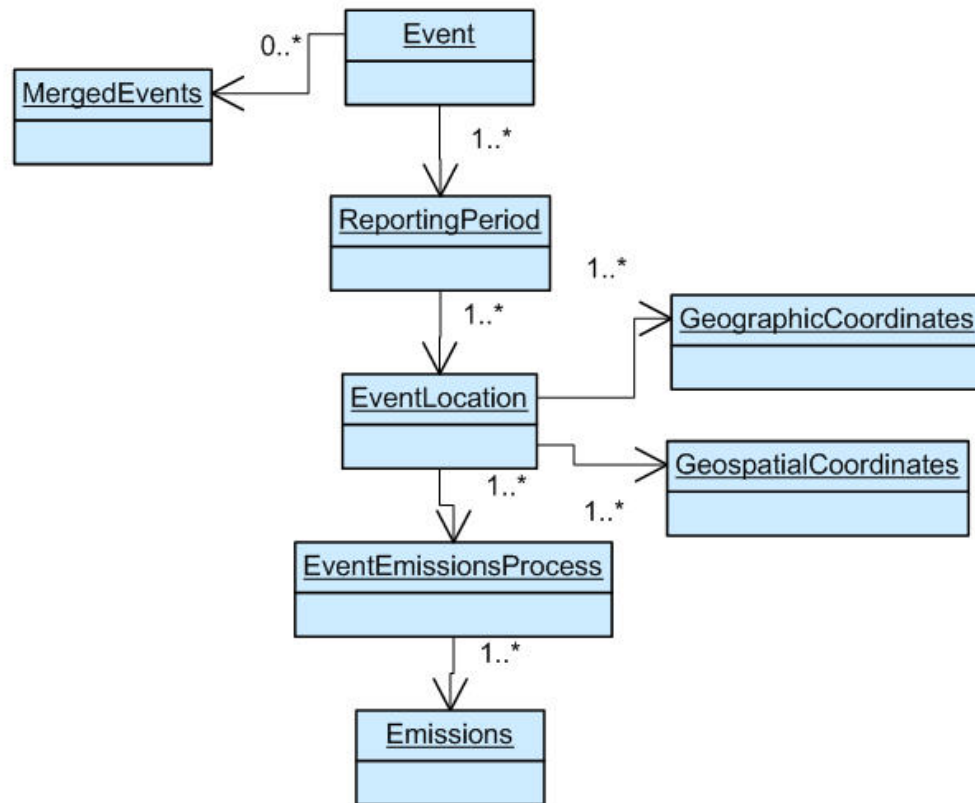
Part 2 - Exploring the EIS Domain

Events

- **Event - Unexpected activities resulting in significant, reportable air emissions.**
 - Wild Fire, Prescribed Fires, Natural Disaster Cleanup.
- **May report merged events.**
- **Must have a reporting period.**
 - May be reported daily, in total, or as a multi-day event.
- **Must have a location.**
 - Can be geospatial.
 - Can be identified by geographic coordinates.
- **Must have an emissions process.**
- **Must have emissions.**

Part 2 - Exploring the EIS Domain

Event Domain View



Part 2 - Exploring the EIS Domain

CERS Entities Used by Other Data Flows

■ **Quality Findings**

- ❑ Identifies the verification findings for a facility site, emissions unit, or emissions for a reporting period.

■ **Individuals**

- ❑ People associated with either facility sites or organizations.

■ **Communication**

- ❑ Information on how individuals or organizations send messages.

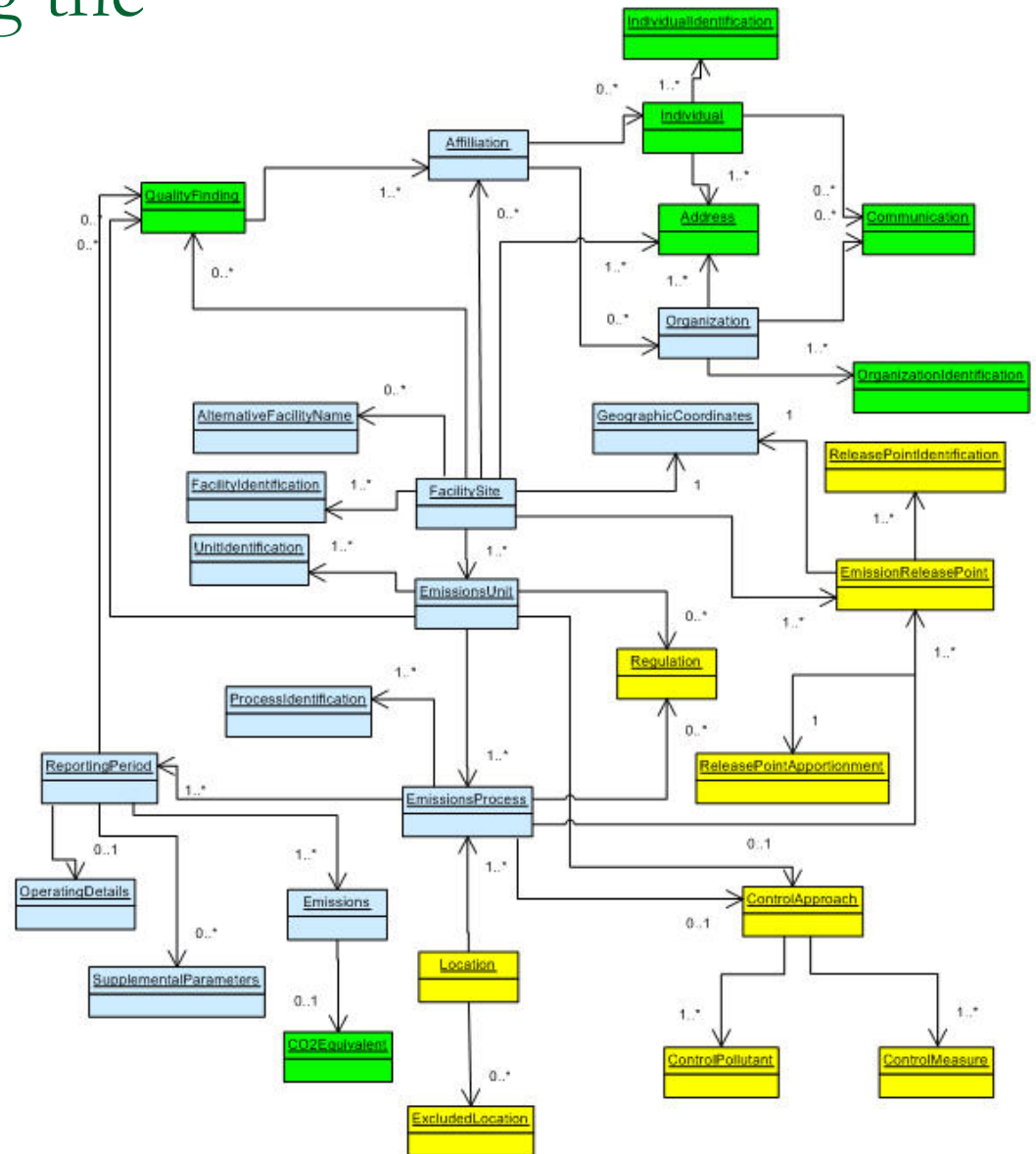
■ **CO₂ Equivalent Emissions**

- ❑ The total CO₂ equivalent for a pollutant.

Part 2 - Exploring the EIS Domain

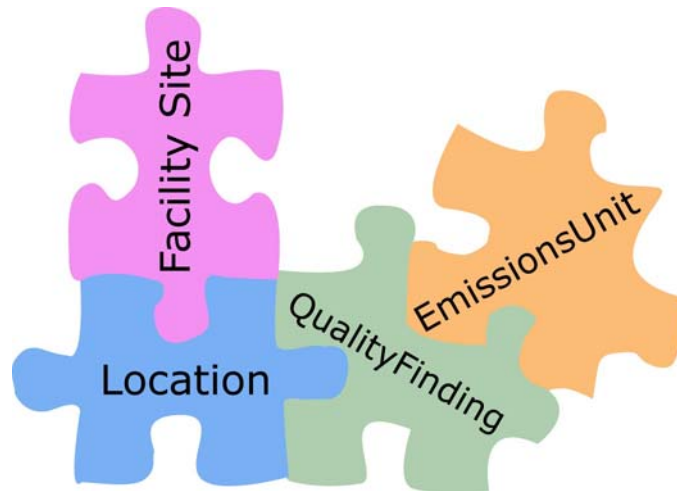
The CERS Domain

- **Green - GHG primary components**
- **Blue - Shared components**
- **Yellow - EIS only components**



Part 3:

Preparing Your Data



Part 3 - Preparing Your Data

What Does XML Have to Do With This?

- **Domain models show associations, which resemble relational data models.**
- **Relational domain model maps to schema complex types (components).**
- **Components loosely correspond to tables.**
- **XML schema structures are hierarchical.**
- **Nesting of components shows relationships, similar to joined tables.**
- **Entity attributes correspond to XML data elements.**

Part 3 - Preparing Your Data

Overview

In this part of the presentation you will learn how to:

- Map your inventory data to the EIS domain entities.
- Map EIS domain entities to the corresponding XML components.
- Map attributes to the corresponding XML tags in each component.
- Identify only the components needed for a specific data category for reporting.

Part 3 - Preparing Your Data

Map Your Inventory Data

■ Two methods for mapping your data:

- ❑ Map to the CERS domain entities, then
- ❑ Map to corresponding CERS components.

Or

- ❑ Map to the CERS components directly.

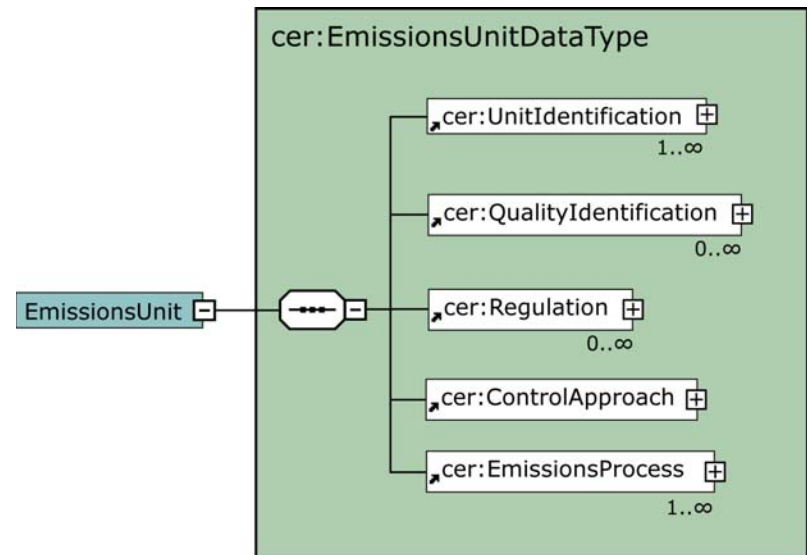
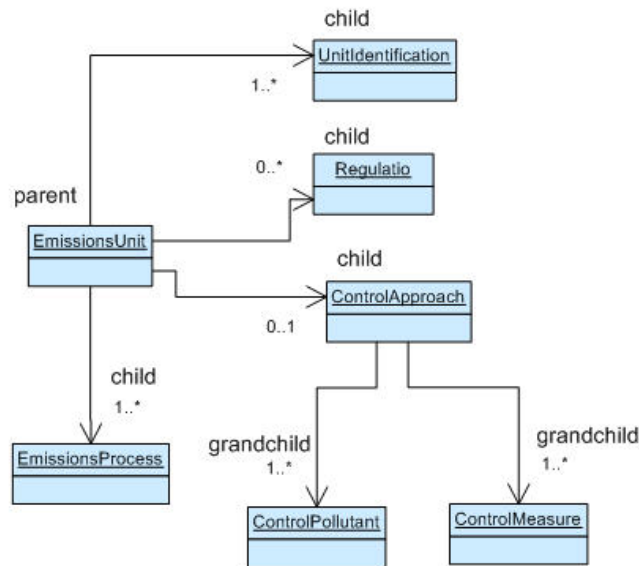
Part 3 - Preparing Your Data

Map EIS Domain Entities to Corresponding XML Components

- **For each domain entity, locate the matching component in the CERS.**
- **Each domain entity has parent and child relationships.**
- **Where Applicable:**
 - Map parent entities to high-level components with corresponding names.
 - Map child entities to intermediate and elemental components with corresponding names.

Part 3 - Preparing Your Data

Map EIS Domain Entities to the Corresponding XML Components



Part 3 - Preparing Your Data

Map Attributes to the Corresponding Data Elements in each Component

- **For each component, map the data elements to the XML tags with corresponding names.**
- **Refer to the NEIP for guidance on:**
 - ❑ Required components;
 - ❑ Required data elements;
 - ❑ Data types and format; and
 - ❑ Business rules (vary by data category).

Part 3 - Preparing Your Data

Identify Only the Components Needed for a Specific Data Category for Reporting

- **Not all components should be used every time you report emissions inventory data.**
 - There are a total of 40 components.
- **Every data flow in the CERS shares components.**
 - There are 18 shared components.
- **Use only the components and data elements in the CERS specific to the EIS.**

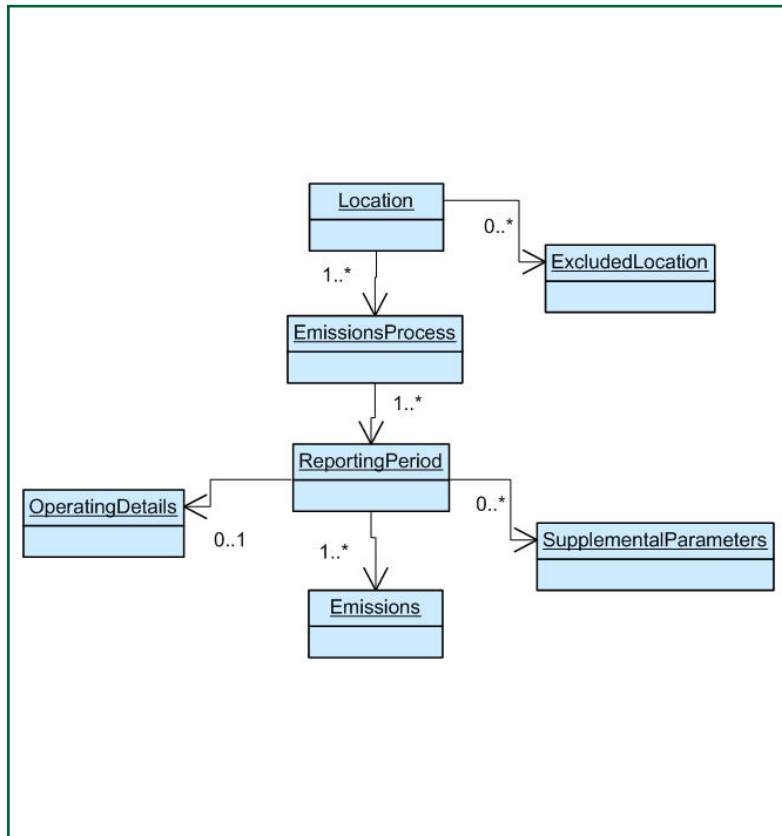
Part 3 - Preparing Your Data

Identify Only the Components Needed for a Specific Data Category for Reporting

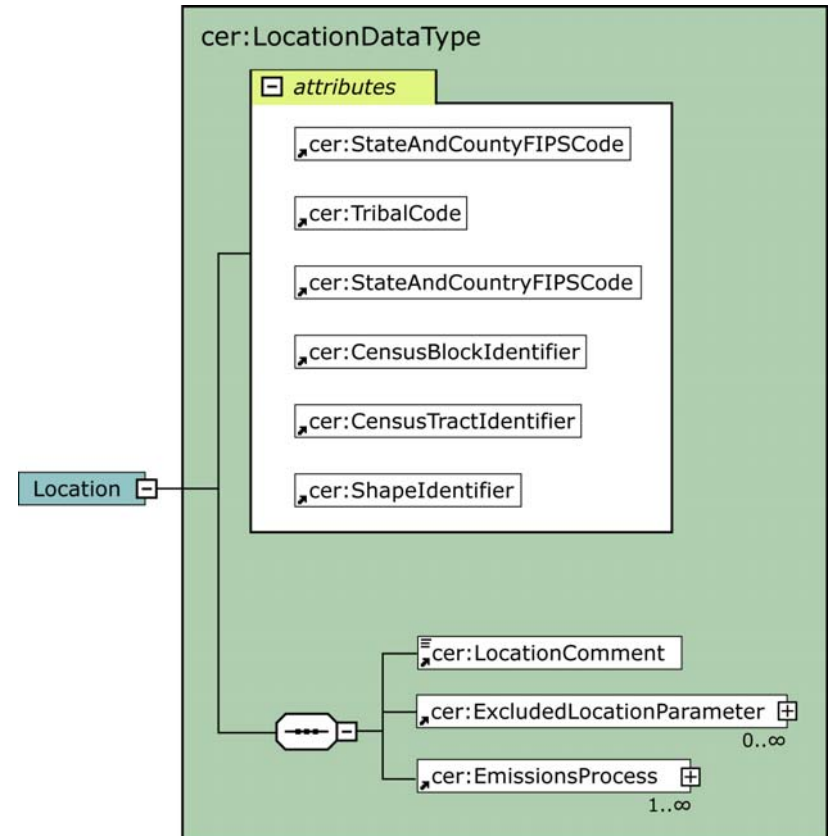
- **Use only the components relevant to the data category you are reporting.**
 - ❑ Facility inventory uses up to 16 components.
 - ❑ Point emissions uses up to 7 components.
 - ❑ Nonpoint emissions uses up to 11 components.
 - ❑ Onroad and Nonroad emissions use exactly 4 components.
 - ❑ Event uses up to 8 components.
- **Refer to the NEIP for guidance on which components to use.**

Part 3 - Preparing Your Data

Components Used for Reporting Nonpoint Emissions



Nonpoint Domain View



CERS Location Component

Part 3 - Preparing Your Data

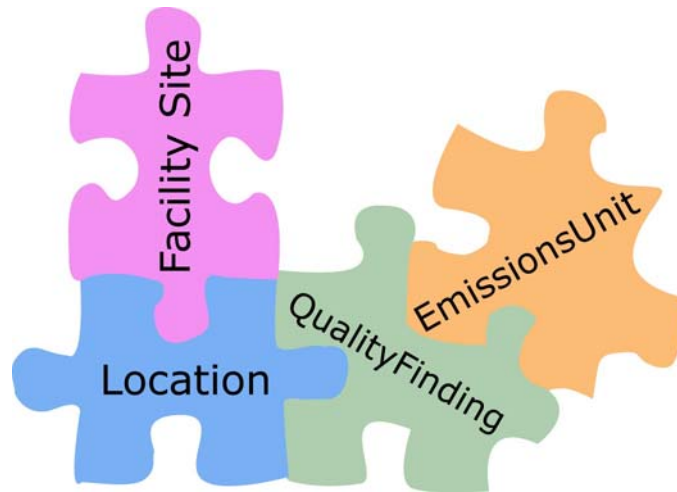
Use an XML Map

- Create a map between your data store and the XML schema.
- Use that map to import XML data to the same structure.
- Use that map to export XML data that conforms to the XML schema.
- Reuse that map for subsequent import and export operations.

```
<xs:element ref="cer:ControlApproachDescription" sql:field="ControlApproachDescription"/>
<xs:element ref="cer:PercentControlApproachCaptureEfficiency" sql:field="PercentControlApproachCaptureEfficiency"/>
<xs:element ref="cer:PercentControlApproachEffectiveness" sql:field="PercentControlApproachEffectiveness"/>
<xs:element ref="cer:PercentControlApproachPenetration" sql:field="PercentControlApproachPenetration"/>
<xs:element ref="cer:FirstInventoryYear" sql:field="FirstInventoryYear"/>
<xs:element ref="cer:LastInventoryYear" sql:field="LastInventoryYear"/>
<xs:element ref="cer:ControlApproachComment" sql:field="ControlApproachComment"/>
```

Part 4

Constructing the XML File



Part 4 - Constructing the XML File

Overview

In this portion of the presentation you will learn:

- Basic rules for constructing the XML file;
- Primary complex types in the CERS;
- Submittal data blocks;
- The technical rules which will cause your data to be rejected;
- How to validate your file;
- How to submit your file; and
- How to acquire feedback.

Part 4 - Constructing the XML File

Terminology

- **XML** - Markup language used for documents containing structured information. Facilitates the sharing of structured data.
- **XML Schema** - Describes the structure of an XML document. Rules define if the document is "valid." An instance of a schema has an .xsd extension.
- **XML Document** - A file containing well-organized data using XML markup language. An XML document is "well-formed" if it conforms to all XML syntax rules.

Part 4 - Constructing the XML File

Terminology

- **XML Element** - A unit of the XML document expressed in tags of the form "<tagname>."
- **XML Attribute** - Additional information about an XML element placed at the start of a tag. Attributes help identify the data for processing.
- **XML Simple Type** - An XML element which has no attributes or nested elements.
- **XML Complex Type** - An XML element which has attributes or nested elements.

Part 4 - Constructing the XML File

Basic Rules for Using the CERS

■ Accurate Tag Names

- ❑ Each tag name must be accurate in the XML file.
- ❑ A non-recognized tag name will cause the file to fail validation. It is considered not "well-formed."

■ Optional Complex Types

- ❑ CERS supports all data categories but contains no business rules.
- ❑ All complex types are considered optional in the CERS, providing flexibility for all data flows.
- ❑ EIS will specify what complex types are required for each data category.
- ❑ Omission of some complex types may result in rejection of data during file checking.
- ❑ Refer to NEIP Sections 10 - 16 for guidance.

Part 4 - Constructing the XML File

Basic Rules for Using the CERS

■ Required XML Elements:

- ❑ Most XML tags are not required in the CERS.
- ❑ EIS specifies which XML tags are required per data category for each complex type.
- ❑ Omission or a null value reported for a required tag will result in a quality assurance check failure. Data may be rejected.

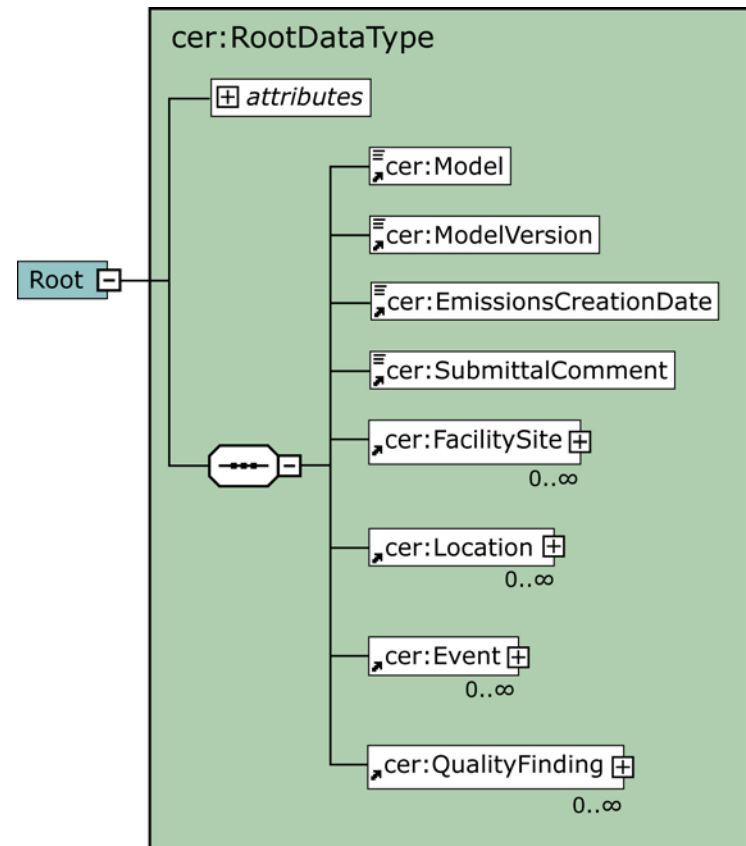
■ Optional XML Elements:

- ❑ If an XML element is identified as optional, it is not necessary to be present for the XML file to be valid.
- ❑ Optional XML elements with empty or null values will not result in quality assurance check failures.

Part 4 - Constructing the XML File

Primary Complex Types for the EIS

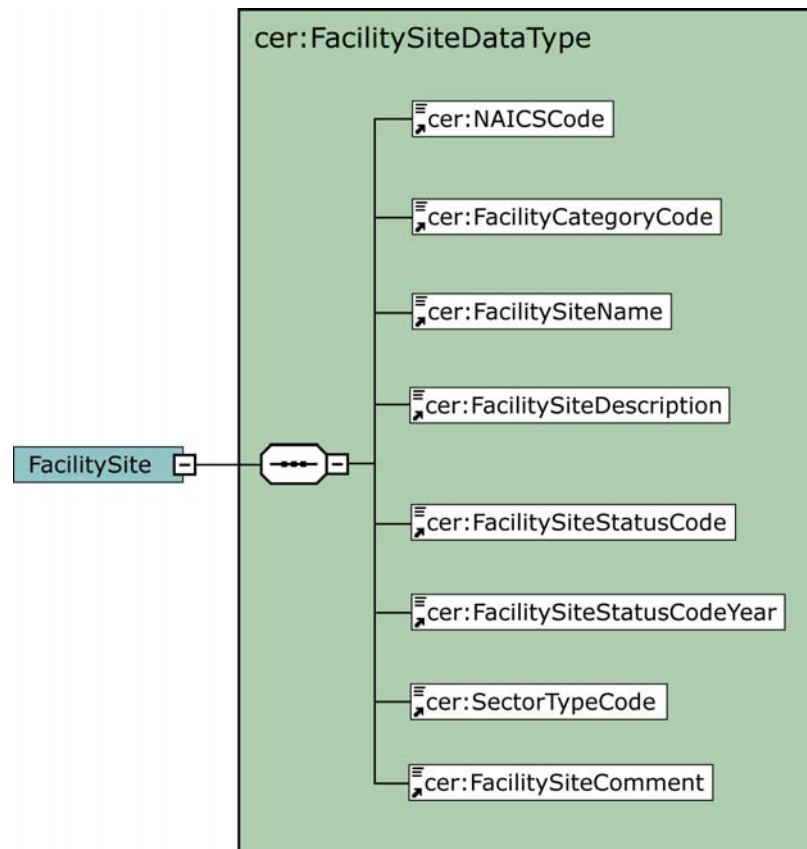
- **Three primary complex types in the CERS for reporting emissions to the EIS:**
 - ❑ Facility inventory (point based);
 - ❑ Location (area based); and
 - ❑ Event (time and geographically based).
- **Schema contains root XML elements.**
- **Complex types are comprised of a minimum number of required complex types and elements needed for the EIS to process data.**



Part 4 - Constructing the XML File

The FacilitySite Primary Complex Type

- **Contains information on the facility site.**
- **Elements include:**
 - ❑ NAICS code;
 - ❑ Site name (required);
 - ❑ Operating status; and
 - ❑ Description.

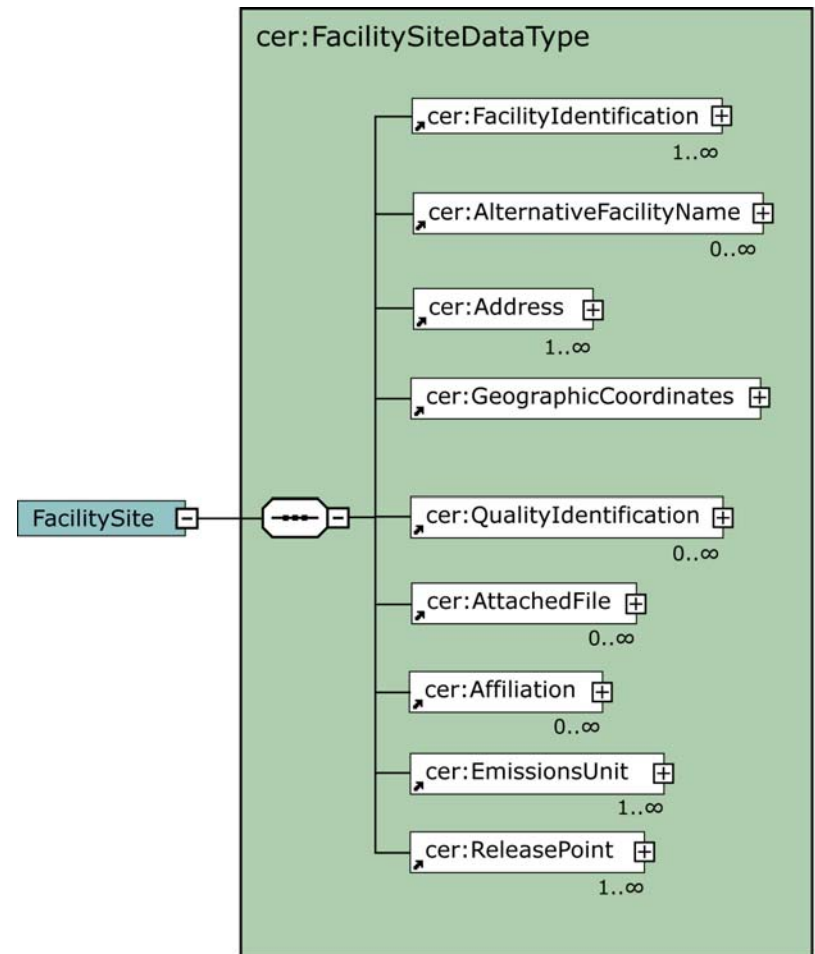


Part 4 - Constructing the XML File

The FacilitySite Primary Complex Type

■ Complex types include:

- ❑ Facility identification (required);
- ❑ Alternative facility name;
- ❑ Emissions unit (required);
- ❑ Release point (required);
- ❑ Affiliation;
- ❑ Address (required); and
- ❑ Geographic coordinates (required).



Part 4 - Constructing the XML File

How to Report Identifiers

- **Each entity that has identify may be reported with either an agency identifier or the EIS identifier:**
 - ❑ Facility site;
 - ❑ Emissions unit;
 - ❑ Emissions process; and
 - ❑ Release point.
- **An EIS identifier uniquely identifies a facility site within the entire inventory.**
- **Identifiers may be shared with other data flows.**

Part 4 - Constructing the XML File

Example of Reporting Facility Identifiers

```
<cer:FacilitySite>
  <cer:NAICSCode>424710</cer:NAICSCode>
  <cer:FacilityCategoryCode>12</cer:FacilityCategoryCode>
  <cer:FacilitySiteName>Citgo Petroleum Fairfax Terminal</cer:FacilitySiteName>
  <cer:FacilitySiteDescription>Petroleum distribution terminal. Adjacent to similar facilities under different ownership.</cer:FacilitySiteDescription>
  <cer:FacilitySiteStatusCode>OP</cer:FacilitySiteStatusCode>
  <cer:FacilitySiteStatusCodeYear>2008</cer:FacilitySiteStatusCodeYear>
  <cer:FacilityIdentification cer:FacilityIdentifier="70244" cer:ProgramSystemCode="VA-AIR-DEQ" cer:StateAndCountyFIPSCode="51600" />
</cer:FacilitySite>
```

Facility Site Reported with Agency Identifier

```
<cer:FacilitySite>
  <cer:NAICSCode>562212</cer:NAICSCode>
  <cer:FacilityCategoryCode>46</cer:FacilityCategoryCode>
  <cer:FacilitySiteName>Ivy Sanitary Landfill</cer:FacilitySiteName>
  <cer:FacilitySiteStatusCode>PS</cer:FacilitySiteStatusCode>
  <cer:FacilitySiteStatusCodeYear>2008</cer:FacilitySiteStatusCodeYear>
  <cer:FacilityIdentification cer:FacilityIdentifier="7846129" cer:ProgramSystemCode="EIS" />
</cer:FacilitySite>
```

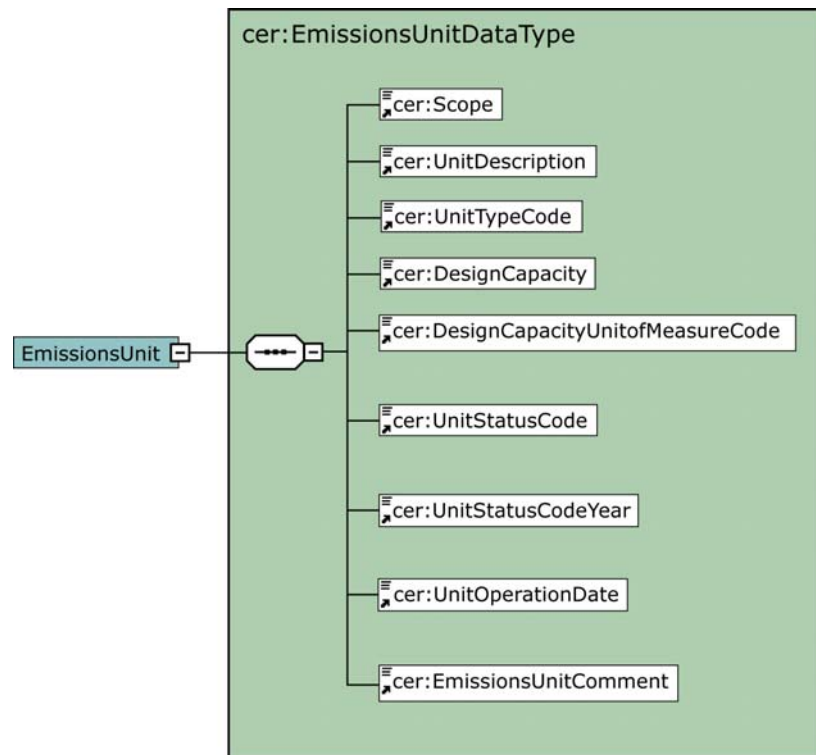
Facility Site Reported with EIS Identifier

Part 4 - Constructing the XML File

The EmissionsUnit Complex Type

■ Elements include:

- ❑ Unit description;
- ❑ Unit type;
- ❑ Design capacity;
- ❑ Unit status; and
- ❑ Operation date.

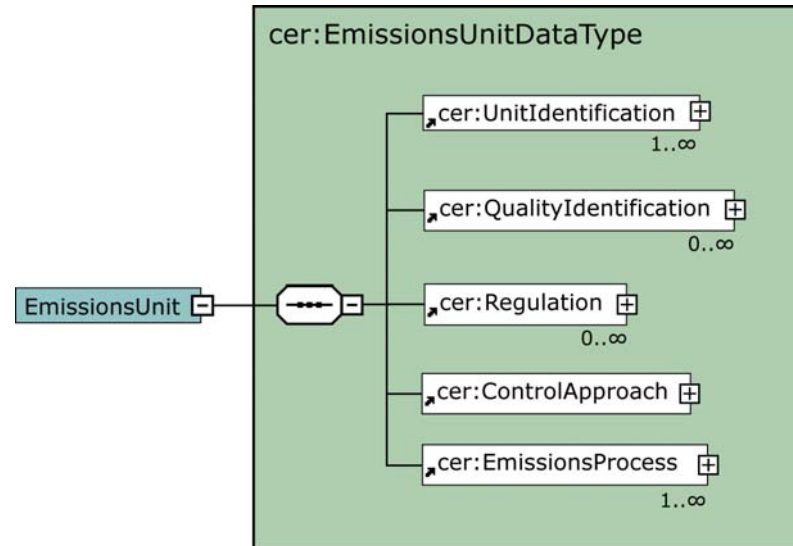


Part 4 - Constructing the XML File

The EmissionsUnit Complex Type

■ Complex Types Include:

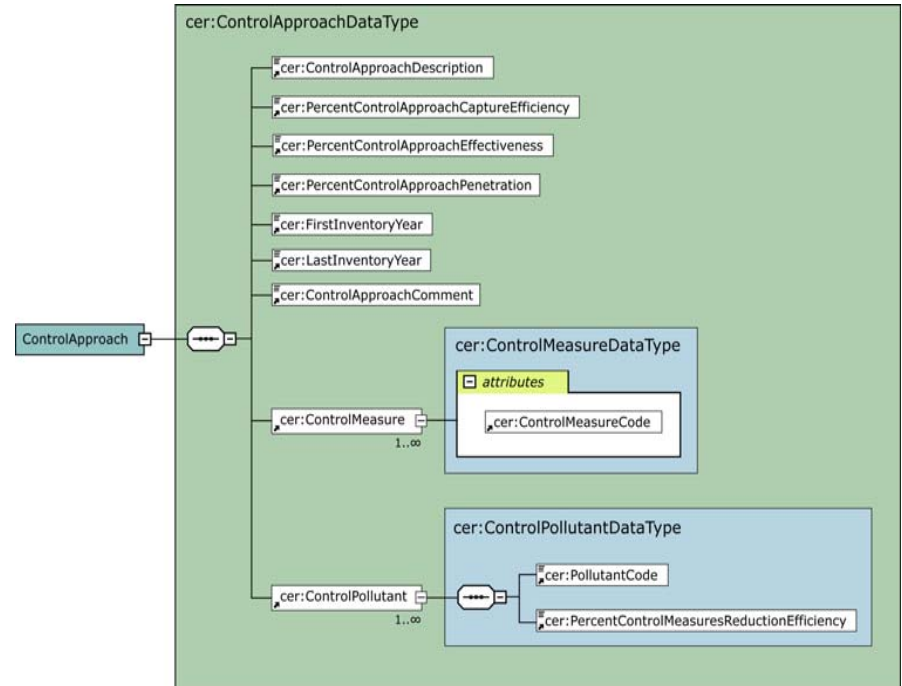
- ❑ Unit identification (required);
- ❑ Regulation;
- ❑ Control approach; and
- ❑ Emissions process (required).



Part 4 - Constructing the XML File

The ControlApproach Complex Type

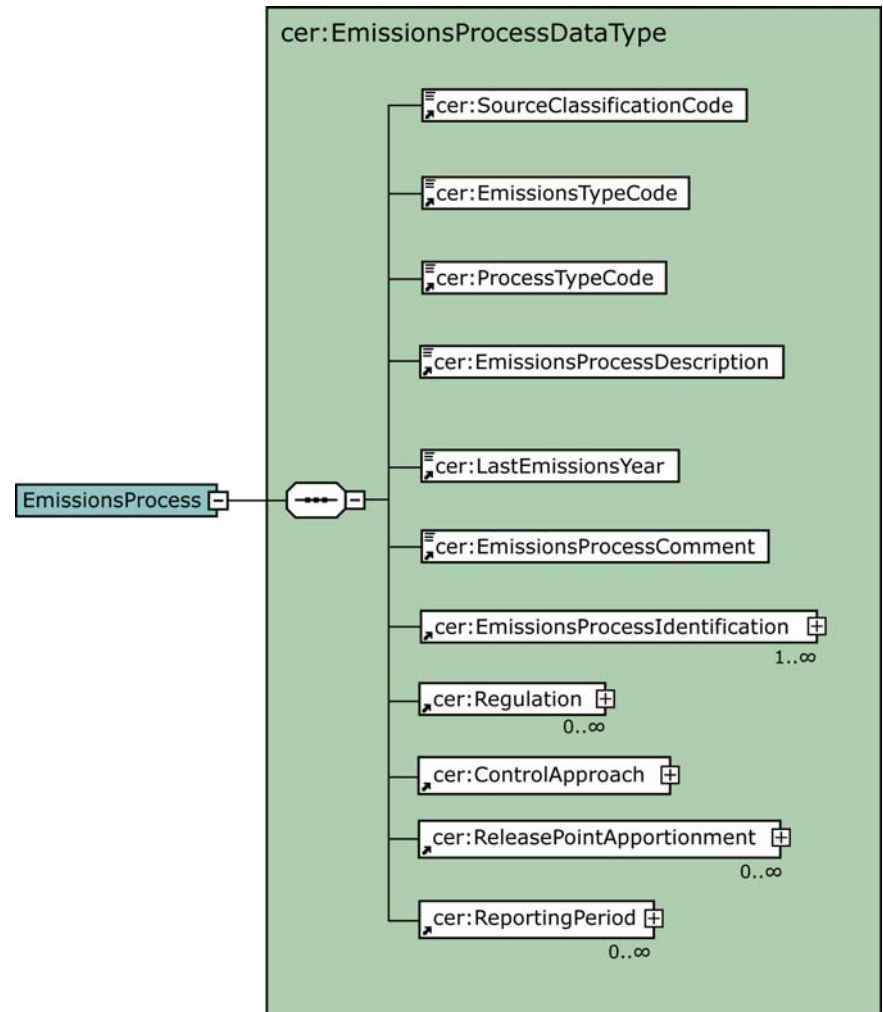
- **Identifies overall control approach.**
 - ❑ Must have at least one control measure.
 - ❑ Must have at least one control pollutant.
 - ❑ No direct relationship between control measures and control pollutants.



Part 4 - Constructing the XML File

The EmissionsProcess Complex Type

- **Identifies operational activities producing emissions.**
 - Elements Include:
 - SCC (required);
 - Process description; and
 - Last emissions year.
 - Complex Types Include:
 - Emissions process identification;
 - Regulation;
 - Control approach;
 - Reporting period; and
 - Release point apportionment.



Part 4 - Constructing the XML File

Reporting Emissions for a Reporting Period

- **Reporting period identifies:**
 - ❑ Time period in which emissions are reported (required).
 - ❑ Operating state (assumed routine).
- **Calculation parameters identify throughput or activity data.**
- **Complex types include:**
 - ❑ Operating details;
 - ❑ Supplemental parameters; and
 - ❑ Emissions.



Part 4 - Constructing the XML File

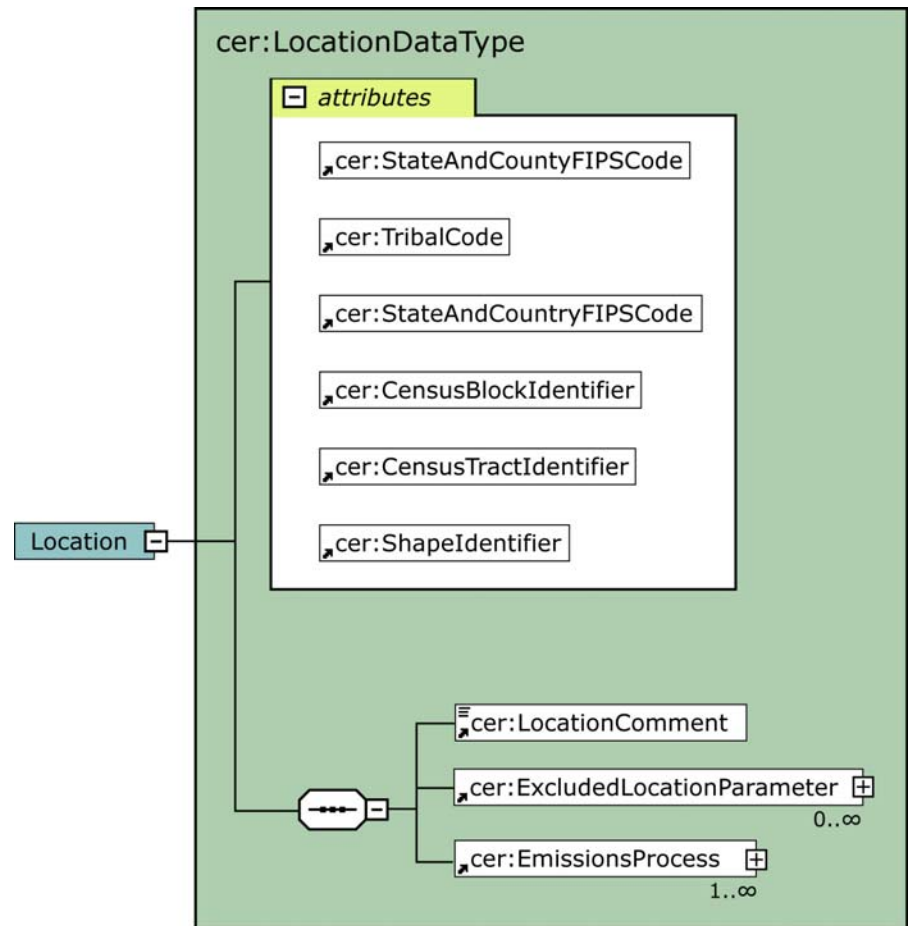
Example XML: Emissions for a Reporting Period

```
<cer:ReportingPeriod cer:ReportingPeriodTypeCode="A" cer:EmissionOperatingTypeCode="R">
  <cer:CalculationParameterTypeCode>I</cer:CalculationParameterTypeCode>
  <cer:CalculationParameterValue>6.698</cer:CalculationParameterValue>
  <cer:CalculationParameterUnitofMeasure>E6M3</cer:CalculationParameterUnitofMeasure>
  <cer:CalculationMaterialCode>518</cer:CalculationMaterialCode>
  <cer:CalculationDataSource>Landfill model estimates.</cer:CalculationDataSource>
  <cer:ReportingPeriodComment>Landfill model estimates.</cer:ReportingPeriodComment>
  <cer:Emissions cer:PollutantCode="75092">
    <cer:TotalEmissions>449.33</cer:TotalEmissions>
    <cer:EmissionsUnitofMeasureCode>LB</cer:EmissionsUnitofMeasureCode>
    <cer:EmissionsCalculationMethodCode>8</cer:EmissionsCalculationMethodCode>
    <cer:EmissionsComment>Emissions generated from AP-42 spreadsheet.</cer:EmissionsComment>
  </cer:Emissions>
  <cer:Emissions cer:PollutantCode="71556">
    <cer:TotalEmissions>23.7</cer:TotalEmissions>
    <cer:EmissionsUnitofMeasureCode>LB</cer:EmissionsUnitofMeasureCode>
    <cer:EmissionsCalculationMethodCode>8</cer:EmissionsCalculationMethodCode>
    <cer:EmissionsComment>Emissions generated from AP-42 spreadsheet.</cer:EmissionsComment>
  </cer:Emissions>
</cer:ReportingPeriod>
```

Part 4 - Constructing the XML File

The Location Primary Complex Type

- **Location identifies the geopolitical boundary of an emissions source.**
- **Used to report nonpoint, onroad, and nonroad emissions.**
- **Elements include:**
 - ❑ FIPS codes;
 - ❑ Census block and tract identifiers; and
 - ❑ Shape identifiers.
- **Complex types include:**
 - ❑ Excluded location parameters; and
 - ❑ Emissions process.



Part 4 - Constructing the XML File

The Event Primary Complex Type

- **Identifies the event, land manager, and time period.**
- **Complex types include:**
 - ❑ Merged events;
 - ❑ Event reporting period;
 - ❑ Event location;
 - ❑ Geospatial parameters; and
 - ❑ Event emissions process.

Part 4 - Constructing the XML File

Submittal Data Blocks

- **Submittal Data Blocks (SDBs) - Groups of related data that must be submitted together and integrated into the inventory together to be processed comprehensively.**
 - NEIP provides guidance on what complex types are expected for each data category.
 - Missing complex type for an expected SDB will cause the data to be rejected.

Part 4 - Constructing the XML File

Example Submittal Data Blocks

■ Reporting point emissions (Minimum SDBs):

- ❑ FacilityIdentification;
- ❑ EmissionsUnitIdentification;
- ❑ EmissionsProcess;
- ❑ ReportingPeriod; and
- ❑ Emissions.

Part 4 - Constructing the XML File

Example Submittal Data Blocks

■ Reporting nonpoint emissions (Minimum SDBs):

- Location;
- EmissionsProcess;
- ReportingPeriod; and
- Emissions.

Part 4 - Constructing the XML File

Data Types and Numbers

■ Dates and Years:

- ❑ All date and year tags are strings.
- ❑ If "Date" is in tag name then report in YYYYMMDD format.
- ❑ If "Year" is in tag Name then report in YYYY format.

■ Numbers:

- ❑ All numbers are reported as strings.
- ❑ If "Percent" is in tag name then report as a decimal.
 - Example 85.5% = 85.5
- ❑ Formats, width, scale and precision are suggested in NEIP.
- ❑ Numbers will be rounded and stored to meet suggested format.
- ❑ EIS will convert data to proper format for storage.

Part 4 - Constructing the XML File

Reporting Codes

- **Tags with "Code" at the end of the tag name must contain data from a specific list of values.**
- **Values reported must match an active code in the EIS code table or the data will be rejected.**
- **Schema will not validate code values.**

Part 4 - Constructing the XML File

Cardinality Rules or "Why Data Will be Rejected"

- **Rule #1: Don't duplicate an XML element within a complex type.**
 - ❑ The same XML element cannot be reported more than once in a complex type.
 - ❑ This results in data loss. (Assumed to be a systemic error).
- **Rule #2: Don't report duplicate complex data types.**
 - ❑ Two sets of data containing the same identification data will cause inconsistency in data.
 - ❑ This results in file rejection (Assumed to be a systemic error).
- **Rule #3: Don't report duplicate primary data blocks.**
 - ❑ Two sets of data reported for the same location, facility site, or event will cause inconsistency in data.
 - ❑ This results in data Loss. (Assumes "last in wins.")
 - ❑ Last transaction in file will be stored.

Part 4 - Constructing the XML File

Tools to Validate Your XML File

- **<http://tools.epacdxnode.net/>**
 - ❑ Provide schema validation services.
 - ❑ CERS will be available on CDX site.
- **Altova XMLSpy**
 - ❑ Checks your XML file is well-formed.
 - ❑ Validation based on CERS.
- **CERS will be available for download.**

Part 4 - Constructing the XML File

Preparing to Submit

- **Files are submitted through EPA's Exchange Network.**
- **All users submitting files must have a CDX account.**
- **Files may be submitted to either the quality or production environment.**
- **Files will be checked for:**
 - ❑ Well-formed XML (accurate tag names);
 - ❑ Valid schema structure (nested structure is correct);
 - ❑ Cardinality rules are not violated; and
 - ❑ Quality of data content (critical business rules are met).

Part 4 - Constructing the XML File

Receiving Feedback

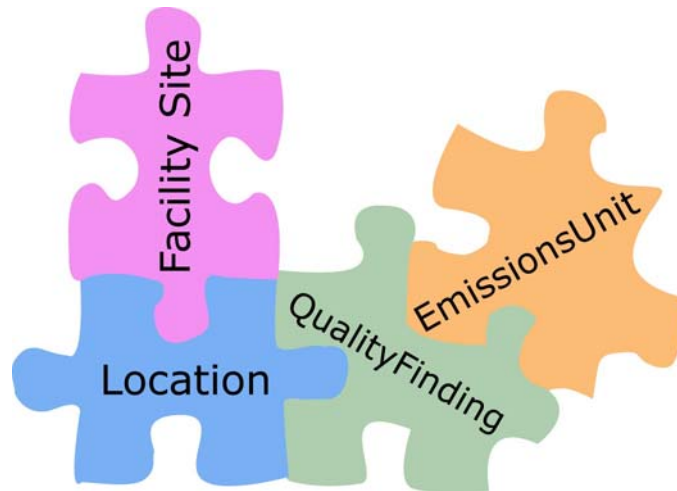
- **Unlimited number of submissions.**
- **Submission to quality environment prior to production environment is encouraged.**
- **Feedback report is provided for every file submission.**
- **Feedback contains both technical errors and content errors.**
- **Processing of submitted data is expected to take no more than two days.**
- **Results may be seen on EIS Gateway.**

Where to Find More Information

- <http://www.epa.gov/ttn/chief/net/neip/>

Part 5:

General Discussion



Part 5 - General Discussion

- **S/L/T process**
- **Converting to XML**
- **Additional questions**

Part 5 - General Discussion

S/L/T Process

- **How do you currently get data out of your system and formatted into NIF 3.0?**
- **What tools/applications do you use to generate your data file?**
- **How does having an Exchange Network Node change the way you generate your data files?**
- **Do you plan to submit your EIS XML data via your Exchange Network Node?**

Part 5 - General Discussion

Converting to XML

- **Initially proposed a NIF 3.0 to EIS XML conversion tool**
 - Ease the transition to EIS
 - Provide a tool that program staff can use
- **Approach has many limitations**
- **Feedback from Regional office visits indicated other resources were needed**

Part 5 - General Discussion

Converting to XML

■ New Proposal

- EPA provides documentation
 - Map NIF 3.0 data elements to CERS staging tables
 - CERS data model
 - Map CERS data model to the CERS XML schema
- EPA provides
 - CERS staging table structure for data loading
 - Application that uses the CERS staging table as an input to generate an EIS XML file