2008 National Emissions Inventory

Emissions Inventory System Implementation Plan

Section 11
Reporting Instructions for
Events

Final

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Section 11
Reporting Instructions for Events

11.1 Introduction to Reporting Event Emissions

This section provides detailed instructions for reporting event emissions to the EIS. An event is a localized, short-duration emissions-producing incident that does not recur or recurs irregularly and infrequently at that location. Events are not associated with a facility point source that produces significant, reportable air emissions. Previously, events were generally reported as nonpoint sources. The EIS now provides a flexible and robust reporting approach designed specifically for events, and is capable of receiving and storing:

- Fire events which characterize a specific fire as to location in time and space and its emissions.
- Fire "complexes" comprised of multiple discrete fire events.
- Locations of fires by either both latitude and longitude and area burned or as a geospatial shape.
- Changes in fire shape, location, and other parameters over time.
- Daily fire emissions or total aggregated emissions over time.
- Capability to enter other non-fire events may be added in the future.

11.2 Event Reporting

For the purposes of the EIS, EPA has defined the following event categories:

Fire event. This is a short-term, natural or anthropogenic open burning of land, vegetation, structural material, or debris, and related smoldering, that produces significant emissions, not associated with a facility in the facility inventory. There are several methods to report a fire event. Discussion of how to determine the appropriate method is found in Section 11.6. Note that the EIS Events format contains information on the fire occurrence (size, date, geographic coordinates, ID/name, type), activity that effects the fire process and the fire emissions estimate.

For the 2008 NEI, the fires event will be the **only** type of events, as specified by SCC, that will be reportable using the EIS CERS will be fires. EPA will evaluate the possibility of using the CERS for reporting non-fire events for future inventory cycles.

Facility-related event. Short-term or episodic events associated with a facility, such as a fire at a facility site, an industrial accident, or a plant upset should be reported to the EIS using the point source structure. For these point sources, emissions data are required to be reported, while activity data are not. To support these short-term events, emissions can be reported in

daily increments. For further information, see Section 7, "Reporting Instructions for Point Emissions."

Non-fire event. Short-term, unpredictable events that produce significant emissions, such as an oil tanker spill, railroad chemical tanker spill, a large public event, or a volcano should be reported to the EIS using the nonpoint reporting structure. For all non-fire events, both activity and emissions data are required. These non-fire events, which in past NEI were non-point sources, can now have emissions and activity reported in daily increments. For further information, see Section 8, "Reporting Instructions for Nonpoint Emissions."

11.3 EIS Fire Types and SCCs in the NEI

EPA has designated a set of EIS fire types, which are groups of related SCCs. For a complete list of SCCs, see Appendix 6, "EIS Code Tables." The fire types and their definitions are listed in the box below. Note that the "Other Fire" type is usually inventoried as Nonpoint and EPA expects that this will continue. However, this type is available in the EIS Events for use with large structural and tire fires. Also note that the Preliminary National Fire EI and the final NEI may both contain some fires of "uncategorized fire type" if the fire is identified by satellite and has no corroborating ground-based report of a fire at those geographic coordinates and date.

EIS Fire Types in the 2008 NEI	
Wildfire	Naturally ignited or unplanned, non-structure fire not managed for resource benefits.
Wildland Fire Use	Naturally ignited or unplanned, non-structure fire managed for resource benefits.
Prescribed Fire	Fire ignited on wildlands to meet specific resource management objectives.
Agricultural Fire	Fire ignited to meet specific management objectives on agricultural lands.
Native American Fire Use	Fire ignited to meet specific management objectives on Native American Tribal lands.
Natural Disaster Cleanup	Fire ignited to burn construction or vegetative debris resulting from a natural disaster.
Other Fire	Structure fire, construction debris, tire fire, or other fire types not included above.

11.4 Key Dates

Key dates for reporting fire events to the NEI may be found in the box below. Further information on the general 2008 NEI schedule may be found in Section 1, "Introduction to the NEI and EIS."

Key Dates for 2008 Fire Reporting

S/L/Ts are encouraged to provide access to their data on fire occurrences in their jurisdiction, (e.g., "accomplished" 2008 prescribed fire data, wildfires not in the ICS-209 reports) in an electronic format such as the Fire Emissions Tracking System (FETS) for EPA's use in development of its preliminary National Fire Inventory.	*January 1 - July 1, 2009*
EPA develops a preliminary national fire emissions inventory for the 2008 NEI using SMARTFIRE's satellite- and ground-based reports and the BlueSky framework.	*July 1 - October 1, 2009*
EPA's preliminary national fire emissions inventory is available on the EIS Gateway for review.	*October 1, 2009*
S/L/Ts may submit fire emissions inventory data to the EIS as early as July 1. However, S/L/Ts are encouraged to make their fire occurrence data available then and wait until the preliminary national fire emissions inventory is available in October.	*July 1, 2009 - June 1, 2010*
EPA selects its draft fire NEI from the preliminary fire EI and the S/L/T submittals.	*June 4 - July 16, 2010*
Review and comment on draft NEI.	*July 19 - October 30, 2010*
General Public Release of the NEI.	*December 31, 2010*

11.5 EPA's Preliminary National Fire Emissions Inventory Using SMARTFIRE and BlueSky

Prior to October 1, 2009 EPA will develop and provide a preliminary national inventory of fire emissions. To do this, SMARTFIRE (Satellite Mapping Automatic Reanalysis Tool for Fire Incident Reconciliation) is used to reconcile databases of electronically available ground-based, human recorded fire occurrence data and satellite-detected fire occurrence data. The reconciled fire occurrence dataset from SMARTFIRE will then feed the BlueSky framework which will be used to estimate emissions for each fire for each time period. For more information on SMARTFIRE and BlueSky, see http://www.getbluesky.org.

EPA's national inventory of fire emissions will be made available on the EIS Gateway. While you may not edit these data, you are encouraged to review the data and submit any additional data for your jurisdiction. Alternatively, you can download the dataset, edit it as necessary and resubmit the revised dataset as your S/L/T submittal. As with the EIS Point, Nonpoint, Onroad and Nonroad, EPA will prepare its final National Inventory during the analysis and selection phase by selecting from its SMARTFIRE-based inventory and S/L/T submissions.

The ground-based fire data used are those reported in Incident Status Summaries (ICS-209), maintained by the National Interagency Fire Center and other systems used by S/L/Ts to plan and track fire occurrences, such as FETS. S/L/Ts in the WRAP are encouraged to complete a Fire Accomplished Report and provide it to FETS, as well as provide additional fire data to FETS so that the EPA can use FETS as an input to estimate emissions. The EPA and others are investigating systems similar to FETS that may be available to non-WRAP S/L/Ts to use (e.g., FAETS) to electronically store their fire occurrence data. The satellite fire detections are from the National Oceanic and Atmospheric Administration (NOAA) Hazard Mapping System (HMS).

11.6 Data Sources for Fire Data

Wildfires and wildland fire use. EPA will ensure that certain key national wildfire data sources will be automatically incorporated into SMARTFIRE, and ultimately into the NEI, including ICS-209 reports. Additional data sources potentially available to S/L/Ts for these fire types include regional, State, Tribal, or Local fire databases.

Prescribed fires, agricultural fires, and Native American fire use. EPA will automatically incorporate into SMARTFIRE data from the Hazardous Mapping System (HMS) and, for states within the Western Regional Air Partnership, the Fire Emissions Tracking System (FETS). Note that ICS-209 reports do not cover these fire types, and there is currently no counterpart to FETS for eastern states. Additional data sources potentially available to S/L/Ts for these fire types include regional, State, Tribal, or Local fire databases.

11.7 Priorities for Reporting Fire Occurrance by Fire Type for Use in SMARTFIRE

The following guidelines should be used to select the appropriate method for submitting fire occurrence data for use by SMARTFIRE. It is not necessary to select a single method for all fire reporting; however, limitations are noted in Figure 11-1. This summary provides an overview of the various reporting options available for each type of fire event.

11.7.1 SMARTFIRE (Fire Occurrence Data Only - No Other Activity or Emissions Data is necessary)

The preferred method for all fire reporting is for S/L/Ts to make their fire occurrence data for their respective jurisdictions available prior to the development of EPA national inventory of fire emissions using SMARTFIRE and the BlueSky framework. This method ensures that the most up-to-date S/L/T fire occurrence data are used when EPA generates its national inventory of fire emissions.

11.7.2 EIS (Occurrance, Fuels and Emissions Data)

Although less preferable than making your fire occurrence data available for your specific jurisdictions, you may report all fire occurrance, fuels and emissions data directly to the EIS using the EIS CERS XML Event reporting format. If you are unable to make your fire occurrence data available you may, as a last resort, submit using the EIS CERS XML nonpoint reporting format and include emissions data and fire type for specific aggregations of geographical areas and time periods.

Fire data submitted directly to the EIS will be checked for potential duplicate fire events against the EPA's national inventory of fire emissions. This will occur after the close of the submission period, during the analysis and selection phases. You may report fires for a given County/Tribal and fire type combination as either events or nonpoint emission sources, but not both. The SCCs may be found in Appendix 6, "EIS Code Tables."

After the close of the submission period, EPA will compare nonpoint fire data to fire data reported as events to evaluate for potential double-counting.

Figure 11-1
Preferences for S/L/T Support to Development of the Preliminary NEI for Fires

Fire Type	S/L/T Reporting Preferences *(in preferred order)*
Wildfire Wildland Fire Use	1) Make fire occurrence data available for their specific jurisdiction. This might include submission of data to e.g., FETS, FAETS and/or quality assurance of the ICS-209 data. Submission of fire occurrence (location, dates and size by date) is the priority - it is NOT necessary to report fuels data or emissions. 2) EIS CERS XML submissions using the Event reporting format. 3) Do nothing - rely on ICS-209 reports and satellite detections. *Note: The Nonpoint reporting format may **not** be used for these fire types.*

(cont.)

Figure 11-1
Preferences for S/L/T Support to Development of the Preliminary NEI for Fires (cont.)

Fire Type	S/L/T Reporting Preferences *(in preferred order)*
Prescribed Fire Agricultural Fire Native American Fire Use Natural Disaster Cleanup Other Fire	1) Make fire occurrence data available for their specific jurisdiction. This might include submission of data to e.g., FETS, FAETS. Submission of fire occurrence (location, dates and size by date) is the priority - it is NOT necessary to report fuels data or emissions. 2) EIS CERS XML submissions using the Event reporting format.3) EIS CERS XML submissions using the Nonpoint reporting instructions. If the nonpoint reporting option is used, it is necessary to report emissions data for specific spatial-time period aggregates.

11.7.3 Selecting the Appropriate Reporting Method

In determining whether to report your fire data as an Event or as Nonpoint data consider the following:

- **Quality.** The EIS CERS Events reporting structure is the preferred method for reporting your data. The additional data elements provided in the Events reporting format allows for the collection of more detailed information and provide greater quality control. In turn this provides for easier reconciliation of fire data provided from multiple data sources.

- **Event identification.** The EIS CERS Events reporting structure allows individual fire events to be named and identified. Fire identification is not accommodated when you report these data as nonpoint emissions sources.

- **Geographical coordinates/parameters.** The EIS CERS Events reporting structure allows you to associate emissions by latitude and longitude measure, or geospatial shapefile. In addition, these geographic measures can be reported for multiple locations as the fire changes its position from day to day. If you report your fire data as a nonpoint emissions source, the geographic grainularity in which you can report aggregate emissions is for a county or tribal area.

- **Time increments.** Event emissions can be reported using a variety of time period increments. If you report your fire data as a nonpoint emissions source, you may report aggregate emissions as monthly, seasonal or annual totals. Nonpoint reporting requires, at minimum, an annual total for each geographical area, SCC, and pollutant combination reported.

- **Consistent reporting within a jurisdiction and SCC sector.** For a given County or Tribal area, and fire type, you must report using either the EIS CERS Events reporting structure or the EIS CERS Nonpoint reporting structure, but not both.

- **Editing data through the EIS Gateway.** Although you will be able to review Event Fire data through the EIS Gateway, you will not be able to modify these data. Any updates or supplements to these data must be submitted using the EIS CERS.

11.8 Determining Which Fires to Report

Wildfires and wildland fires of 100 acres or greater in size. In preparing its national inventory of fire emissions from satellite- and ground-based data, EPA expects to develop reasonable coverage for wildfires of this size. You have the option of reporting fires of 100 acres or greater in size, especially in order to add fires that were omitted from or incorrectly reported in EPA's national inventory of fire emissions.

Wildfires and wildland fires of less than 100 acres in size. You are strongly encouraged to report fires of less than 100 acres in size where data are available. Note that the EPA will likely identify many fires smaller than 100 acres in its preliminary national inventory of fire emissions. However, they will not be categorized as to type if they were satellite-identified and no corroborating ground-based fire report is available for that date and location unless they are also included in a ground-based reporting system.

Prescribed fires, agricultural fires, and Native American fire use. You are strongly encouraged to report prescribed fires, agricultural fires, and Native American fire use where data are available. Due to satellite limitations in detecting short-term fires, EPA expects incomplete coverage of these fires in preparing its national inventory of fire emissions. Reporting these fires is of significant value to EPA's national fire emissions inventory given their potentially significant emissions.

11.9 Roles and Responsibilities for Refinement of the Preliminary NEI

Figure 11-2 summarizes the preferred roles for the EPA and S/L/Ts to participate in the NEI for fires. EPA will make available through the EIS Gateway for S/L/T review a national inventory of fire emissions. S/L/Ts can submit fire data to supplement EPA provided or missing data.

Figure 11-2
Roles in Development of the NEI for Fires by Fire Type

Fire Type	Fire Size	Preferred Roles in NEI Development	
		EPA	S/L/T
Wildfire Wildland Fire Use	100 acres or greater	Preliminary Fire EI by EPA using SMARTFIRE. Full coverage is expected to be available in the EIS, including ICS-209 report data and both satellite- and ground-based fire data.	S/L/Ts are encouraged to review EPA's preliminary national inventory of fire emissions and (at their option) to supplement/modify these data by submitting fire event emissions to the EIS.
	Less than 100 acres	Preliminary Fire EI by EPA using SMARTFIRE. Partial coverage is expected to be available in the EIS, including both satellite- and ground-based fire data.	S/L/Ts are encouraged to review EPA's preliminary national inventory of fire emissions and (at their option) to supplement/modify these data by submitting fire event emissions to the EIS.
Prescribed Fire Agricultural Fire Native American Fire Use	All	Preliminary Fire EI by EPA using SMARTFIRE. Partial coverage is expected to be available in the EIS, including both satellite- and ground-based fire data.	S/L/Ts are encouraged to review EPA preliminary national inventory of fire emissions and (at their option) to supplement these data by submitting event emissions to the EIS.
Natural Disaster Cleanup Other Fire	All	No data will be provided.	S/L/Ts are expected to report these data.

Figure 11-3 summarizes the two uses of the CERS to report fire data.

Figure 11-3
Preferred Reporting Method using the CERS

Fire Type	Preferred	Secondary
Wildfire Wildland Fire Use	EIS CERS XML Event reporting structure.	None.
Prescribed Fire Agricultural Fire Native American Fire Use	EIS CERS XML reporting structure.	EIS CERS XML Nonpoint reporting structure.

11.10 Key Terms and Acronyms

An explanation of key terms for this section is in the "Key Terms" box in Figure 11-4. Additional terms and acronyms may be found in Appendix 1, "EIS Glossary."

Figure 11-4
Glossary of Key Terms for Events Emissions Reporting

Key Terms

Activity: *A quantifiable action or function used to calculate emissions for a process. Replaces the narrower term "throughput" used in NIF. For event sources, activity data may include fuel loading, amount of fuel consumed, and amount of area burning or smoldering.*

Component: *A group of related elements reported together within the XML document. (Within the XML schema, this is also known as a complex type).*

Data category: *A group of data that share similar EIS reporting requirements. The EIS data categories are: Facility Inventory, Point, Nonpoint, Onroad, Nonroad, and Event.*

Data element: *The smallest reportable piece of information in the EIS that in a database would correspond to a field.*

Data type: *The form with which a data element must be compliant in order to be stored properly in the EIS, such as integer, decimal, or character.*

Dataset: *The entire set of data submitted to the EIS by an S/L/T for an inventory year. An S/L/T event emissions dataset can have only a single value for a given fire type, reporting period, location, and pollutant. An S/L/T nonpoint emissions dataset can have only a single value for a given geographic area, process, reporting period, and pollutant. For example, the North Carolina 2008 dataset may contain only one annual total for a given County, process, and pollutant.*

Emissions process: *An operation or function that produces emissions, characterized by an SCC.*

Expected pollutant: *A pollutant which EPA has identified as likely to occur from an emissions process and should be reported by the S/L/T. If not reported, EPA will estimate emissions for the missing pollutants and use these values in the published NEI.*

Fire type: *A group of fire-related SCCs. These are: Wildfire, Wildland Fire Use, Prescribed Fire, Agricultural Fire, Native American Fire Use, Natural Disaster Cleanup, and Other Fire.*

Fire Occurrence: *The information used to describe a fire temporally, its size, geographic coordinates, name and type.*

NIF 3.0: *NEI Input Format Version 3.0. The format used to report emissions inventory data in 2002.*

Reporting entity: *The S/L/T Agency, or its delegate, that has the responsibility for reporting emissions for a geographically defined area.*

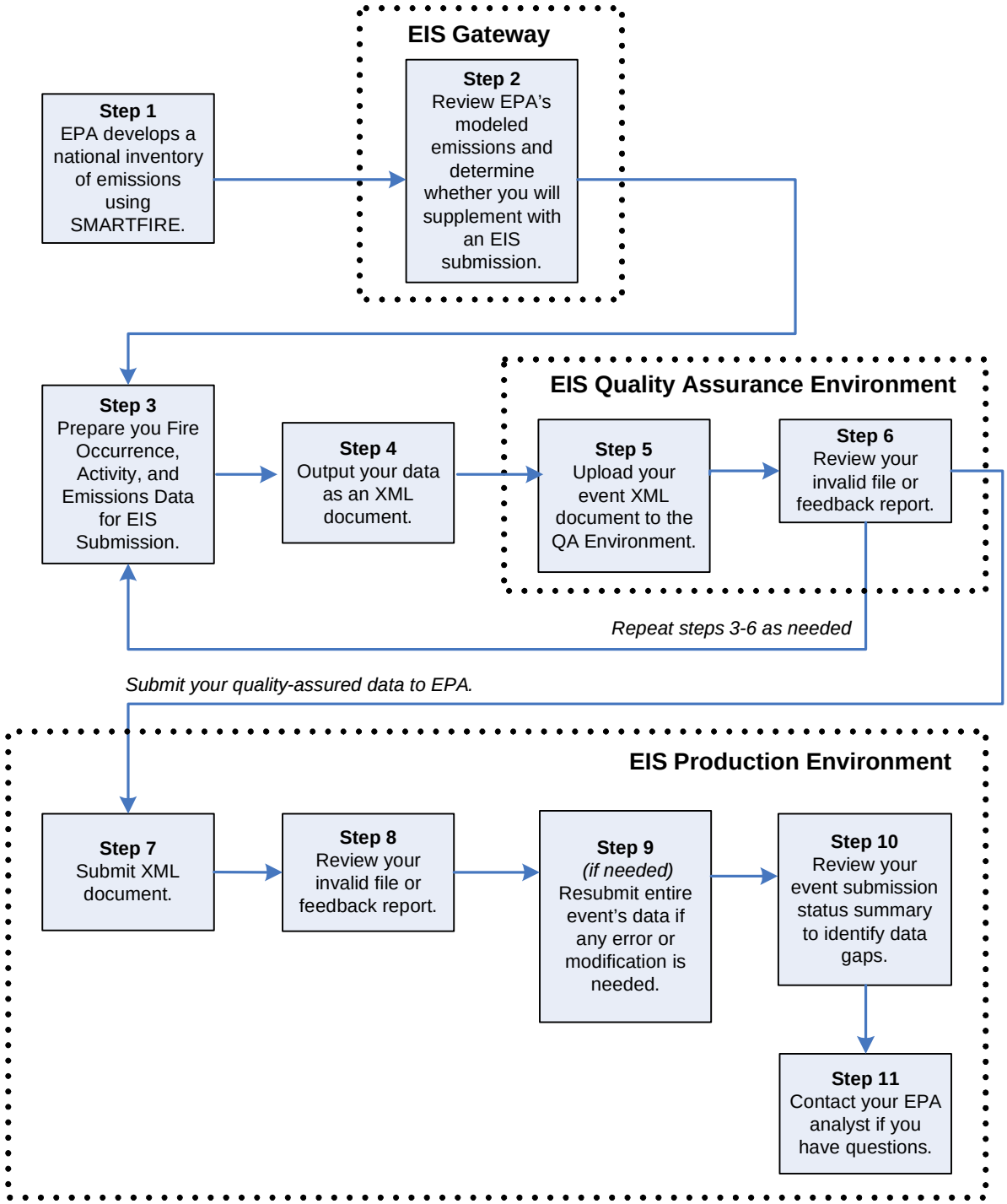
Source Classification Code (SCC): *The code that characterizes an emissions process. All emissions in the inventory are associated with an SCC.*

Submittal data block: *Within a single batch submission, certain data elements cannot be submitted individually. For these data elements, the submission must also contain other related components and data elements; this group is called the "submittal data block." Any data element that appears within a submittal data block must be submitted in the batch file along with the rest of its block.*

11.11 The Submission Process for Event Data

Figure 11-5 outlines the steps that you would typically follow to prepare and submit Event data. Further information on each step follows.

Figure 11-5
Event Data Submission Process



11.11.1 Step 1: EPA Develops a Preliminary National Inventory of Fire Emissions Using SMARTFIRE

As noted previously, the preferred method of developing your fire inventory is by providing your fire occurrence data to your specific jurisdiction. This includes activity data submitted to FETS and fires reported using the ICS-209 reports. The term "activity" refers to a quantifiable action or function of an emissions process whose magnitude is used to calculate emissions for a process. For the EIS, this replaces the narrower term "throughput" used in NIF and is reported via the EventReportingPeriod components of the Event Submittal Data Block as described in sections 11.11.4 and 11.16.

For fire events, activity data may include:

- Fuel loading;
- Amount of fuel consumed; and
- Amount of area burning or smoldering.

11.11.2 Step 2: Review EPA's Modeled Emissions

You should review EPA's preliminary national inventory of fire emissions, which will be available for review on the EIS Gateway. You will not be able to edit these data; the purpose of this review is for you to determine whether you should supplement the data with your own activity and emissions data. Note however that while the EPA estimates cannot be edited online, the data can be downloaded, modified by the S/L/Ts and uploaded as an S/L/T submittal under Step 3 below.

11.11.3 Step 3: Prepare Your Fire Occurrence, Activity and Emissions Data for EIS Submission

If you intend to submit additional fire data to supplement EPA's national inventory of fire emissions, you should follow the steps set out here. As you prepare your data, determining the processes and pollutants you should report, and deciding what should be reported as event emissions, please note the following guidelines.

Scope of Event Processes. EPA has published a complete list of SCCs can be found in Appendix 6, "EIS Code Tables." It is your responsibility to ensure that the event emissions you report are not double-counted in another data category. If you do not report emissions from these processes, EPA may estimate emissions for the missing processes and use these values in the published NEI.

Reporting Activity and Emissions. The NEI is a comprehensive and integrated inventory, containing emissions estimates for all significant sources of CAPs and HAPs. You are expected to use the same set of activity data (e.g., acres burned, moisture) to calculate emissions for all pollutants you calculate and report (CAPs, HAPs, GHGs) for a given event. This will ensure that the data contained in the inventory are integrated in a consistent fashion. You must submit these emissions for all your reported pollutants, both CAPs and HAPs, in a single, integrated file, with one set of activity data.

Activity for events is reported differently from point and nonpoint emissions. Several fuel characteristics are reportable; however, fuel *type* is not reported to the EIS. For most fires,

the method by which fuel type is determined (e.g., FCC, NFDRS, other) is sufficient information. For agricultural fires, the fuel type is reported within the SCC code (see Appendix 6, "EIS Code Tables").

Acceptable Pollutants. The list of acceptable pollutants has been modified for 2008. It was reduced so that fewer assumptions and adjustments need to be made about the reported emissions data for downstream uses. Some previously reported variants of pollutants or aggregated pollutants will no longer be accepted. However, for some pollutants, EPA will still accept either a number of individual species or a single aggregate pollutant group. For a given facility site and process, you may submit either the individual species or the aggregate, but not both. EIS will have to perform some speciation of reported values for downstream modeling users, and will have to perform some aggregations of individual species to report summaries. EPA strongly recommends that you update the pollutant codes in your local system or calculation tools before generating data. For a complete list of the acceptable pollutant codes, see Appendix 6, "EIS Code Tables."

- **CAPs reporting.** For event emissions, the CERR requires the reporting of **both** activity and CAP emissions for every event-related process that emits CAPs. This includes processes for which activity is present but for which emissions are reported as zero.

- **HAPs reporting.** Although the CERR does not require the reporting if HAP emissions, EPA strongly encourages you to report HAPs if these data are available. If only activity information is reported, EPA will estimate emissions for the expected HAPs using the activity data supplied for the process and standard emission factors or similar methods.

- **GHG reporting.** For the 2008 inventory cycle, GHG emissions will be accepted for any process. This is done by adding the allowable GHG pollutant codes to existing processes. No additional information, i.e., CO_2 equivalents, is needed to report GHG emissions. EPA has not defined pollutant coverage for specific processes for greenhouse gases. If you would like to report GHGs for a process for which no SCC has been defined, you may request that an SCC be added to the EIS by following the instructions outlined in the section of the EIS Users Manual entitled "How Do I Submit a Support Request?"

Interpreting Zero and Null Values. The submission of a "zero" emissions value for a process and pollutant will be interpreted in the inventory as an indication that you have calculated the emissions and the result was a zero value. Submit zeros when you intend for the value in the inventory to be zero. A "null" value reported for any data element will be interpreted by the EIS as an absence of data, and not as the reporting of zero emissions.

11.11.4 Step 4: Output Your Data as an XML Document

A batch submission of event emissions data to the EIS must be an XML document. For technical specifications on preparing these documents, see Section 5, "Submitting XML Data to the EIS."

Figure 11-6
Glossary of XML Terms

XML Terms

XML: *Extensible Markup Language. A markup language for documents containing structured information. The XML specification defines a standard way to add markup to documents. Its primary purpose is to facilitate the sharing of structured data across different information systems, particularly via the Internet.*

XML document: *A file containing data organized into a structured document using XML markup.*

XML schema: *A document that defines the structure of an XML document and the set of rules to which it must conform in order to be considered valid.*

Components of the Event Reporting Structure. Data are reported to the EIS as EIS data elements, which are grouped into data blocks and major data groups. All components used for reporting of event emissions, and their reporting hierarchy, are shown in Figure 11-7. Figure 11-8 provides descriptions for each of these components. A typical submission of emissions for a fire event would include the components indicated in Figures 11-7 and 11-8.

Event emissions data consist of EIS CERS components that contain the event description, location (geographic or geospatial), processes, and emissions for each pollutant.

New EIS Data Format Requirement

Only data which conform to the EIS CERS XML schema can be submitted to the EIS.

Please consult the appropriate information technology personnel to ensure that your data are properly constructed and formatted as specified in Section 5, "Submitting XML Data to the EIS."

This group of components, data elements, and identifiers is referred to as the Event Submittal Data Block. For an event emissions batch submission, the components of this block must be submitted together; no component or data element can be batch-submitted separately. Use of other components or data elements from other data categories will result in data rejection.

Later in this section you will find, for each component, a table describing its data elements. Some components and data elements are required, while others are optional. Your Event Submittal Data Block should contain at a minimum all required components and data elements. This applies whether you are submitting data for the first time or resubmitting the data to make additions, corrections, or deletions. A critical error in any portion of the Event Submittal Data Block will result in rejection of the entire block.

Figure 11-7
CERS Event Submittal Data Block

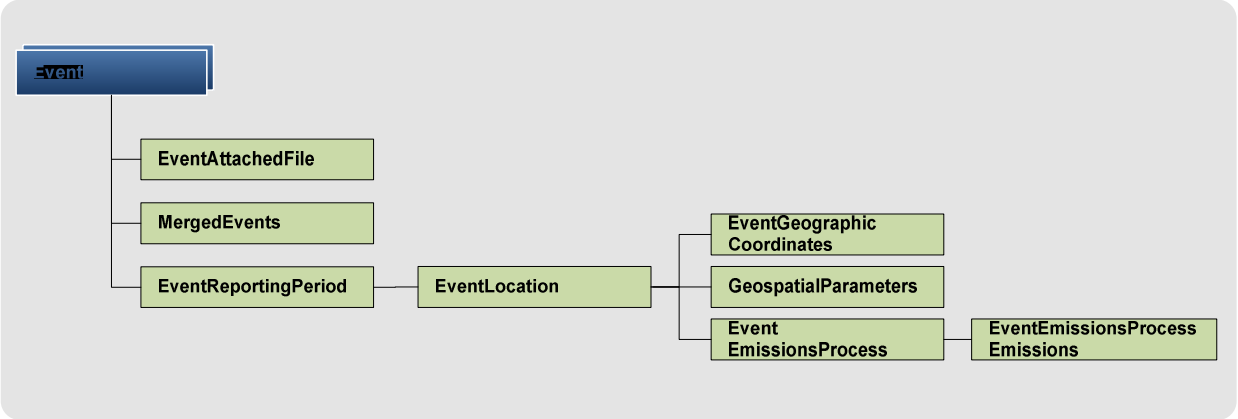


Figure 11-8
Description of Components in CERS Event Reporting Structure

Component Name	Description
Event	Identifies the event, reporting land manager, management methods, and data sources.
EventAttachedFile	References a file attached to the schema.
MergedEvents	Identifies the discrete fires that merged into the fire complex.
EventReportingPeriod	The time period for which emissions are reported.
EventLocation	Identifies the location where the event occurred.
EventGeographic Coordinates	Describes geographic location of event using latitude/longitude coordinates.
GeospatialParameters	Describes geospatial location of event using shape file information.
EventEmissionsProcess	Describs the fuels, fuel conditions, combustion characteristics, and other activity that produce emissions.
EventEmissionsProcess Emissions	Contains information on all the pollutants being reported for the location, process, and reporting period. This component includes the units of measure, methods, emission factors and the amount of emissions as calculated from the reported activity.

Transitioning from NIF. Prior to 2002, all fires reported to the NEI were as Nonpoint emissions using the NIF format. For 2002, wildfires and prescribed fires were reported as Point emissions using the NIF format. Therefore, the NIF mapping and data conversion tools available for nonpoint and other data categories are not available for the new Events data category.

11.11.5 Step 5: Upload Your File to the Quality Assurance (QA) Environment

To check the data you have prepared and formatted for submission to the EIS, you are strongly encouraged to use the EIS Quality Assurance (QA) Environment. The file that you submit to the QA Environment will be stored and tracked only long enough to be evaluated and for you to receive feedback on the results. There will be no permanent record or log of these data or the results of the checks. You are encouraged to use this environment as many times as necessary to help you ensure the submission of high-quality data. For more information, see Section 1, "Introduction to the NEI and EIS."

The QA Environment does not allow you to edit your data or to "promote" your data to the Production Environment. You must make changes to your data in your local system or files and use EPA's Central Data Exchange (CDX) node to submit these data to the EIS.

To use the QA Environment, you must have an EIS user account and have assigned responsibility for the data contained in your submission. For more information on requesting an EIS account and accessing the EIS Gateway, see the section of the EIS User's manual entitled "How Do I Request Access to the EIS Gateway."

11.11.6 Step 6: Review Your Failed File or Feedback Report from QA Environment

The checks performed on your data in the QA Environment are the same checks that will be performed on your batch submissions to the Production Environment.

Quality assurance checks and feedback. The quality assurance checks for event data can be initiated at two points during the process:

(1) In the QA Environment, as a preliminary quality assurance step prior to making an official submission to the Production Environment. The QA Environment will apply checks to your data that ensure file integrity for submission purposes, and will apply checks that may reference data stored in the Production Environment. For example, a feedback report from the QA Environment could indicate that the emissions reported are not within an expected range for the pollutant and reported SCCs.

Most important, this is the stage of quality assurance that will tell you in advance that certain data will be rejected if they are submitted to the Production Environment. It will provide you an efficient way to improve your data outside of the submission process itself.

EPA strongly encourages you to use this environment as your primary quality assurance practice.

(2) In the Production Environment, as part of the submission. The same checks as those described above will be run on your data during the submission process. The results of this check would be logged in the EIS.

Rejection of Data vs. Rejection of the File. The EIS may reject the entire file if it is not a well-formed XML document. See Section 5, "Submitting XML Data to the EIS" for standards for XML integrity and format. EIS may reject data in a batch submission if the data fail to meet the minimum standards to ensure complete and accurate data. See Appendix 5, "Checks and Analysis" for all other checks. Data are rejected so that as little data as possible will be lost.

Certain critical errors may result in the entire submission being rejected. Other critical errors may result only in the erroneous data element or component, and all dependent data, being rejected. In this case, the rest of the data are retained and loaded into EIS. All rejected data will be clearly identified in the feedback report. For example, event emissions data for a pollutant code which is not recognized by the EIS will be rejected. Detailed information about critical errors and the rejection of data appears below within the context of each component used for reporting.

Interpreting and responding to quality assurance results. The submitter is responsible for ensuring the quality of data. It is expected that achieving this quality will be an iterative process. The feedback reports, this documentation, and the detailed information about processes, pollutants, and methodologies are the resources provided by EPA to assist you. You are encouraged to take advantage of these resources and to make changes in your local information system and procedures that will adhere to the standards contained in these materials.

The QA Environment is the first line of quality assurance for the EIS, and allows checks to be run on any and all data prior to submitting to the Production Environment. An alternative approach would be to make a submission of data to the Production Environment, have the EIS execute the checks, and resubmit a limited set of data designed to correct the identified errors. Information about the specific checks performed on event submissions are found later in this section, are available in electronic format through the EIS Gateway, as well as in Appendix 5, "Checks and Analysis."

For more specific information on the QA approach within the EIS, see Section 1, "Introduction to the NEI and EIS."

11.11.7 Step 7: Submit Your Data

Methods of Submission. EPA expects that you will submit the majority of your EIS event data using the EIS CERS XML format and the batch submission process. For more information on batch submissions, see Section 5, "Submitting XML Data to the EIS."

Official Submissions

Your "official submission" is comprised of all the emissions-related data in the EIS when the submission window for the inventory cycle closes.

Until the submission window closes, you may continually update your data in the Production Environment without notifying EPA.

Full Submission Required. For events, unlike other data categories, the EIS does not permit partial submissions. All data for an event must be submitted in a single file as a complete Event Submittal Data Block. It is not possible to submit a subset of any portion of an event's data to add, delete, correct, or update. The entire event must be resubmitted to make any modification at all. In addition, single-record online editing at the EIS Gateway is **not** available for Events schema reporting. Note that this is different from other data categories, for which this feature is available.

To add, change, or delete emissions values for individual pollutants, you must resubmit the entire Event Submittal Data Block, including all pollutants, with the corrected value. The EIS will automatically replace all data previously submitted for the event and replace them with the new submission.

11.11.8 Step 8: Review Feedback Report from Production Environment

The checks performed on your data in the Production Environment are the same that were run in the QA Environment. For more details, see Step 4.

11.11.9 Step 9: Correct Any Errors in Previously Submitted Data

You may correct errors in previously submitted data during the submission period for an inventory cycle only by resubmitting **all** data for the event, even if only one value is changed. The EIS will delete previously reported data for the event and replace them.

Note that this is different from other data categories, in which you can resubmit data subsets or use the EIS Gateway to edit previously submitted data.

11.11.10 Step 10: Review Status of Your Submission

At any time, you may go to the EIS Gateway and view summary information regarding the status of your event (and other) submissions. Generally within two business days after the submission of your EIS CERS XML document, the EIS will have processed your data and the results posted to the EIS Gateway.

11.11.11 Step 11: Communicate with EPA Analysts

Throughout this process you are encouraged to contact an EPA analyst by submitting a support request through the EIS Gateway. This process is intended to ensure that all questions, issues, and problems are tracked and responded to on a timely basis. For more information, see the section of the EIS Users Manual entitled "How Do I Submit a Support Request?"

11.12 User Roles and Responsibilities

The following is a summary of S/L/T submitter and EPA roles and responsibilities during the pre-submission and submission periods for event emissions:

S/L/T Submitter

- Provide occurrence data and update FETS data to reflect "accomplished fires" as needed prior to when EPA generates its national inventory of fire emissions.
- Review EPA's national inventory of fire emissions to determine whether you need to submit any data.
- Submit event emissions data for all event processes and activities for the inventory year ***before the close of the submission period.***
- Use the QA Environment to check emissions data prior to submission to the Production Environment.
- Review event emissions through the EIS Gateway and correct data as needed by making a **complete** EIS CERS XML submission to the EIS.

EPA Staff

- Model fire emissions using SMARTFIRE and publish a preliminary national inventory of fire emissions before the end of the EIS submission period.
- Publish reporting instructions and code lists in advance of the inventory submission period.
- Provide S/L/T submitters access within the EIS to current and historical inventory data.
- Provide support to S/L/Ts submitters to assist with inventory preparation, quality assurance, and submission.

11.13 Overview of Component Tables and Data Elements for Event Emissions Reporting

The following sections provide detailed information on the components and their data elements that can be reported for events emissions data. For each component, there is an explanatory table with the following columns:

- **Column 1: Data element.** The name of the data element.
- **Column 2: Description.** Information needed by the inventory developer to understand the content and purpose of the data element.
- **Column 3: Check description.** Information needed by the inventory developer to understand the checks that will be applied to the data element. For more information on quality assurance checks, see Section 1, "Introduction to the NEI and EIS."
- **Column 4: Check type.** Information on the type of check applied to the data element. For more information on quality assurance checks, see Section 1, "Introduction to the NEI and EIS."
- **Column 5: Check level.** The criticality level of the check. "Critical" checks that are failed result in the rejection of the affected data and all dependent data. "Warning" checks produce a warning message to the submitter, but the data are accepted and stored. For more information on quality assurance checks, see Section 1, "Introduction to the NEI and EIS."
- **Column 6: Check number.** The number of the check. For a complete listing of all quality assurance checks, see Appendix 5, "Quality Assurance Checks."

11.13.1 Significant Figures and Rounding

S/L/T reporting of significant figures and EIS rounding of numeric values are illustrated in Figure 11-9.

Figure 11-9
Significant Figures and Rounding

Significant figures. Significant figures include all of the digits in a measurement that are known with certainty as well as the last digit, which is considered an approximation. The EIS will assume trailing zeros are significant; leading zeros are not. Examples of numbers with three significant digits include: 0.00253 4.00 100 133E-2 99.9 670 20.3 104E5	**Rounding.** If a value is reported with greater than the maximum stated significant figures, the EIS will round the submitted value and store the modified value instead. Values will not be truncated. The EIS will provide a warning message to the submitter showing the modified value. If you receive this message, you should either: (a) Review the modified value to determine if appropriate, and/or (b) Resubmit within maximum significant figures or decimal places to avoid EIS rounding.

Figure 11-10
Data Types

Data Type	Description	Example
Character (*width*)	String data. *Width* = Maximum allowable width (number of characters).	Data Type: Char (1) Valid: A 1 Invalid: ANNUAL 01
Integer (*width*)	Whole number (no decimal places, preceding zeroes not retained). *Width* = Maximum number of digits allowed, including a negative sign, if present.	Data Type: Int (3) Valid: 2 -15 930 Invalid: 4000 2.7

(cont.)

Figure 11-10
Data Types (cont.)

Data Type	Description	Example
Decimal (*width, scale*)	Decimal number with fixed maximum number of decimal places. *Width* = Maximum allowable width including digits on both sides of the decimal point, the decimal point itself, and a negative sign, if present. *Scale* = Maximum number of decimal places; that is, digits to the right of the decimal point. The EIS will not store decimal places beyond the maximum stated for the data element; it will round off excess decimal places. See the box above for more information on rounding.	Data Type: Dec (5,1) Valid: 100.0 34.6 0.3 0.0 -3.1 Invalid: 99.75 256.45 -483.3
Float (*significant figures*)	Decimal number with floating decimal point; that is, variable number of decimal places. No width is given, as this is variable. Floating decimals may also be represented with scientific notation. *Significant figures* = Maximum number of significant figures reportable (see above). The EIS will not store significant figures beyond the maximum stated for the data element; it will round off excess significant figures. See the boxes above for more information on significant figures and rounding.	Data Type: Float (3) Valid: 0.00845 ***or*** 8.45E-3 10.6 ***or*** 1.06E1 5 Invalid: 2,357 ***or*** 2.357E3 43.50 ***or*** 4.350E1
Date	YYYYMMDD	Data Type: Date Valid: 20080228

11.14 Identifying the Event: the Event Component

The Event component is the primary parent component for the event, and is required for all event submissions. It identifies the event, reporting land manager, management methods, and data sources. Three child components are dependent on the Event component: EventAttachedFile, MergedEvents and EventReportingPeriod. These child components are described later in this section.

Event Identifier. The unique identifier for the event is generally assigned by the land manager who is responsible for managing the event. For events reported by the S/L/T using the EIS CERS XML Event reporting format, the identifier used should be the one assigned by the originating system or S/L/T system. If no identifier is available, such as for prescribed burns, you may create a new one to report the event.

For events in EPA's preliminary national inventory of fire emissions, the event identifier is the SMARTFIRE identifier, which you may access when EPA's fire inventory is available for

review through the EIS Gateway. If an event is submitted with an identifier matching one in EPA's inventory, the data will be accepted by EIS and stored as S/L/T data.

11.14.1 Adding an Event

If you are submitting a new event, the minimum information required to uniquely identify it are:

- Event Identifier; and
- Program System Code.

The Program System Code from which the identifier was issued should be used to add an event. For example, if the event identifier used is one issued through SMARTFIRE, the Program System Code which indicates that should be used. You are encouraged to report an event using either the data provided by a non-SLT inventory (such as SMARTFIRE, FETS, WRAP, etc.) or the data for the event from your SLT, but not both sets of data for the same event.

The EIS will compare the combination of the Event Identifier and the Program System Code to its database. If the EIS finds an exact match of the two data elements, it will automatically delete the previously submitted event and all related data in their entirety, and replace them with the current submission. You will receive a warning message in your feedback if this occurs.

During the post-submission analysis and selection periods, EPA may conduct further analysis using dates and locations to identify potential duplicate events.

11.14.2 Updating an Event

If you wish to update an event, such as to add a pollutant or correct an erroneous emission value, you must resubmit the entire Event Submittal Data Block for the entire event, even if only one value is changed. The resubmission of these data will replace all previously reported data for the event. Making a partial submission of data is not allowed for Events.

Figure 11-11
Data Elements for Event Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
EventIdentifier	An identifier provided by the land or event manager that identifies an event. This identifier is unique for each event.	Required when reporting an event. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	870
		Maximum allowable width of 20 characters. Longer submissions will be rejected.	Format	Critical	872
		The following combination of data elements will be checked in the EIS database: ProgramSystemCode and EventIdentifier. If program system code and event identifier combination matches an existing event in the database, it will be replaced.	Duplication	Warning	873
ProgramSystem Code	The abbreviation or acronym for the system that contain the data about the event.	Required when reporting an event. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	875
		Must match value in code list.	Code	Critical	874
		The following combination of data elements will be checked in the EIS database: ProgramSystemCode and EventIdentifier. If program system code and event identifier combination matches an existing event in the database, it will be replaced.	Duplication	Warning	873

(cont.)

Figure 11-11
Data Elements for Event Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
EventName	The name of the event.	Event name should be reported for wildfires and wildland fire use SCCs.	Conditional	Warning	1049
		If reported, maximum allowable width of 40 characters. Longer submissions will be truncated.	Format	Warning	876
LandManager	The Federal, State, Local, Tribal, or private Agency or land owner that is managing or responding to the event.	Land manager should be reported.	Present	Warning	877
		If reported, maximum allowable width of 40 characters. Longer submissions will be truncated.	Format	Warning	879
Location Description	Description of the location of the event.	If reported, maximum allowable width of 100 characters. Longer submissions will be truncated.	Format	Warning	880
Event Classification Code	Code that classifies the event, from code list in Appendix 6.	Required when reporting an event. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	881
		Must match value in code list.	Code	Critical	882
EventSize SourceCode	The code that identifies the method used to determine the size of the event, from code list in Appendix 6.	Event size source code should be reported.	Present	Warning	883
		If reported, must match value in code list.	Code	Critical	884

(cont.)

Figure 11-11
Data Elements for Event Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Containment Date	The date on which a fire event was deemed to be contained.	Containment date should be reported for wildfires and wildland fire use SCCs, optional for other fire SCCs.	Conditional	Warning	1050
		Date in the format of YYYYMMDD.	Format	Critical	885
		The effective date range for containment is between 01/01/1900 and 12/31/2050.	Range	Critical	1509
Recurrence IndicatorCode	Indicates whether a prescribed or agricultural fire has occurred previously at this location.	If reported, must match value in code list.	Code	Critical	886
Recurrence Year	The most recent year in which the fire previously occurred in this location.	If reported, this element must be reported as an integer reported with a maximum of four digits.	Format	Critical	887
		Must be no later than current year -1.	Range	Warning	888
		The effective date range for recurrence year is between 01/01/1900 and 12/31/2050.	Range	Critical	1213
GroundBased DataSource Code	Indicates whether ground-based data were included and if so, identifies their source, from code list in Appendix 6.	Required when reporting an event. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	889
		Must match value in code list.	Code	Critical	890

(cont.)

Figure 11-11
Data Elements for Event Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
RemoteSensing DataSource Code	Indicates whether remotely-sensed data were included and if so, identifies their source, from code list in Appendix 6.	Required when reporting an event. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	891
		Must match value in code list.	Code	Critical	892
Fuel Consumption AndEmissions ModelCode	The model(s) used to calculate fuel consumption and emissions estimates, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	893
FuelTypeModel Code	The fuel model used to characterize available fuel beds (e.g., FCCS or NFDRS), from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	894
FuelSelection Code	The method used (on-site survey vs. GIS overlay) to select the appropriate fuel beds (e.g., red spruce, chaparral, sawgrass, or logging slash), from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	895
IgnitionMethod Code	The method used to ignite the fire (e.g., DAID, helitorch, or driptorch), from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	896
Ignition LocationCode	The location and distribution of the ignition points within the burn area (e.g., center or multiple), from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	897

(cont.)

Figure 11-11
Data Elements for Event Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Ignition Orientation Code	The technique used to direct the orientation of the fire's movement with respect to the wind (e.g., backing, strip-heading or flanking), from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	898
EventComment	Any comments associated with the event.	If reported, maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	899

11.15 Reporting Merged Events: The MergedEvents Component

Smaller fires often merge into larger fires. The MergedEvents component allows the reporting of multiple discrete fires as a combined, or fire complex. Each of the discrete fires must have been reported to the EIS previously as a stand-alone event before it can be shown as merged into a larger fire. This is accomplished by reporting the discrete fire only up to the time it merges into the fire complex. After that point, the discrete fire's emissions are reported only in aggregate with the fire complex. The MergedEvents component, which is submitted only for a fire complex, contains the discrete fire's previous identifiers (EventIdentifier and ProgramSystemCode), thereby linking the two fires.

Important Process Note

You should only report two or more discrete fires as a fire complex using the MergedEvents component when you no longer plan to track the location and burn activity of the discrete fires separately.

The first day the discrete event is reported as part of the fire complex is reported as DateMerged. This should be the day following the discrete event's final EventEndDate.

The first reporting period for a fire complex, which contains the discrete fire's emissions, should begin immediately following the last reporting period of the discrete fires, with no overlap or gap in time.

Figure 11-12 is an example of reporting three separate fires which merged. Fire COMPLEX-1 burned June 12-15, then was joined by fire DISCRETE -1, which had been burning separately since June 14. On June 20, a third fire merged, DISCRETE -2, which had been burning separately since June 11. The combined fire continued to burn until June 25.

Figure 11-12
Example of Merging Events

Event Component	MergedEvents Component		EventReportingPeriod Component	
EventIdentifier	**EventIdentifier**	**DateMerged**	**EventBeginDate**	**EventEnd Date**
COMPLEX-1	--	--	20080612	20080615
COMPLEX-1	DISCRETE -1	20080616	20080616	20080619
COMPLEX-1	DISCRETE -1 DISCRETE -2	20080616 20080620	2008020	20080625
DISCRETE -1	--	--	20080614	20080615
DISCRETE -2	--	--	20080611	20080619

Figure 11-13
Data Elements for MergedEvents Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
EventIdentifier	An identifier for the event. This identifier must be unique for each event, and is assigned by the land or event manager.	Required when reporting the merged events component. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	900
		Maximum allowable width of 20 characters. Longer submissions will be rejected.	Format	Critical	901
		Must match identifier already stored in the EIS database or provided elsewhere in the submission.	Comparison	Critical	902

(cont.)

Figure 11-13
Data Elements for MergedEvents Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
ProgramSystem Code	The abbreviation or acronym for the system that contain the data about the event.	Required when reporting merged events. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	903
		Must match value in code list.	Code	Critical	904
MergedDate	The first day that the discrete event is reported with the complex event.	Required when reporting merged events. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	905
		Date in the format of YYYYMMDD.	Format	Critical	906
		The effective date range must be between 01/01/1900 and 12/31/2050.	Range	Critical	1510
MergedEvents Comment	Comments regarding the merged event.	If reported, maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	907

11.16 Reporting Increment and Stage: The EventReportingPeriod Component

The EventReportingPeriod component is used to report:

- The dates and hours for which activity and/or emissions are reported; and
- The event stage (flaming vs. smoldering).

EventReportingPeriod is a required component for event submissions. The child component EventLocation is dependent on the EventReportingPeriod component. This child component is described later in this section.

Activity and/or emissions may be reported as an aggregate total for the entire event, or for multiple portions of the event using multiple EventReportingPeriods.

The hour is reported as an integer from zero through 23, representing the hours of the day in 24 increments, using the event location's time zone. If no begin hour is reported, 00 is

assumed (the first hour of the day). If no end hour is reported, 23 is assumed (the last hour of the day).

Reporting periods must create a consecutive block with no overlapping or missing hours. Reporting periods may be of varying duration within an event. For instance, a wildfire remains small for three days; its activity and emissions are reported with an aggregated total for those three days. On the fourth day the fire expands significantly and daily reporting begins.

11.16.1 Flaming vs. Smoldering Emissions

At any given time, a fire event may have areas that are either in flaming stage, smoldering stage, or both. This is reported using EventStageCode, whose values are:

- **Flaming stage.** Indicates that the activity and/or emissions reported are for that portion of the event period and area where fire is actively burning.
- **Smoldering stage.** Indicates that the activity and/or emissions reported are for that portion of the event period and area where fire has been extinguished or is barely spreading.
- **Both.** Indicates that the activity and/or emissions reported result from both flaming and smoldering.

Separate EventReportingPeriods, along with the dependent location, process, activity, and emissions data, may be reported for each of these stages. Flaming and smoldering emissions may also be combined within a reporting period by reporting "Both."

To report emissions for a fire that is extinguished within a single day, the first day is reported as a flaming day; the following days are reported as smoldering days. Thus the minimum fire event duration is two days.

Figure 11-14
Data Elements for EventReportingPeriod Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
EventBegin Date	The first day for which emissions are reported for the reporting period.	Required when reporting an event reporting period component. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	908
		Date in the format of YYYYMMDD.	Format	Critical	909
		The effective date range must be between 01/01/1900 and 12/31/2050.	Range	Critical	1511
EventEndDate	The last day for which emissions are reported for the reporting period.	Required when reporting an event reporting period component. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	910
		Date in the format of YYYYMMDD.	Format	Critical	911
		Event duration must be a minimum of two days.	Comparison	Critical	912
		Reporting periods should be consecutive with no overlap or gaps between any periods.	Comparison	Warning	913
		The effective date range must be between 01/01/1900 and 12/31/2050.	Range	Critical	1512
EventStage Code	Identifies whether emissions reported are due to flaming, smoldering, or both, from code list in Appendix 6.	Required when reporting an event reporting period. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	915
		Must match value in code list.	Code	Critical	916

(cont.)

Figure 11-14
Data Elements for EventReportingPeriod Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
BeginHour	The hour of the day in which the event began. The hour reported as a value from 00 to 23 inclusive, representing the hours of the day in 24 increments.	This element must be reported as an integer, reported with a maximum of two digits.	Format	Critical	917
		Must be between zero and 23 inclusive.	Range	Critical	918
EndHour	The hour of the day in which the event ended. The hour reported as a value from 00 to 23 inclusive, representing the hours of the day in 24 increments.	This element must be reported as an integer, reported with a maximum of two digits.	Format	Critical	919
		Must be between zero and 23, inclusive.	Range	Critical	920
EventReporting PeriodComment	Any somments regarding the event reporting period.	If reported, maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	921

Figure 11-15
Event Reporting Period Cross Checks

Check Name	Check Description	Check Level	Check Number
EventStageCode	The submission must contain either: a) A minimum of one flaming reporting period and one smoldering reporting period; or b) At least one reporting period with an event stage of "both."	Warning	989

11.17 Reporting Event Location

The EventLocation component is required when reporting event emissions. An event's location and size, such as a wildfire, may change over time. The EIS allows you to indicate this by reporting a different location and size for multiple time periods. The child components EventGeographicCoordinates, GeospatialParameters, and EventEmissionsProcess are dependent on the EventLocation component. These child components are described later in this section.

The event location must contain one of the following codes: Tribal Code; State and County FIPS Code; or State and Country Code.

You may identify the event's location and size using either of two methods. You may not combine methods; for each event you must select one or the other, and one is required:

- Use the GeographicCoordinates component to report an event's area and a single centroid latitude and longitude; or
- Use the GeospatialParameters component to report an area's boundary by submitting geospatial shapefiles (a standard output from common mapping software). If a previous period was reported, and the fire is unchanged in location or size from that period, you do not need to resubmit this component.

Figure 11-16
Data Elements for EventLocation Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
StateAnd CountyFIPS Code	The list is from FIPS Counties codes used for the identification of the Counties and Couty equivalents of the United States, from code list in Appendix 6.	Must match value in code list.	Code	Critical	923
TribalCode	Identifies the Tribal land in which the event is located for the event site, from code list in Appendix 6. Note: If you are not a Tribal submitter, do not use the default code 000. Instead, submit only your applicable State and County codes.	Must match value in code list.	Code	Critical	925
StateAnd CountryFIPS Code	The code that represents a State and Country for States in Mexico and Provinces in Canada, from code list in Appendix 6.	Must match value in code list.	Code	Critical	926

Figure 11-17
EventLocation Component Cross Checks

Check Name	Check Description	Check Level	Check Number
UniqueandValidEventLocationCheck	The event location must contain one combination of Tribal Code; State and County FIPS Code; or State and Country Code.	Critical	922

11.17.1 Reporting Geographic Coordinates: The EventGeographicCoordinates Component

There are two methods to report the location of an event. The simplest is to report the coordinates of the event in latitude and longitude using the EventGeographicCoordinates component.

For each reporting period, you should report the event area's centroid latitude and longitude, total area within the event perimeter, and percent of the total area affected, that is, actually blackened by the fire. If a previous period was reported, and the fire is unchanged in location or size from that period, you do not need to resubmit this component.

Figure 11-18
Data Elements for EventGeographicCoordinates Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Latitude Measure	The measure of the angular distance on a meridian north or south of the equator. Format is N (10), +/-DD.dd to +/-DD.dddd where D = degrees, d = decimal degrees, + = North and - = South of the equator. Points on the equator are assigned to the Northern Hemisphere.	Required when reporting the Geographic Coordinates component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	156
		This element must be reported as a decimal, reported with a maximum precision of 8.5.	Format	Critical	281

(cont.)

Figure 11-18
Data Elements for EventGeographicCoordinates Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Longitude Measure	The measure of the angular distance on a meridian east or west of the prime meridian. Format is N (11). +/- DDD.dd to +/- DDD.dddd where D = degree, d = decimal degree, + = East and - = West of the prime meridian. A point on the prime meridian is Eastern Hemisphere; the 180th meridian is Western.	Required when reporting the Geographic Coordinates component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	157
		This element must be reported as a decimal, reported with a maximum precision of 10.5.	Format	Critical	282
SourceMap Scale Number	The number that represents the proportional distance on the ground for one unit of measure on the map or photo.	If reported, this element must be reported as an integer, reported with a maximum of six digits.	Format	Critical	283
Horizontal Accuracy Unitof Measure	The horizontal measure, in meters, of the relative accuracy of the latitude and longitude coordinates.	This element must be reported as an integer, reported with a maximum of six digits.	Format	Critical	284
		Typically is between one and 2,000, inclusive.	Range	Informational	54
Horizontal Accuracy Measure	The horizontal accuracy unit of measure.	If reported, horizontal accuracy unit of measure must be reported in meters (m).	Code	Critical	1482
Horizontal Collection Method Code	The code that identifies the method used to determine the latitude and longitude coordinates for a point on the earth, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	55

(cont.)

Figure 11-18
Data Elements for EventGeographicCoordinates Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Horizontal Reference DatumCode	The code that represents the reference datum used in determining latitude and longitude, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	56
Geographic Reference PointCode	The code that represents the place for which geographic coordinates were established. From code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	58
Data Collection Date	The calendar date when data were collected.	If reported, must be in the format of YYYYMMDD.	Format	Critical	285
		If reported, must be between 01/01/1900 and 12/31/2050.	Range	Critical	307
Geographic Comment	The text that provides additional information about the geographic coordinates.	If reported, maximum allowable width of 200 characters. Longer submissions will be truncated.	Format	Warning	286
Vertical Measure	The measure of elevation (i.e., the altitude) of the land surface above or below a reference datum.	Typically is between -500 and 5000, inclusive.	Range	Informational	64
		If reported, this element must be reported as an integer, reported with a maximum of six digits.	Format	Critical	287
VerticalUnit OfMeasure Code	The vertical unit of measure.	Vertical unit of measure must be reported in meters (m).	Code	Critical	1482
Vertical Collection Method Code	The code that identifies the method used to collect the vertical measure (i.e., the altitude) of a reference point, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	59

(cont.)

Figure 11-18
Data Elements for EventGeographicCoordinates Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Vertical Reference DatumCode	The code that represents the reference datum used to determine the vertical measure (i.e., the altitude), from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	60
Verification Method Code	Codes that represent methods used to verify latitude and longitude coordinates, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	61
Coordinate DataSource Code	The code that represents the party responsible for providing the latitude and longitude coordinates, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	62
Geometric TypeCode	The code that represents the geometric entity represented by one point or a sequence of latitude and longitude points, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	63
AreaWithin Perimeter	Total area contained within the event perimeter for the reporting period.	Area within perimeter should be reported.	Present	Warning	927
		If reported, this element must be reported as a float, reported with a maximum of three significant figures.	Format	Critical	928
		If flaming and smoldering stages are reported separately for the same period, value should be the same for both.	Comparison	Warning	929

(cont.)

Figure 11-18
Data Elements for EventGeographicCoordinates Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
AreaWithin Perimeter Unitof Measure Code	Code that identifies the unit of measure for area within the perimeter, from code table in Appendix 6.	If area withing perimeter is reported, then area within perimeter unit of measure code must be reported.	Conditional	Critical	931
		If reported, must match value in code list.	Code	Critical	932
Percent of Area Producing Emissions	The percent of the AreaWithinPerimeter that was affected by the event (e.g., actually blackened by a fire).	If reported, this element must be reported as a decimal, reported with a maximum precision of 5.1.	Format	Critical	933
		If reported, must be between one and 100, inclusive.	Range	Critical	935
		If flaming and smoldering stages are reported separately for the same period, value should be the same for both.	Comparison	Warning	936

11.17.2 Submitting Geospatial Shapefiles: the GeospatialParameters Component

If you choose to report an event area's boundary by submitting a geospatial shapefile, you will use the GeospatialParameters component. This is an alternative to reporting an event's centroid coordinates using the GeographicCoordinates component, described above. **You may not combine methods when reporting a single event but one of these methods must be chosen.**

A shapefile is a widely-used, open-standard, geographical information system (GIS) data format used to represent a set of geographic features including an area's boundaries. The shapefiles you submit will identify an event's location and shape, as they change over time.

Referencing a Shapefile. Shapefiles are composed of at least three associated files, each with a different file extension. An event's shapefile might store a single shape for the entire event, or multiple shapes, such as for each day of the event. In addition, for each day of the event, up to two shapes may be reported: the shape of the area that is flaming, and the shape of the area that is smoldering.

A shapefile can be created in several ways; most commonly, it is exported from GIS software such as ArcGIS. A shapefile can represent point, line, or area features. Each feature in

a shapefile represents a single geographic feature and its attributes. The shapefile is a digital vector format that stores geometric location and associated attribute information as a collection of files. A shapefile's associated files have different file extensions but must share the same prefix name and be distributed as a group. For more information on the structure, see Appendix 11, "Preparing GIS Data for Export." For additional information on the structure of shapefiles, see ESRI Shapefile Technical Description.

Shapefile Identification. Each shape must be assigned a unique identifier by the S/L/T and reported as ShapeFileIdentifier in order for the EIS to store the shape. Use the GeospatialParameters component to report, for each shape, the total area within the event perimeter, and percent of the total area affected, that is, actually blackened by the fire. If a previous period was reported, and the fire is unchanged in location, shape, or size from that period, you do not need to resubmit this component.

Figure 11-19
Data Elements for GeospatialParameters Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
ShapeFile Identifier	An identifier provided by the reporting agency that identifies the geospatial shape file for the reported emissions.	Required when reporting geospatial parameters. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	937
		Maximum allowable width of 20 characters. Longer submissions will be rejected.	Format	Critical	938
AreaWithin Shape	Total area that is contained within the event shape for the reporting period.	Required when reporting geospatial parameters.	Present	Critical	940
		This element must be reported as a float, reported with a maximum of three significant figures.	Format	Critical	941
		If flaming and smoldering stages are reported separately for the same period, value should be the same for both.	Comparison	Warning	942
AreaWithin ShapeUnitof MeasureCode	Code that identifies the unit of measure for the area within the shape file, from code list in Appendix 6.	Required when reporting geospatial parameters.	Present	Critical	943
		Must match value in code list.	Code	Critical	944
PercentofArea Producing Emissions	The percent of the area within shape that was affected by the event (e.g., actually blackened by a fire).	This element must be reported as a decimal, reported with a maximum precision of 5.1.	Format	Critical	946
		Must be between one and 100 inclusive.	Range	Critical	947
		If flaming and smoldering stages are reported separately for the same period, value should be the same for both.	Comparison	Warning	948
Geospatial Parameters Comment	Any comments regarding the geospatial parameters.	If reported, maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	949

11.17.3 Attaching a Shapefile: the EventAttachedFile Component

All event shapefiles must be zipped together into a single zip file and attached to the EIS CERS XML document containing the event data. The attached shapefiles may contain geospatial data for multiple events. There may be more than one file attached to the event submission. For each attached file, an AttachedFile component must be included with identifying information with the EIS CERS XML document.

For more information on preparing GIS data for export, see Appendix 11, "Preparing GIS Data for Export." For more information on attaching files to an XML document, see Section 5, "Submitting XML Data to the EIS."

Figure 11-20
Data Elements for EventAttachedFile Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
AttachmentFile Name	The text describing the descriptive name used to represent the file, including file extension.	Required when reporting an attached file.	Present	Critical	990
		The suffix must be "zip."	Format	Critical	991
		Matching filename found for attachment.	Present	Critical	950
AttachedFile Description	The description of the file.	Maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	1610
		Required when reporting the event attached file component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	1611
AttachedFile Size	The size of the attached file.	This element must be reported as a decimal, with a maximum precision of 7.3.	Format	Critical	1649
AttachmentFile ContentType Code	A code describing the content type of a file, from code list in Appendix 6.	Attachment file content type code must be reported for the attached file component. The component and all dependent data will not be stored if there is missing required data.	Present	Critical	1052
		For events, value must be "GIS."	Code	Critical	951

11.18 Reporting the Event Processes: the EventEmissionsProcess Component

The EventEmissionsProcess component is used to describe the emissions-producing process and is required when reporting event emissions. It includes the SCC, fire fuel descriptors, and emissions reduction techniques used.

The child component EventEmissionsProcessEmissions is dependent on the EventEmissionsProcess component. This child component is described later in this section.

A minimum of one separate EventEmissionsProcess component is reported for each unique combination of the following:

- Location, as reported in EventLocation;
- Reporting increment (daily/aggregate/multi-day), as reported in EventReportingPeriod;
- Event stage (flaming vs. smoldering), as reported in EventReportingPeriod; and
- Emissions-producing process, as reported in the EventEmissionsProcess component.

This component may be reported more than once per reporting increment if the additional detail (e.g., fuel type and fuel loading) is available for the affected area.

EPA will consider requests for additional SCC event codes, which you may request by submitting a support request.

Figure 11-21
Data Elements for EventEmissionsProcess Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
Source Classification Code	EPA Source Classification Code that identifies an emissions process, from code list in Appendix 6.	Required when reporting this component. The entire component and any dependent data will be rejected if missing.	Present	Critical	952
		Must match value in code list.	Code	Critical	953
Fuel Configuration Code	The predominant configuration of the fuel burned (i.e., pile, windrow, broadcast or natural), from code list in Appendix 6.	If reported, must match value in code list. If Fire Type is Wildfire, the Fuel Configuration Code must be NTL.	Code	Critical	954
FuelLoading	Fuel per acre available to consume.	This element must be reported as a float, reported with a maximum of three significant figures.	Format	Critical	955
		Must be greater than zero.	Range	Critical	992

(cont.)

Figure 11-21
Data Elements for EventEmissionsProcess Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
FuelLoading UnitOf MeasureCode	Code that identifies the numerator of the unit of measure for the fuel loading, from code list in Appendix 6.	If fuel loading is reported then fueling loading unit of measure code is required.	Conditional	Critical	956
		If reported, must match value in code list.	Code	Critical	957
AmountOfFuel Consumed	For a given day, the amount of fuel consumed in the defined geographic area.	This element must be reported as a float, reported with a maximum of three significant figures.	Format	Critical	958
		Must be greater than zero.	Range	Critical	1053
AmountOfFuel ConsumedUnit OfMeasure Code	Code that identifies the unit of measure for the amount of fuel consumed, from code list in Appendix 6.	If amount of fuel is reported then amount of fuel consumed unit of measure code is required.	Conditional	Critical	959
		If reported, must match value in code list.	Code	Critical	960
PercentTen HourFuel Moisture	The ten-hour fuel moisture for the location, on the particular day the fire or smoldering occurred, in percent.	If reported, this element must be reported as a decimal, reported with a maximum precision of 5.1.	Format	Critical	961
		If reported, must be between zero and 100, inclusive.	Range	Critical	994
PercentOne ThousandHour FuelMoisture	The one-thousand-hour fuel moisture for the location, on the particular day the fire or smoldering occurred, in percent.	If reported, this element must be reported as a decimal, reported with a maximum precision of 5.1.	Format	Critical	962
		If reported, must be between zero and 100, inclusive.	Range	Critical	995
PercentLive FuelMoisture	The amount of water expressed as the percent of oven dry weight of living plant matter.	If reported, this element must be reported as a decimal, reported with a maximum precision of 5.1.	Format	Critical	963
		If reported, must be between zero and 100, inclusive.	Range	Critical	996

(cont.)

Figure 11-21
Data Elements for EventEmissionsProcess Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
PercentDuff FuelMoisture	The amount of water expressed as the percent of the oven dry weight of any cured or dead plant part. This may include dead plant matter still attached to living plants.	If reported, this element must be reported as a decimal, reported with a maximum precision of 5.1.	Format	Critical	965
		If reported, must be between zero and 100, inclusive.	Range	Critical	997
HeatRelease	The amount of effective thermal energy (measured in million BTUs per hour or day) available to provide buoyant plume rise.	If reported, this element must be reported as a float, reported with a maximum of three significant figures.	Format	Critical	966
		If reported, must be greater than zero.	Range	Critical	998
HeatRelease UnitofMeasure Code	Code that identifies the unit of measure for heat release, from code list in Appendix 6.	If heat release is reported then heat release unit of measure code is required.	Conditional	Critical	967
		If reported, must match value in code list.	Code	Critical	968
Emission Reduction TechniqueCode	Code identifying the method used for reducing emissions from prescribed fires, agricultural fires, Native American Fires and Wildland Use fires emissions, from code list in Appendix 6.	If reported, must match value in code list.	Code	Critical	969
EventEmissions Process Comment	Any comments regarding the event emissions process.	If reported, maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	970

11.19 Reporting Emissions: the EventEmissionsProcessEmissions Component

The EventEmissionsProcessEmissions component is used to report emissions values for an SCC, pollutant, and reporting period. This component is required when reporting event emissions. More detail on emissions reporting is found in Section 11.11.3, "Step 3: Prepare Your Fire Occurrence, Activity and Emissions Data for EIS Submission."

Calculation methods. EPA is requiring the reporting of the emissions calculation method and has defined the list of acceptable emissions calculation method codes. For information on these codes, please see Appendix 6, "EIS Code Tables." To request that a code be added to the list, submit a support request through the EIS Gateway.

Pollutants to report. See Section 11.11.3, "Step 3: Prepare Your Fire Occurrence, Activity and Emissions Data for EIS Submission."

Correcting or deleting a single pollutant. There is no method to resubmit, correct, or delete emissions associated with a single pollutant except by resubmitting the complete Event Submittal Data Block. For reporting using the Events schema, you may **not** edit individual pollutant records, or any other data, online at the EIS Gateway. Note that this is different from the other data categories, in which online single-record editing is available.

Figure 11-22
Data Elements for the EventEmissionsProcessEmissions Component

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
PollutantCode	Code identifying the pollutant for which an emissions value is reported, from the code list in Appendix 6.	Required when reporting the Emissions component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	471
		Must match value in code list.	Code	Critical	470
		If PM2.5 Primary and PM10 Primary are both reported pollutants, then PM2.5 Primary should not exceed PM10 Primary for the same reporting period.	Conditional	Warning	832
		If PM2.5 Filterable and PM10 Filterable are both reported pollutants, then PM2.5 Filterable should not exceed PM10 Filterable for the same reporting period.	Conditional	Warning	835
		If PM10is reported, then PM2.5 should be reported.	Conditional	Warning	836
		If PM Condensable is reported, then PM2.5 and PM10 Filterable should be reported.	Conditional	Warning	839

(cont.)

Figure 11-22
Data Elements for the EventEmissionsProcessEmissions Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
TotalEmissions	Total calculated or estimated of the pollutant.	Required when reporting the Emissions component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	473
		This element must be reported as a float, reported with a maximum of three significant figures.	Format	Critical	569
		Must be inside the critical outlier range.	Range	Critical	474
		Should be inside the moderate outlier range.	Range	Warning	475
EmissionsUnitofMeasureCode	Unit of measure for reported total emissions, from code list in Appendix 6.	Required when reporting the Emissions component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	479
		Must match value in code list.	Code	Critical	476
EmissionFactor	The emission factor used for the emissions value if a calculated value was provided.	If reported, this element must be reported as a float, reported with a maximum of four significant figures.	Format	Critical	480
		Must be greater than zero.	Range	Critical	611
EmissionFactorNumeratorUnitofMeasureCode	The numerator for the unit of the reported emission factor, from code list in Appendix 6.	If the emission factor is reported, then the emission factor numerator unit of measure is required.	Conditional	Critical	570
		If reported, must match value in code list.	Code	Critical	482

(cont.)

Figure 11-22
Data Elements for the EventEmissionsProcessEmissions Component (cont.)

Data Element		Check			
Name	**Description**	**Description**	**Type**	**Criticality**	**Number**
EmissionFactor Denominator UnitofMeasure Code	The denominator for the unit of the reported emission factor, from code list in Appendix 6.	If the emission factor is reported, then the emission factor denominator unit of measure is required.	Conditional	Critical	571
		If reported, must match value in code list.	Code	Critical	483
EmissionFactor FormulaCode	Not used for EIS Event Emissions.				
EmissionFactor Text	Explanation for emission factor.	If reported, maximum allowable width of 100 characters. Longer submissions will be truncated.	Format	Warning	484
Emissions Calculation MethodCode	Code that defines the method used to calculate emissions, from code table in Appendix 6.	Required when reporting the Emissions component. The component and all dependent data will not be stored if there are missing required data.	Present	Critical	486
		Must match value in code list.	Code	Critical	485
EmissionFactor ReferenceText	Not used for EIS Event Emissions.				
Algorithm FormulaText	Not used for EIS Event Emissions.				
Algorithm Comment	Not used for EIS Event Emissions.				
Calculation Method Accuracy Assessment Code	Not used for EIS EventEmissions.				
Emissions DeMinimis Status	Not used for EIS Event Emissions.				
Emissions Comment	Any comments regarding the emissions, method of calculation, or emissions factor.	If reported, maximum allowable width of 400 characters. Longer submissions will be truncated.	Format	Warning	487

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