XML Schema for

AMD2 CEMS Summary

Revision History

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author(s)** | **Revision Notes** |
| 0.1 | Oct-03-2018 | Environment and Resources | Initial document |
| 0.2 | Nov-11-2018 | Environment and Resources | Added missing field description |
| 1.0 | Nov-20-2018 | Environment and Resources | Updated schema namespace |
| 1.1 | Nov-28-2018 | Environment and Resources | Updated optional fields |
| 1.2 | Nov-30-2018 | Environment and Resources | Updated and embedded schema |
| 1.3 | Dec-05-2018 | Environment and Resources | Updated optionality fields |
| 1.4 | Dec-13-2018 | Environment and Resources | Updated schema |
| 1.5 | Dec-18-2018 | Environment and Resources | Updated schema |
| 1.6 | Jan-03-2019 | Environment and Resources | Updated and embedded schema |
| 1.7 | Jan-08-2019 | Environment and Resources | Added schema version and embedded schema |
| 1.8 | Feb-06-2019 | Air Policy | Added file naming convention to data dictionary |
| 1.9 | Jan-28-2020 | Environment and Resources | Updated and embedded schema; updated data dictionary |
| 2.0 | Jun-25-2021 | Environment and Resources | Updated and embedded schema; updated data dictionary |
| 2.1 | Apr-22-2022 | Air Policy | Updated embedded .xsd schema. |

This document outlines the XML file format that is required for the submission of AMD2 CEMS Summary.

Please note that the possible values for some of the [XML](https://www.w3schools.com/xml/default.asp) fields will be communicated later and minor changes to the [XML Schema](https://www.w3schools.com/xml/schema_intro.asp) may be needed in the future.

XML Schema

See attached:



File Naming Convention

Refer to required file naming conventions on the Air Monitoring Directive website:

[EPEA Approval Industrial Monitoring Documentation Submission Naming Guideline](https://www.alberta.ca/assets/documents/ep-epea-approval-industrial-monitoring-documentation-submission-naming-guideline.pdf)

Field Descriptions

|  |  |  |
| --- | --- | --- |
| **Field** | **Description** | **Required** |
| EpeaApproval | EPEA approval number (8 digits) | Yes |
| CompanyName | Name of the company | Yes |
| AerId | AER ID | No |
| FacilityName | Name of the facility | Yes |
| FacilityContactName | Name of the facility contact | Yes |
| FacilityContactPhone | Phone of the facility contact | Yes |
| FacilityContactEmail | Email of the facility contact in format | Yes |
| ContractorCompany | Name of the contractor company | No |
| ContractorContactName | Contact name at the contractor company | No |
| ContractorContactEmail | Email of the contractor contact | No |
| AnnualEvaluationCompletedDuringMonth | True/false (Yes/No) value of annual evaluation was completed during the month | Yes |
| AnnualEvaluationCompletionDate | Annual evaluation completion date; e.g., 2018-01-10 | No |
| AnnualEvaluationPerformedByCompany | Company name which performed annual evaluation; e.g., ABC Associates | No |
| AnnualEvaluationPerformedByContact | Contact name who performed the annual evaluation; e.g., Joe Wu | No |
| Year | Year in YYYY format | Yes |
| Quarter  | Quarter number as Q1, Q2, Q3, Q4 | No |
| Monthly  | Collection of Monthly 1, Monthly 2, Monthly 3 (Quarterly) |  |
|  Month | Name of the reporting month; e.g., January | Yes |
| Sources | Collection of Sources  | Yes |
| UniqueSourceIdentifier | Unique source identifier; e.g., GT-1 | No |
| CemsStationId | CEMS station id; e.g., 12345 | Yes |
| MonthlyStackExhaustHours | Stack exhausted hours for the month; e.g., 744.25 | Yes |
| SourceName | Source name; e.g., Gas Turbine Exhaust Stack | Yes |
| Comments | General comments | No |
|  Parameters | Collection of Source parameters | No |
|  Name | Name of the parameter; e.g., Sulphur dioxide | Yes |
|  ReportingUnits | Units in which the data has been reported; e.g., kg | Yes |
|  CemsAnalyzerMake | Make of the CEMS analyzer; e.g., Thermo | Yes |
|  CemsAnalyzerModel | Model of the CEMS analyzer; e.g., 42i | Yes |
|  CemsAnalyzerSerialNumber | Serial number of the CEMS analyzer; e.g., TEI-42i2000 | Yes |
|  DualRange | Is analyzer a dual range? True/fale value (Yes/No) | Yes |
|  AnalyzerLowerRange | Range lower value of the analyzer; e.g., 0 | Yes |
|  AnalyzerUpperRange | Range upper value of the analyzer; e.g., 100 | Yes |
|  AnalyzerRangeUnits | Range units of the analyzer; e.g., ppm | Yes |
|  SecondAnalyzerLowerRange | Range lower value of the second analyzer; e.g., 0 | No |
|  SecondAnalyzerUpperRange | Range upper value of the second analyzer; e.g., 100 | No |
|  Duration | Duration; e.g., 1HR | Yes |
|  Interval | Internal; e.g., 1HR | Yes |
|  CemsParameterizationOrDasConfigurationChanged | Any changes made to CEMS parametrization or DAS configuration? True/false (Yes/No) | Yes |
|  TotalCemsOperationalHours | Total CEMS operational hours; e.g., 696.13 | Yes |
|  CemsAnalyzerPercentAvailability | Total percentage for CEMS analyzer availability; e.g., 93.57 | Yes |
|  MinimumReading | Minimum reading of the analyzer; e.g., 27.40 | Yes |
|  MaximumReading | Maximum reading of analyzer; e.g., 68.90  | Yes |
|  AverageReading | Average reading of the analyzer; e.g., 35.30 | Yes |
|  MinimumEmissionRate | Minimum emission rate; e.g., 2.50 | No |
|  MaximumEmissionRate | Maximum emission rate; e.g., 3.80 | No |
|  AverageEmissionRate | Average emission rate; e.g., 3.15 | No |
|  ApprovalLimit | Approval limit; e.g., 3.7 | No |
|  OperationalModeCode | To report multiple operational mode codes (e.g., NOP, STU) add a line/lines to report against those mode codes | No |
|  HoursExceedingLimits | Exceeding limits hours; e.g., 1 | No |
|  MissingData | Is Data Missing? True/false (Yes/No) | Yes |
|  MissingDataDescription | Description of monthly missing data; e.g., analyzer malfunction | No |
|  Method1MissingData | Method 1- missing data as per CEMS User Manual (Hrs) | No |
|  Method2MissingData | Method 2- missing data as per CEMS User Manual (Hrs) | No |
|  Method3MissingData | Method 3- missing data as per CEMS User Manual (Hrs) | No |
|  Method4MissingData | Method 4- missing data as per CEMS User Manual (Hrs) | No |
|  OtherMissingDataMethod | Other methods- as authorized by Director (Hrs) | No |
|  MissingDataComments | Missing data comments in written text format | No |
|  PerformanceTestDoneDuringMonth | Performance test conducted this Month, Indicate Test Type; e.g., RATA; if none No Test should be selected | Yes |
|  PerformanceTestFrequency | Current Annual RATA and CGA Frequency; e.g., 2RATA/2CGA. If RATA/CGA frequency changes, this is where that would be indicated. Add comments for "other" option, including authorization obtained. | No |
|  PerformanceTestDate | Date of the performance test; e.g., 2018-01-16 | No |
|  TemporaryAnalyzerInstalled | Was a new or temporary analyzer installed? Choose this option for replacing an analyzer, swapping in a spare OR use of temporary replacement monitoring (e.g., third-party CEMS). True/false (Yes/No) | No |
|  MethodUsedForDailyVerifications | Method used for daily verifications; e.g., Test gas | Yes |
|  NumberOfOutOfControlEvents | Number of out of control events; e.g., if no out-of-control events, enter 0 | No |
|  NumberHoursOutOfControl | Number hours out of control. Enter comments to summarize out-of-control events.  | No |

Reference Links

* [XML Overview](https://www.w3schools.com/xml/default.asp)
* [Schema Overview](https://www.w3schools.com/xml/schema_intro.asp)