XML Schema for

AMD12 Sulphur Recovery and Removal

Revision History

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| --- | --- | --- | --- |
| **Version** | **Date** | **Author(s)** | **Revision Notes** |
| 0.1 | Oct-15-2018 | Environment and Resources | Initial document |
| 0.2 | Nov-06-2018 | Environment and Resources | Updated document based on IT feedback |
| 1.0 | Nov-09-2018 | Environment and Resources | Updated document based on IT feedback |
| 1.1 | Nov-20-2018 | Environment and Resources | Updated schema namespace |
| 1.2 | Dec-08-2018 | Environment and Resources | Updated and embedded schema; updated data dictionary |
| 1.3 | Dec-18-2018 | Environment and Resources | Updated and embedded schema; updated data dictionary |
| 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 |

This document outlines the XML file format that is required for the submission of AMD11 Sulphur Recovery and Removal.

The relevant AMD Chapter 9 clauses for this form include: RC 5-AA, RC 5-BB, RC 6-EE, RC 6-FF.

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 |
| FacilityName | Name of the facility | Yes |
| AerId | AER Id | No |
| FacilityContactName | Name of the facility contact | Yes |
| FacilityContactPhone | Phone of the facility contact | Yes |
| FacilityContactEmail | Email of the facility contact in abc@xyz.com format | Yes |
| ContractorCompany | Name of the contractor company | No |
| ContractorContactName | Contact name of the contractor company | No |
| ContractorContactEmail | Email of the contact | No |
| Year | Year in YYYY format | Yes |
| Quarter | Quarter number as Q1, Q2, Q3, Q4 | No |
| Monthly | Monthly data collection: Month1, Month2, Month3 (Quarterly) | No |
|  Month | Name of the reporing month; e.g., January | Yes |
|  Units | Collection of units | Yes |
| SourceName | Source name; e.g., Sulphur recovery unit | Yes |
| UniqueSourceIdentifier | Unique source identifier (as identified in EPEA approval if available); e.g., SRU-1 | No |
| AnalyzerUptimePercent | Continuous emission analyzer uptime %; e.g., 100.0 | No |
| SO2LimitPpm | Approved SO2 ppm limit; e.g., 3800.00 | No |
| SO2LimitTonnesPerHour | Approved SO2 tonnes per hour limit; e.g., 2.1 | No |
| SO2LimitTonnesPerDay | Approved SO2 tonnes per day limit; e.g., 36.4 | No |
| MinimumStackTopTemp | Approved Minimum stack top temperature; e.g., 400.00 | No |
| BypassOccured | Sulphur recovery bypass occurred during reporting month? True/False | No |
| MinApprovedSulphurRecoveryEfficiency | Minimum approved Sulphur recovery efficiency %; e.g., 98.7 | No |
| ApprovedMaxSulphurInletRate | Approved maximum Sulphur inlet rate (t/d); e.g., 3132.0 | No |
| ActualAvgSulphurRecoveryEfficiencyForMonth | Actual average Sulphur recovery efficiency for month %; e.g., 99.1 | No |
| ActualAvgSulphurInletRateForMonth | Actual average Sulphur inlet rate for month; 1168.5 | No |
| PercentTimeUnderDailyMassEmissionsLimit | % of time daily mass emissions were under the approved limit; e.g., 100.00 | No |
| PercentTimeUnderHourlyMassEmissionsLimit | % of time hourly mass emissions were under the approved limit; e.g., 100.00 | No |
| QuarterlySulphurRecoveryEfficiency | Quarterly Sulphur recovery efficiency in decimal | No |
| Comments | General comments in text | No |
| DailyReporting | Collection of SO2 daily reporting | Yes |
|  DailyReport | Daily SO2 mass emission report | No |
|  Day | Day values from 1 - 31 | Yes |
|  SO2InletRemovalRecoveryReporting | Collection of SO2 inlet removal recovery reporting | Yes |
|  AverageDailySulphurInletRate | Average daily Sulphur inlet rate (tonnes/day); e.g., 1247.5 | No |
|  SO2InIncineratorFlueGasMax1Hour | Max 1-hour SO2 in incinerator flue gas(ppm); e.g., 1902 | No |
|  IncineratorStackSO2MassEmission | Daily Total SO2 mass emission rate from incinerator stack; e.g., 23.41 | No |
|  IncineratorStackSO2MassEmissionMax1Hour | Max 1-hour SO2 mass emission rate from incinerator stack; e.g., 1.00 | No |
|  IncineratorStackTemp1HourAverage | Incinerator stack temp daily minimum 1 hour average; e.g., 418 | No |
|  SO2MassEmissionRateFromFlareStack | Daily total SO2 mass emission rate from flare stack; e.g., 0.71 | No |
|  DailySO2MassEmissionFD | Daily SO2 mass emission frequency distribution | Yes |
|  NumDailyEmissionReadings | Number of daily emission readings by bin | No |
|  Bin | Bin value in text; e.g., <=7.28 | Yes |
|  Readings | Number of daily emission readings; e.g., 1 | No |
|  HourlySO2MassEmissionFD | Hourly SO2 mass emission frequency distribution | Yes |
|  NumHourlyEmissionReadings | Number of daily emission by bin; total 8 bins | No |
|  Bin | Bin value; e.g., <=7.28 | Yes |
|  Reading | Number of hourly emission readings; e.g., 1 | No |
|  TotalHourlyReadings | Total number of hourly reaadings; e.g., 28 | No |
|  MonthlyTotalReport | Monthly SO2 mass emission report | No |
|  IncineratorStackSO2MassEmission | SO2 mass emission rate from incinerator stack monthly total; e.g., 653.80 | No |
|  SO2MassEmissionRateFromFlareStack | SO2 mass emission rate from flare stack monthly total;14.91 | No |
|  MonthlyMinReport, MonthlyMaxReport, MonthlyAvgReport | Monthly minimum, maximum and average report | No |
|  SO2InIncineratorFlueGasMax1Hour | SO2 in incinerator flue gas max 1 hour; e.g., 1902 | No |
|  IncineratorStackSO2MassEmission | SO2 mass emission rate from incinerator stack; e.g., 23.41 | No |
|  IncineratorStackSO2MassEmissionMax1Hour | SO2 mass emission rate from incinerator stack max 1 hour; e.g., 1.00 | No |
|  IncineratorStackTemp1HourAverage | Incinerator stack temp 1 hour average daily minimum; e.g., 418 | No |
|  SO2MassEmissionRateFromFlareStack | SO2 mass emission rate from flare stack; e.g., 0.71 | No |
|  DailyFDTotals | Collection of daily frequency distribution totals | Yes |
|  TotalDailyEmissionsReadings | Total daily emissions reasings | No |
|  TotalReadings | Total number of daily readings; e.g., 28 | No |
|  PercentOfTotal | Percent of daily total; e.g., 90.3 | No |
|  Bin | Bin value; e.g., <=7.28 | Yes |
|  HourlyFDTotals | Collection of hourly frequency distribution totals | Yes |
|  TotalHourlyEmissionsReadings | Total hourly emissions readings | No |
|  TotalReadings | Total number of hourly readings; e.g., 28 | No |
|  PercentOfTotal | Percent of daily total; e.g., 90.3 | No |
|  Bin | Bin value; e.g., <=7.28 | Yes |
|  GrandTotalHourlyReadings | Grant total of readings and percent of total | No |
|  TotalReadings | Total number of readings; e.g., 74 | No |
|  PercentOfTotal | Percent of total; e.g., 100.0 | No |
|  SulphurRecoveryUnitBypasses | Collection of Sulphur recovery units bypass | Yes |
|  SulphurRecoveryUnitBypass | Sulphur recovery units bypass | No |
|  Date | Date of recovery unit bypass; | No |
|  Duration | Duration of bypass in hours; | No |
|  Reason | Duration of bypass in hours; | No |

Reference Links

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