

# EPA Moderated Transaction System (EMTS)

## Flow Configuration Document

Version: 1.0.1



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Compliance and Innovative Strategies Division  
Office of Transportation and Air Quality  
U.S. Environmental Protection Agency

Prepared for EPA by  
PQA, part of  
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# 1 Change Tracking Log

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| Date              | Version | Description  | Author |
|-------------------|---------|--|--------|
| October 12, 2009  | 1.0     | Original Draft.  | PQA    |
| November 18, 2009 | 1.0     | Updates.   | PQA    |
| December 23, 2009 | 1.0     | Updates describing the OTAQ Registration process. Clarification provided in section 5 on the EMTS data flow. | PQA    |
| January 11, 2010  | 1.0     | Updates for submission and registration.   | CGI    |
| January 15, 2010  | 1.0     | Updates.   | CGI    |
| January 18, 2010  | 1.0     | Updates and addition of notifications.   | PQA    |
| March 12, 2010    | 1.0.1   | Solicit and Archive flow.  | CGI    |
| March 31, 2010    | 1.0.1   | Updates to Solicit and Archive flows. Update to Notifications and Web Service Documents.                     | PQA    |

## 1.1 Version and Component Alignment

The following table indicates the version of related documents and components to which this document applies.

| Component   | Version(s) Supported |
|-------------|----------------------|
| FCD         | V1.0                 |
| EMTS Schema | V1.0                 |
| DET         | V1.0                 |

## 2 Introduction

---

The purpose of this Flow Configuration Document (FCD) is to describe the operation of the EMTS flow across the Exchange Network to the CDX Node. This includes data flow between industry users and EPA that meet the RFS submission requirements.

An FCD is intended to describe the operational aspects of an Exchange Network data exchange. The specifications included in this document define the supported data services, the approaches, and processes that are used to exchange information between the EPA and submitters.

This document will describe the data exchange process by which industry users will submit XML files to the EMTS and retrieve documents from the EMTS.

The EMTS intends to offer outbound services that will allow Exchange Network partners to query data collected and managed by the EMTS. These outbound data services will continue to be documented once these capabilities have been designated and developed in a future release.

The scope of this document describes the process of submitting electronically reported EMTS submissions to EMTS from an EPA Exchange Network 2.0 compliant node, such as the EMTS website, node, or node client. This document also describes the process for the retrieval of documents available from the EMTS using the EMTS reports flow.

The high-level process for the EMTS data flow includes the following steps:

1. An EMTS-registered user authenticates to NAAS.
2. The user submits EMTS transaction data to the CDX Node using an Exchange Network 2.0 node or node client.
3. The user's NAAS credentials are mapped to the user's Web CDX credentials, which are used by the EMTS for authentication.
4. The CDX Node validates the structure of the XML file.
5. The CDX Node submits the XML file to the EMTS.
6. The EMTS processes the contents of the file.
7. The EMTS notifies the submitter regarding the status of the submission.
8. The user downloads the resulting QA Feedback report.

To obtain documents from the EMTS, the steps are:

1. An EMTS user subscribes to document in the EMTS website.
2. An EMTS-registered user authenticates to NAAS.
3. The user solicits the CDX node for daily/weekly or monthly documents.

4. The user's NAAS credentials are mapped to the Web CDX credentials, which are used by the EMTS for authentication.
5. The EMTS receives a solicit for documents and either submits these documents to the CDX Node, or sends a notification that the document was unavailable.
6. The user downloads the documents from the CDX Node.

## 2.1 How to Use This FCD

This document provides guidance on implementing and using the EMTS flows, an XML-based submission process through the CDX Node to the EMTS.

The document includes the following main sections:

### Submission File Structure

This section describes the various portions that need to be implemented in the EMTS submission file, in addition to the EMTS XML document. The submission file must adhere to this structure in order to be processed properly in route through the exchange network to the EMTS. The EMTS flow makes use of the Exchange Network Header Document to describe the payload content of a Network message. Every submission to the EMTS must adhere to the Header Document structure.

### Configuring the Network Exchange

This section describes how the EMTS Network Exchange is configured for the EMTS data flows.

In addition to this FCD, the submitter should obtain the following documents related to the EMTS Flow. These documents can be downloaded from <http://www.exchangenetwork.net/exchanges/air/ems.htm>. Additional help can be requested from EMTS Support at [ems\\_testing@PQA.com](mailto:ems_testing@PQA.com) or contacting the EMTS Support line at 1-800-385-6164.

- EMTS Data Exchange Template
- EMTS XSD
- EMTS Transaction Instructions

### Submission Processing and Feedback

This section of the FCD provides a description of the EMTS flow including submitting files from a node or node client and submitting files from the EMTS website.

### Solicit Flow for Documents

This section of the FCD provides a description of the EMTS flow used for the retrieval of documents.

### Archived Files

This section describes how the CDX archives all submitted XML files and the process for users to retrieve these documents.

## **Web Service Methods**

This section describes the web service methods utilized by the Exchange Network node in support of the EMTS flow.

## **Help and Technical Assistance**

If you have questions on how to report your transactions to the EMTS or how to use the EMTS website, technical assistance can be provided by sending your question to [emts\\_testing@PQA.com](mailto:emts_testing@PQA.com) or by contacting the EMTS Support line at 1-800-385-6164.

## 3 Submission File Structure

### 3.1 Overview

The EMTS submission file consists of a single XML document that can only be submitted from a node, node client, or the EMTS website. The submission must adhere to the Exchange Header v2.0 document structure. Information on the header can be found on the Exchange Network website at [http://www.exchangenetwork.net/dev\\_schema/HeaderSpecification\\_v2.0.doc](http://www.exchangenetwork.net/dev_schema/HeaderSpecification_v2.0.doc). The Exchange Header xsd is available at [http://www.exchangenetwork.net/schema/header/2/header\\_v2.0.xsd](http://www.exchangenetwork.net/schema/header/2/header_v2.0.xsd).

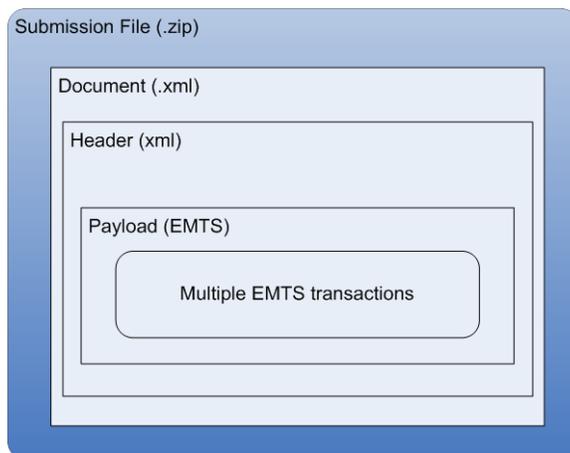
The header document provides the following information:

- Description of payload; and
- Information regarding the submitter and date of submission.

### 3.2 Implementing the Header Document

The header is required for all Submit operations through the Exchange Network. Every submission file sent to the EMTS must use the Header Document structure to meet EPA CDX processing requirements. The header contains information about the submitter and the contents of the payload. The root element of the header document is the Document element, with two child elements, Header and Payload. The Payload contains the actual EMTS data, adhering to the structure of the EMTS schema. The figure below shows the file submission structure.

**Figure 1: Submission File Structure**



### 3.3 Header Document Structure

The following table describes the Header Document elements and how they are used for the purposes of an EMTS submission. Note that most of these elements are not required to be reported in the header, these data are used as metadata.

### **3.3.1 Namespace and Schema**

The XML namespace for the Exchange Network Document is <http://www.exchangenetwork.net/schema/header/2>.

All documents that use the Header 2.0 specification must use this namespace URL. The schema file is located at:

[http://www.exchangenetwork.net/schema/header/2/header\\_v2.0.xsd](http://www.exchangenetwork.net/schema/header/2/header_v2.0.xsd).

### **3.3.2 Document Header Definitions**

The document header is the first child of the Document tag. The header may contain the elements defined below:

**Table 1: Exchange Header 2.0 Document Elements**

| Document (the root element of an Exchange Network Header Document) |  |  |          |  |
|--|--|--|----------|--|
| Name   | Description  | Example  | Required | Notes  |
| ID   | A unique identifier for the XML document that is the payload. This may be a file name or a unique identification number that can be used to identify the document. | ID123456789  | Yes      |  |
| hdr XML Namespace  | The Exchange Header 2.0 namespace. This is different from the EMTS namespace which is contained in the EMTS document.  | xmlns:hdr = "http://www.exchangenetwork.net/schema/header/2"   | Yes      | Must be <a href="http://www.exchangenetwork.net/schema/header/2">http://www.exchangenetwork.net/schema/header/2</a> . All documents that use the Header 2.0 specification must use this namespace URL. |
| xsi XML Namespace  | The w3c 2001 XML schema instance namespace.  | xmlns:xsi = "http://www.w3.org/2001/XMLSchema-instance"  | Yes      |  |
| Schema Location  | References an XML Schema document that has a target namespace.   | xsi:schemaLocation = "http://www.exchangenetwork.net/schema/header/2 http://www.exchangenetwork.net/schema/header/2/header_v2.0.xsd" | No       | The first member of each pair is the namespace for which the second member is the hint describing where to find to an appropriate schema document.   |

The following table describes the Header Document elements and how they are used for the purposes of an EMTS submission.

**Table 2: Exchange Header 2.0 Elements**

| Header            |  |                           |   |                                       |
|-------------------|--|---------------------------|---|---------------------------------------|
| Name              | Description  | Example                   | Required  | Notes                                 |
| AuthorName        | Originator of the document. This should be the name of a person or a network node ID if the document is automatically generated.   | John Smith                | Yes. Tag must be present but null string can be provided. | Used for reference only.              |
| Organization Name | The organization to which the author belongs. It may be a state name, an organization name, or a company name. For submissions to the CDX node, this should be the name of the organization. |                           | Yes. Tag must be present but null string can be provided. | Used for reference only.              |
| DocumentTitle     | Title of the document.   | EMTS                      | Yes. Tag must be present but null string can be provided. | Reference to the flow.                |
| CreationDate Time | This is a timestamp that marks when the document, including the payload and header part, was created.  | 2006-04-05T09:30:47-05:00 | Yes (Cannot be empty).                                    | Must be in valid xsd:datetime format. |
| Keywords          | Description of the payload. Multiple keywords should be separated by commas. This is used only for document categorization and searching.  |                           | No.   |                                       |
| Comment           | Additional comments for processors.  |                           | No.   |                                       |
| DataFlowName      | The name of the data flow associated with the payload.   | EMTS                      | No.   |                                       |
| DataService Name  | Not used by EMTS.  |                           | No.   |                                       |

(cont.)

**Table 2: Exchange Header 2.0 Elements (cont.)**

| Name                       | Description   | Example                       | Required | Notes   |
|----------------------------|---|-------------------------------|----------|---|
| SenderContact              | The sender's additional contact information. It can contain sender's electronic address and/or telephone numbers where the author can be reached. | P.O. Box 1234<br>Richmond, VA | No.      | Element is not used by EMTS. If data is provided it will be ignored.  |
| Application UserIdentifier | Application specific submitter identification.  | JohnSmith                     | No.      | The submitter may supply his CDX registered account information that is used to access MyCDX. The CDX user ID is the equivalent of the EMS user identifier. |
| SenderAddress              | A well-formed URI where results or reports can be sent.   |                               | No.      | Element is not used by the EMTS.  |
| Property                   | Other properties of the document using named value pairs.   |                               | No.      | Element is not used by the EMTS.  |
| Signature                  | An XML signature associated with the document.  |                               | No.      | Element is not used by the EMTS.  |

### 3.4 EMTS Namespace

The EMTS namespace uses a URL to reference the location of the current version of the EMTS on the CDX network, and allows the user to reference it through a prefix "emts:". The major version number of the EMTS is also included in the namespace. Without this reference, all complex types and XML elements cannot be validated resulting in an XML file validation error.

Figure 2 provides an XML example which declares the EMTS namespace through the use of the xmlns (XML Namespace) schema attribute and assigns the namespace a prefix of "emts:".

**Figure 2: Declaring the EMTS Namespace**

```
<?xml version="1.0" encoding="UTF-8"?>
<emts:EMTS xsi:schemaLocation="http://www.exchangenetwork.net/schema/emts/1 EMTS_EMITS_v1.0.xsd"
xmlns:emts="http://www.exchangenetwork.net/schema/emts/1" xmlns:xsi="
http://www.w3.org/2001/XMLSchema-instance">
```

The declaration of the namespace is included at the top of each XML file, and allows the user to reference the EMTS complex types and elements with the "emts:" prefix followed by a colon (as in emts:GenerateTransactionDetail). Each complex type and XML element, including root elements, must contain the namespace prefix.

The following XML example demonstrates an XML submission file that contains the Exchange Network Header with an EMTS payload. This file should be zipped before it is submitted to the EMTS.

**Figure 3: Header Example**

```
<hdr:Document id="ID01" xsi:schemaLocation="http://www.exchangenetwork.net/schema/header/2 header.xsd"
xmlns:hdr="http://www.exchangenetwork.net/schema/header/2" xmlns:ds="http://www.w3.org/2000/09/xmldsig#23"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<hdr:Header><hdr:AuthorName/><hdr:OrganizationName/><hdr:DocumentTitle/><hdr:CreationDateTime>
2009-12-18T09:22:50</hdr:CreationDateTime><hdr:ApplicationUserIdentifier>CindyFerreira
</hdr:ApplicationUserIdentifier></hdr:Header>
  <hdr:Payload>
    <emts:EMTS xsi:schemaLocation="http://www.exchangenetwork.net/schema/emts/1 EMTS_EMTS_v1.0.xsd"
      xmlns:emts="http://www.exchangenetwork.net/schema/emts/1"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <emts:UserLoginText>CindyFerreira</emts:UserLoginText>
      <emts:SubmittalCreationDate>2009-12-18</emts:SubmittalCreationDate>
      <emts:OrganizationIdentifier>1234567</emts:OrganizationIdentifier>
      <emts:SubmittalCommentText>Non-ester Renewable Diesel Retire</emts:SubmittalCommentText>
      <emts:RetireTransactionDetail>
        <emts:RINQuantity>65</emts:RINQuantity>
        <emts:BatchVolume>65</emts:BatchVolume>
        <emts:FuelCode>5</emts:FuelCode>
        <emts:AssignmentCode>1</emts:AssignmentCode>
        <emts:RINYear>2009</emts:RINYear>
        <emts:RetireReasonCode>70</emts:RetireReasonCode>
        <emts:TransactionDetailCommentText>No comment provided</emts:TransactionDetailCommentText>
      </emts:RetireTransactionDetail>
    </emts:EMTS>
  </hdr:Payload>
</hdr:Document>
```

## 3.5 Payload

The EMTS supports the inclusion of only one payload per submission file. The CDX node will not route submissions including more than one payload. However, a payload can contain multiple EMTS transactions. The format of the payload must be constructed in accordance with the EMTS schema.

### 3.5.1 Validating the EMTS XML

Prior to transmitting any XML files to EPA, the XML document should be checked for validity. This can be accomplished using either or both of the following:

- EPA's XML schema validation tool. This web-based validation tool is a set of XML web services for validating XML documents against the associated schemas and custom rules. This can be found at <http://tools.epacdxnode.net/>.
- A third party XML validation tool (e.g., XML Spy, Liquid XML, etc.) is strongly encouraged. The validation tool must validate that an XML document is both well-formed and valid against the EMTS schema specifications.

## 4 Configuring the Network Exchange

There two data flows for the EMTS on the Exchange Network which are detailed in the following table.

**Table 3: Configuration of Network Exchange Parameters**

| Specification                       | Data Flows  |   |
|-------------------------------------|---|---|
|                                     | EMTS  | EMTS-ARCHIVE  |
| FCD Specifications                  | Section 5, 6  | Section 7   |
| Flow Name                           | Submit and Solicit Parameters <ul style="list-style-type: none"> <li>• SecurityToken: A security ticket issued by the service provider or a trusted service provider.</li> <li>• Dataflow: The name of target dataflow: "EMTS".</li> </ul> Node Submission will support one payload per document. Only one document will be provided, comprised of the payload. | Download Parameters <ul style="list-style-type: none"> <li>• SecurityToken: A security ticket issued by the service provider or a trusted service provider.</li> <li>• Dataflow: The name of target dataflow: "EMTS-ARCHIVE".</li> </ul> Node Submission will support one payload per document. Only one document will be provided, comprised of the payload. |
| Payload Schema                      | EMTS_EMMS_v1.0.xsd  | N/A   |
| Header Property                     | N/A   | N/A   |
| Payload Formatting Structure        | The payload must be an XML document that is compressed as a ZIP document type.  | The payload will be an XML document that is compressed as a ZIP document type.  |
| Payload File Naming Convention      | N/A   | N/A   |
| GetStatus Responses                 | All standard GetStatus responses.   | All standard GetStatus responses.   |
| Timing                              | See flow specifications in section 5 and 6.   | See flow specifications in section 7.   |
| Authentication and User IDs Mapping | All node users must be registered in NAAS and their CDX user IDs must be mapped to their NAAS IDs. Contact the EMTS Support Desk or Appendix B for details.   | All node users must be registered in NAAS and their CDX user IDs must be mapped to their NAAS IDs. Contact the EMTS Support Desk or Appendix B for details.   |
| NAAS Authorized User Accounts       | CDX must authorize Submit, GetStatus, Query, Solicit and Download to EMTS.  | CDX must authorize Download to EMTS.  |

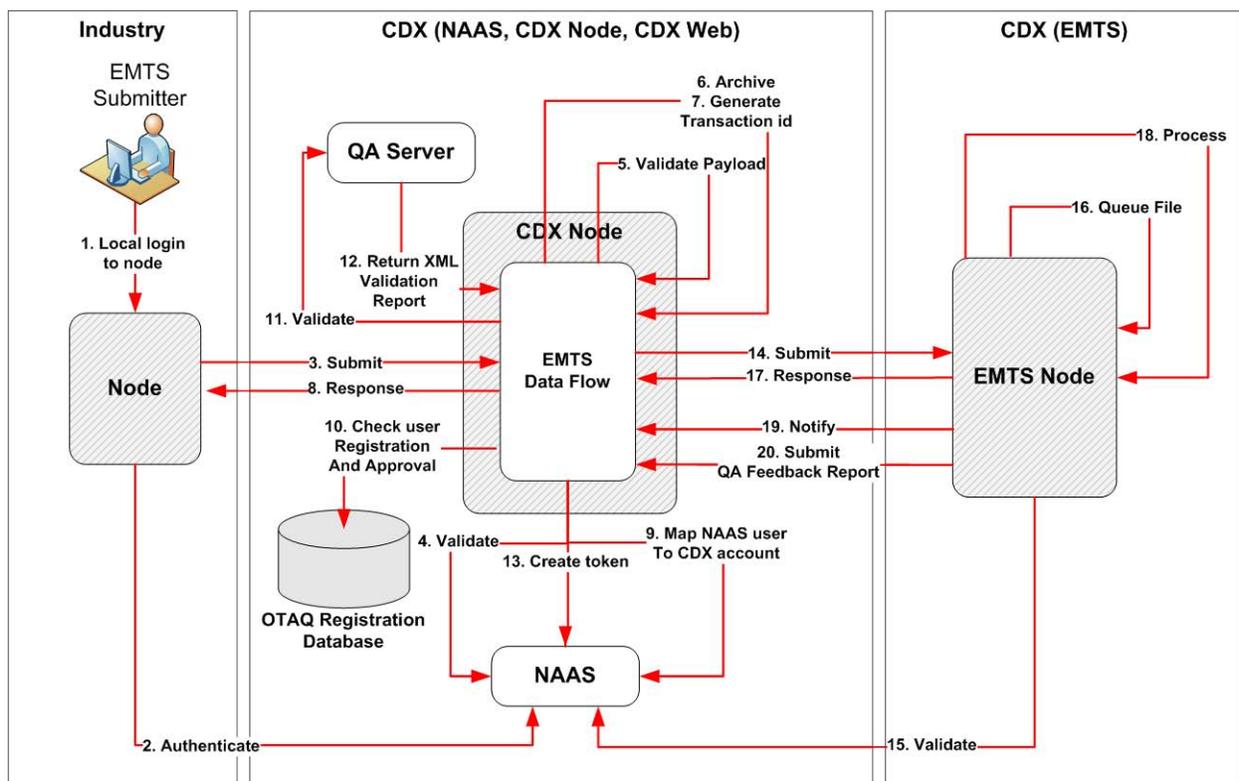
## 5 Submission Processing and Feedback

In order to initiate an EMTS flow submission, the user must have a CDX web account to access the MyCDX website and have registered their organization and facilities through the OTAQ Fuel Registration process. The user must also have a NAAS account and have permission to participate in the EMTS data flow. Both node clients and full nodes must use user NAAS accounts registered for EMTS data flow. The submitter's NAAS ID must be mapped to his CDX Web user ID. See Appendix B: EMTS Registration Process, for more information on acquiring account and permissions.

### 5.1 Submission Using a Node or Node Client

The following diagram and steps demonstrate how an EMTS submitter submits an XML file using a node or node client.

Figure 4: Submission from Node or Node Client



1. The submitter logs onto their node client or full node application. Depending on the node application, this step may or may not be required.
2. The submitter logs in to NAAS via the CDX Node using his NAAS user ID. The industry node issues the authentication web service to the CDX Node. The following end point URL are used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The industry node must pass the following parameters:

- UserId: NAAS user ID
- Credential: Password
- Domain: "default"
- AuthenticationMethod: "Password"

On success, the CDX Node will return a security token to the industry node. Upon failure, the CDX Node will return an Authentication SOAP Fault.

The following sequence is performed as a synchronous set of actions. If an action fails, the CDX Node returns a failed submission response containing error information and the transaction ends.

3. The industry node submits an XML file to the CDX Node. The following end point URLs are used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The industry node must pass the following parameters:

- Security token: Security token received in step 2.
  - Transaction ID: Not used.
  - Dataflow: "EMTS"
  - FlowOperation: Not used.
  - Recipient: Not used.
  - Documents: One document containing the zipped EMTS XML document.
4. The CDX Node validates the security token against NAAS. This will authenticate the submitter and authorize the submission to the EMTS.
  5. The CDX Node validates the payload. The submission payload can contain only one document which must be compressed and be a ZIP document type.
  6. The CDX Node archives the submitted document.
  7. The CDX Node generates a unique transaction ID and assigns it the status of "RECEIVED". The submission CDX Transaction ID uniquely identifies the submission, and can be used to check the status of the submission.
  8. If previous operations were successful the CDX Node returns a Submit response to the industry node:
    - TransactionId: The unique CDX Transaction ID for the submission.
    - Status: RECEIVED
    - StatusDetails: Your submission has been accepted and can be tracked using the following id:[cdx transaction id]. The submitter node is expected to store the returned CDX transaction ID for further processing.

If the previous operation fails, the CDX Node returns a SOAP Fault to the industry node and archives the returned transaction for further processing. See section 5.3, "*Get Submission Status*", for more details on the submit web service.

The following sequence is performed asynchronously after the submit response is sent back to the submitting node.

9. The CDX Node updates the status to "PROCESSING". The CDX Node maps the submitter's NAAS credentials to his Web CDX credentials. The submitter's Web CDX credentials will be

submitted to the EMTS and used by the EMTS for submission authentication and authorization. If validation fails, the CDX Node will send an email to the submitter and the CDX Node Administrator regarding the failure.

10. The CDX Node verifies that the user is registered and active in the OTAQ Registration database. If the user is not active or not registered in the OTAQ Registration database, the transaction status is set to "FAILED" and the transaction is ended. The CDX Node will send an email to the submitter and the CDX Node Administrator regarding the failure.
11. The CDX Node validates the XML file against the QA Server, which is performed asynchronously. After completion, the QA Server submits an XML Validation report to the CDX Node. The CDX Node archives the XML Validation report. This XML validation report can be downloaded by the submitter node using the download web service. See section 5.7, "Download Document", for more details on the download web service.
12. If the XML document does not pass XML validation, then the transaction status is set to "FAILED" and the transaction is ended. The CDX Node sends an email to the submitter regarding the failure. The email text contains a list of XML validation errors.
13. The CDX Node creates a security token that includes the submitter's Web CDX user ID, email address, and affiliation. This is mapped from the submitter's NAAS user ID in step 9 above.
14. The CDX Node submits the XML file to the EMTS node, using the security token created in step 13. The CDX Node will resubmit three times if the submission to the EMTS node is not successful. If the CDX Node successfully submits the document to the EMTS Node, the transaction status is set to "PENDING". If the submission fails, the transaction status is set to "FAILED" and the transaction is ended. The CDX Node sends email to the submitter and the CDX Node administrator regarding the failure.
15. The EMTS Node validates the security token with NAAS and extracts the submitter's Web CDX user ID from the security token.
16. The EMTS Node queues the submission for processing.
17. If steps 15–16 were successful, the EMTS Node returns the CDX transaction ID to the CDX Node. If processing fails, the EMTS Node returns a SOAP fault to the CDX Node. The CDX Node sets the transaction status to "FAILED" and the transaction is ended. The CDX Node sends an email to the submitter and the CDX Node administrator regarding the failure.

The following sequence is performed asynchronously after the submit response action in step 17.

18. The EMTS processes the submission.
19. If processing is successful, the following steps are performed:
  - A Notify request is sent to the CDX Node providing the final status of the submission.
  - The CDX Node ends the transaction and updates the transaction status to "COMPLETED".
  - The CDX Node sends an email to the submitter regarding the completion of transaction.

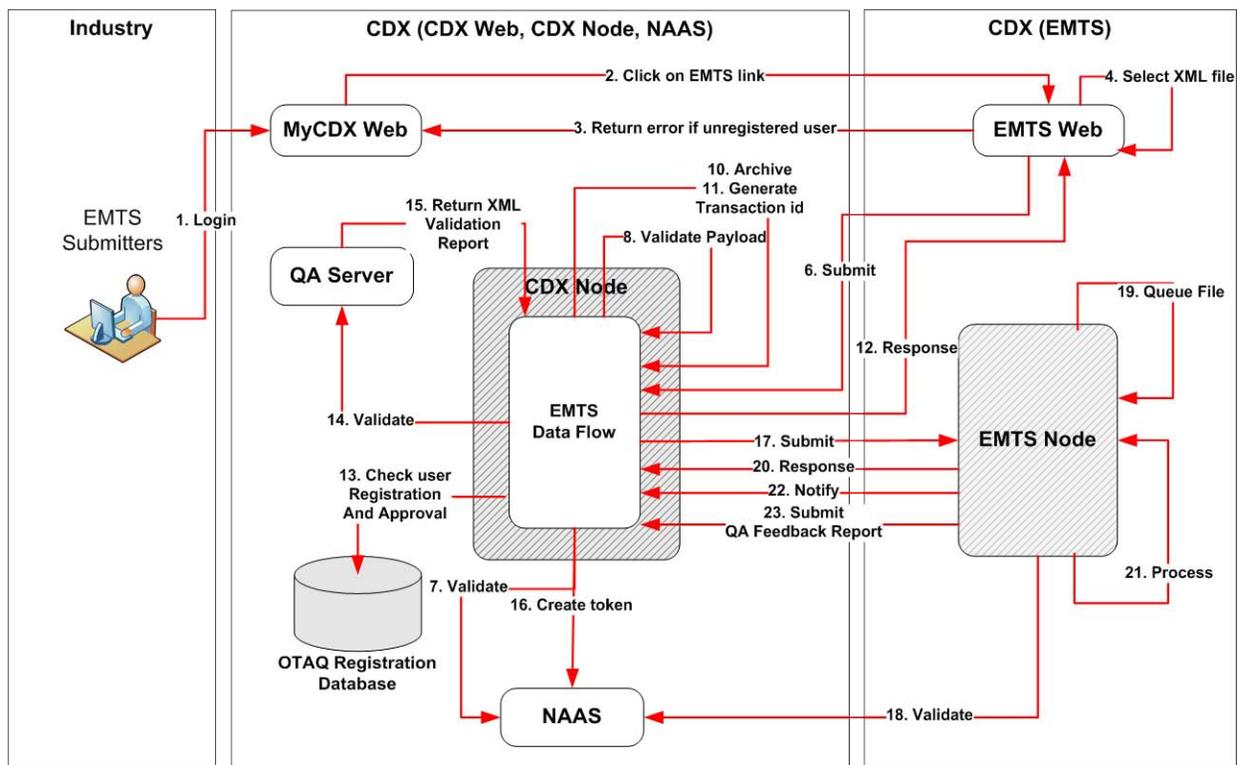
20. If processing fails, the following steps will be performed:

- The EMTS Node submits the QA Feedback report to the CDX Node. The document contains a zipped QA Feedback report. See section 5.4, "Retrieve QA Feedback Report", for additional information regarding retrieving the report.
- The CDX Node archives the QA Feedback report.
- The EMTS Node issues a Notify request to inform the CDX Node of the failure.
- The CDX Node ends the transaction and updates Transaction status to "FAILED".
- The CDX Node sends an email to the submitter regarding the failure of a transaction.

## 5.2 Submission from the EMTS Website

The following diagram and steps demonstrate how an EMTS submitter submits an XML file from the EMTS Website. The EMTS Website has a node client interface customized for the EMTS flow.

**Figure 5: Submission from EMTS Website**



1. The user logs in to the MyCDX Website.
2. The user clicks the OTAQEMTS:OTAQ EMTS link. The user's CDX credentials are passed to the EMTS website for auto sign-on to the EMTS.
3. If the user does not have permission to operate in the EMTS website, the user is given an error message and redirected back to the MyCDX website.

The following sequence is performed as a synchronous set of actions:

4. The user selects an XML file to submit. The File Submission interface is customized for the EMTS data flow. The CDX Node URL, data flow name, and other submission parameters are provided automatically by the EMTS. The EMTS verifies that the document is zipped, and that the XML conforms to the Exchange Network Header 2.0 and EMTS xsd specifications.
5. The EMTS creates a security token that contains the user's CDX Web user ID, email address, and affiliation.
6. The EMTS submits the XML file to the CDX Node, using the security token created in step 5.
7. The CDX Node validates security token against NAAS which will authenticate the submitter and authorize the submission to the EMTS.
8. The CDX Node validates the payload. The submission payload can contain only one document. The document must be compressed and be a ZIP document type.
9. The CDX extracts the submitter's Web CDX user ID, email address, and affiliation and archives this information for future use.
10. The CDX Node archives the submitted document.
11. The CDX Node generates a unique transaction ID and updates the status to "RECEIVED". The submission CDX Transaction ID uniquely identifies the submission, and can be used to check the status of the submission.
12. If previous operations are successful, the CDX Node returns the following Submit response to the EMTS:
  - TransactionId: The unique CDX Transaction ID.
  - Status: RECEIVED
  - StatusDetails: Your submission has been accepted and can be tracked using the following id:[cdx transaction id].

If the previous operation fails, the CDX Node returns a SOAP fault to the submitter node. The submitter node archives the returned transaction for further processing. See section 5.3, "*Get Submission Status*", for additional information regarding the submission status.

The following sequence is performed asynchronously after the submit response is sent back to the EMTS.

13. The CDX Node updates the status to "PROCESSING", and verifies that the user is registered and active in the OTAQ Registration database. If the user is not active or not registered in the OTAQ Registration database, the transaction status is set to "FAILED" and the transaction is ended. The CDX Node sends email to the submitter and the CDX Node Administrator regarding the failure.
14. The CDX Node performs XML validation against the QA Server. The QA Server performs XML validation asynchronously. After completion, the QA Server submits an XML validation report to the CDX Node. The CDX Node archives the XML validation report.
15. If the document did not pass XML Validation, the transaction status is set to "FAILED" and the transaction is ended. The CDX Node will send an email to the submitter regarding the failure. XML validation content is provided within the email.

16. The CDX Node creates a security token that includes the submitter's Web CDX user ID, email address, and affiliation. This is extracted from the security token in step 8 above.
17. The CDX Node submits the XML file to the EMTS Node, using the security token created in step 16. The CDX Node will retry three times if submission to the EMTS Node is not successful. If the CDX Node successfully submits the document to the EMTS Node, the transaction status is set to "PENDING". If the submission fails, the transaction status is set to "FAILED" and the transaction is ended. The CDX Node sends email to the submitter and the CDX Node Administrator regarding the failure.
18. The EMTS Node validates the security token with NAAS and extracts the submitter's Web CDX user ID from security token.
19. The EMTS Node queues the submission for processing.
20. If steps 18–19 were successful, the EMTS Node returns the CDX transaction ID to the CDX Node. If failed, the EMTS Node returns a SOAP fault to the CDX Node. The CDX Node sets the transaction status to "FAILED" and the transaction is ended.

The following sequence is performed asynchronously after the submit response action in step 19.

21. The EMTS processes the submission.
22. If processing was successful, the following steps are performed:
  - A Notify request is sent to the CDX Node providing the final status of the submission.
  - The CDX Node ends the transaction and updates the transaction status to "Completed".
  - The CDX Node sends an email to the submitter regarding the completion of transaction.
23. If processing fails, the following steps will be performed:

The EMTS Node submits the QA Feedback report to the CDX Node. The document contains a zipped QA Feedback report. See section 5.4, "*Retrieve QA Feedback Report*", for additional information regarding retrieving the report.

- The CDX Node archives the QA Feedback report.
- The EMTS Node issues a Notify request to inform the CDX Node of the failure.
- The CDX Node ends the transaction and updates Transaction status to "FAILED".
- The CDX Node sends an email to the submitter regarding the failure of a transaction.

## 5.3 Get Submission Status

The following steps demonstrate how the industry node obtains the current transaction status. This functionality is applicable to all node and node clients.

1. The submitter logs into NAAS using his NAAS user ID. NAAS returns a security token to the submitter node.
2. The industry node issues the GetStatus request using one of the following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: Security token returned in step 1.
  - TransactionId: Transaction ID returned in section 5.1, step 8.
3. The CDX Node validates the security token against NAAS.
  4. If the user was authenticated and authorized, the CDX Node returns a StatusResponse containing status information:
    - TransactionId: Passed Transaction ID.
    - Status: CDX Node returns any of the following statuses:
      - o RECEIVED: Submission was received and steps 4–8 from section 5.1 were successfully performed.
      - o PROCESSING: Submission was received and steps 9–13 were successfully performed.
      - o PENDING: Submission was successfully distributed to EMTS Node.
      - o COMPLETED: Submission was received by EMTS Node and processed.
      - o FAILED: Submission failed.
    - StatusDetail: A value that describes the failure if the CDX Node returns FAILED as transaction status.

If the transaction status is "FAILED" then the submitter node can extract the following status details from the GetStatus response.

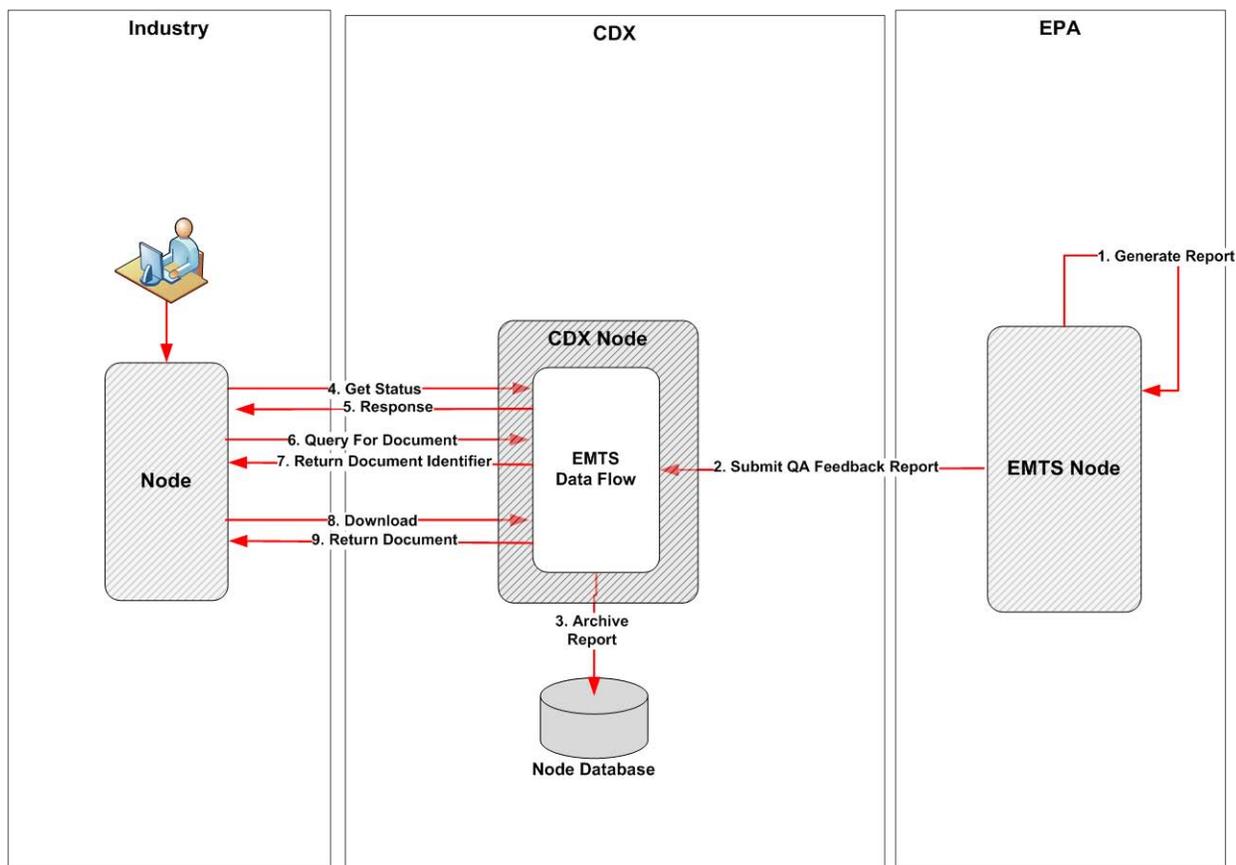
**Table 4: Status Detail Codes and Descriptions**

| Error Number | Status Details Value   | Description   |
|--------------|------------------------|---|
| 1            | E_XmlValidation        | An XML schema validation failure occurred on the EMTS document.   |
| 2            | E_ApplicationIdMapping | CDX is unable to find a CDX Web user identification based on the NAAS identification.                   |
| 3            | E_OtaqRegNotRegistered | The CDX was unable to verify that the submitter is a registered user in the OTAQ Registration database. |
| 4            | E_OtaqRegNotApproved   | The CDX was unable to verify that the submitter is approved in the OTAQ Registration database.          |
| 5            | E_Distribution         | The CDX Node was unable to distribute the document to the EMTS.   |
| 6            | E_BackendProcessing    | The Document failed processing in the EMTS.   |

## 5.4 Retrieve QA Feedback Report

The EMTS will submit a QA Feedback report to the CDX Node upon a failed submission file. A QA Feedback report is not generated if the submission was successfully processed. The report contains a complete list of errors encountered when processing a submitted file. The following steps demonstrate how the industry node obtains the QA Feedback report using web services methods.

Figure 6: Retrieve QA Feedback Report



1. The EMTS generates a QA Feedback report if a submission file contains one or more critical errors and could not be successfully processed. Upon failure, the EMTS generates the QA Feedback report.
2. The EMTS Node submits the QA Feedback Report to the CDX Node.
3. The CDX Node archives the report.
4. The industry node issues a GetStatus request using one of the following end point URLs:  
Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>
5. The industry node receives a response. If the industry node receives the status details value of "E\_BackendProcessing" as a result of the GetStatus web service method, the industry node invokes a Query web service to obtain the document ID for the QA Feedback report.

The following parameters are used:

- SecurityToken: Security token.
- Dataflow: NODE
- Request (GetDocuments)
- Parameters:
  - o TransactionId: Submission CDX transaction ID.
  - o Category: REPORT

6. The CDX Node returns a document history XML file to the industry node. This XML will contain transaction and document information, as shown below. The industry node uses the document ID contained in the document history file to retrieve the document from the CDX Node.

```
<DocumentList xmlns="" >
  <TransactionId>transaction id</TransactionId>
  <Document>
    <Id>document id</Id>
    <Name>document name</Name>
    <Category>REPORT</Category>
    <Status>FAILED</Status>
    <Type>XML/ZIP</Type>
    <CreationTime> yyyy-mm-ddThh:mm:cc </CreationTime>
    <Size>document size</Size>
    <DocumentProperties xmlns="" >
      <Property>
        <Name>property name</Name>
        <Value>property value</Value>
      </Property>
    </DocumentProperties>
  </Document>
</DocumentList>
```

7. The industry node issues the Download web service to the CDX Node.

The following parameters are used:

- SecurityToken: A security token received in authentication step.
- Dataflow: "EMTS"
- TransactionId: The submission CDX transaction ID.
- Documents: User the following parameters:
  - o DocumentName: Empty string.
  - o DocumentFormat: Empty string.
  - o DocumentContent: Empty string.
  - o Documented: Document ID retrieved in step 5 above.

8. The CDX Node retrieves the QA Feedback report from the archive using the CDX transaction ID and document ID and returns the QA Feedback report to the industry node.

9. The industry node receives and stores the QA Feedback report.

## 5.5 Obtain Transaction History

The following steps demonstrate how the submitter node can obtain the transaction history using the Query web service. This functionality is applicable to node and node clients.

1. The submitter logs into NAAS using his NAAS user ID. NAAS returns a security token.
2. The industry node invokes the Query web service method using one of the following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: Security token returned in step 1.
  - Dataflow: NODE
  - Request (GetTransactionHistoryByTransactionId).
  - Parameters: Transaction ID (Transaction ID returned by CDX Node in step 9 section 5.1).
3. The CDX Node validates the submitter node user via NAAS.
  4. The CDX Node returns a SOAP fault to the industry node if validation fails.
  5. The CDX Node returns a transaction history XML to the industry node. This XML contains the transaction and document information as shown below:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
<TransactionList>
  <Transaction xmlns="">
    <Id>transaction id</Id>
    <Status>Received/Processing/Pending/Pending/Completed/Failed</Status>
    <Dataflow>EMTS</Dataflow>
    <CreationTime>yyyy-mm-ddThh:mm:cc</CreationTime>
    <DocumentList>
      <Id>document id</Id>
      <Name>file name</Name>
      <Type>file type</Type>
      <Status>document status</Status>
    </DocumentList>
  </Transaction>
</TransactionList>
```

6. The industry node archives the transaction history.

## 5.6 Obtain Document History

The following steps demonstrate how the industry node obtains the document history for a transaction using the Query web service method. This functionality is applicable to node and node clients.

1. The submitter logs into NAAS using his NAAS user ID. NAAS returns a security token.
2. The industry node invokes the Query web service method using one of the following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: Security token returned in step 1.
  - Dataflow: NODE
  - Request: (GetDocuments)
  - Parameters:
    - o TransactionId: Transaction ID returned by the CDX Node in step 9 section 5.1.
    - o Category: Document category (SUBMISSION, VALIDATION\_REPORT, REPORT).
3. The CDX Node validates the industry node user via NAAS.
  4. The CDX Node returns a SOAP fault to the industry node if validation fails.
  5. The CDX Node returns the document history for a submission. The XML contains the Transaction ID and document information as shown below:

```
<DocumentList xmlns="">
  <TransactionId>transaction id</TransactionId>
  <Document>
    <Id>document id</Id>
    <Name>document name</Name>
    <Category>SUBMISSION/VALIDATION_REPORT</Category>
    <Status>PENDING/PROCESSED/COMPLETED/FAILED</Status>
    <Type>XML/ZIP</Type>
    <CreationTime> yyyy-mm-ddThh:mm:cc </CreationTime>
    <Size>document size</Size>
    <DocumentProperties xmlns="">
      <Property>
        <Name>property name</Name>
        <Value>property value</Value>
      </Property>
    </DocumentProperties>
  </Document>
</DocumentList>
```

## 5.7 Download Document

The following steps demonstrate how the industry node downloads a document using the Download web service method. This functionality is applicable to node and node clients.

1. The submitter logs into NAAS using his NAAS user ID. NAAS returns a security.
2. The industry node invokes the Query web service method using one of the following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: The security token received in step 1.
  - Dataflow: EMTS
  - TransactionId: The CDX transaction ID for the submission. The transaction ID must be the same Transaction ID issued by the CDX Node (see step 8, section 5.1).
  - Documents: An array of NodeDocumentType. When the documents parameter is empty, the CDX Node will return all documents associated with the Transaction ID. When a Document ID is specified in the document's parameter, the node will return only the associated document.
3. The CDX Node authenticates and authorizes the industry user via NAAS.
  4. The CDX Node returns an Authentication/Authorization SOAP fault to the industry node.
  5. The CDX Node shall return the requested document.

## 6 Solicit Flow for Documents

### 6.1 Overview

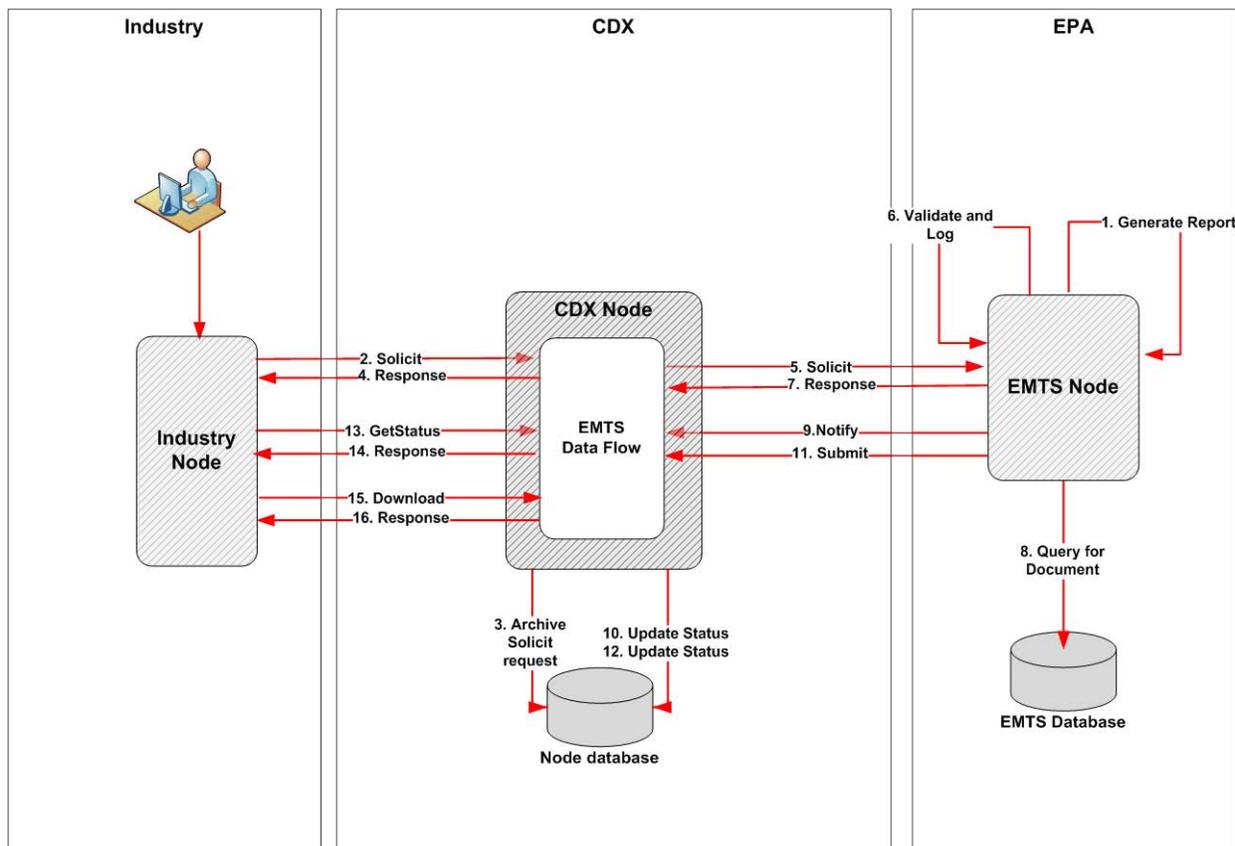
The CDX Node supports the capability for industry nodes to request and retrieve EMTS documents. The CDX Node implements the EMTS Solicit service as a part of the EMTS flow which is available to all industry nodes.

Industry users must register for the types of documents they wish to retrieve by utilizing the subscription functionality on the EMTS website. Subscription services should be reviewed periodically and updated to reflect the industry users need for retrievable documents. The industry user can select from several reports, each of which is described in Appendix F, "EMTS Web Service Documents". For each document, the user must identify the time interval and format requested.

During the EMTS testing period, all documents will only be available in CSV format and are generated on either a daily or weekly basis. More documents, formats, and time intervals will be available in future releases. This FCD will be updated periodically as additional documents and options become available.

The following section describes the process for subscribing to and retrieving documents from the EMTS.

**Figure 7: Solicit Reports from the EMTS**



The EMTS will run scheduled jobs nightly, generating documents as requested by subscribers. Documents are available for download early the following day. The industry node invokes the Solicit web service method to the CDX Node using the procedures below. The CDX Node will archive the solicit request for asynchronous processing. The CDX Node will then send a Solicit request to the EMTS Node containing the document request information. The EMTS Node will log the Solicit request then retrieve the document that was created during the overnight scheduled job. This document is then submitted to the CDX Node. The CDX Node will archive the report and wait for a GetStatus request from the industry node. In the response, the document identifier information is provided and the industry user issues a Download request. These documents may also be retrieved manually from the EMTS website should the user not wish to use the Solicit flow services.

## 6.2 EMTS Solicit Flow Steps

1. The EMTS creates documents in accordance with an industry user's subscription request. These documents are generated on a regularly scheduled basis and are available for subscribers the following morning. The name of the document, date of creation, and the document contents are stored in the EMTS document log.
2. To determine if subscription documents are available on the EMTS Node, the industry node invokes the Solicit web service method using following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: The security token received from the Authentication response.
- Dataflow: EMTS
- Request: GetEMTSDocument
- Recipient: Leave empty.
- NotificationURI: Leave empty.
- Parameters:
  - o DocumentName: Name of one of the web service documents (see Appendix F, "*EMTS Web Service Documents*"). This is a mandatory string.
  - o OrganizationIdentifier: Conditionally required string parameter.
  - o DocumentDate: Leave empty.

When specifying an optional parameter, you may pass the empty parameter in one of two ways; no key and no value, or with the key and an empty string.

3. The CDX Node validates the Solicit request ensuring it contains valid and required parameters. The CDX Node archives the Solicit request.

4. The CDX Node generates a CDX Transaction ID associated with the Solicit request. The status to set to "RECEIVED". The CDX Node returns a StatusResponse to the industry node containing the following information:
  - TransactionId: CDX Solicit Transaction ID.
  - Status: "RECEIVED" if successful, "FAILED" if error occurs.
  - StatusDetail: Empty.

The industry node stores the returned CDX Transaction ID for reference.

The following sequence is performed asynchronously after the solicit response action in step 4.

5. The CDX Node issues a Solicit request to the EMTS Node. As part of this solicit request, the CDX Node maps the NAAS user ID to the CDX Web user. If the mapping is successful, the CDX Node creates a security token that includes the submitter's Web CDX user ID, email address, and affiliation. The CDX Node issues the Solicit service using the following endpoints:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/Dataflow2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/Dataflow2Service>

The following parameters are used:

- SecurityToken: Received in 2.1.
  - Dataflow: "EMTS"
  - Request: "GetEMTSDocument"
  - Recipient: CDX Node endpoint for report submission.
  - NotificationURI: Empty.
  - Parameters:
    - o DocumentName: Name of one of the web service documents (see Appendix F, "EMTS Web Service Documents"). A document name is required.
    - o OrganizationIdentifier: Conditionally required string parameter.
    - o DocumentDate: Leave empty.
6. The EMTS Node validates the CDX Node and extracts the CDX Web user ID from the security token and logs the request.
  7. The EMTS Node generates a new CDX transaction ID and returns it with the response.
  8. The EMTS queries the document log for the associated document. The EMTS Node either submits the document to the CDX Node, or sends a Notify of failure.

The following sequence is performed if the solicit results in failure.

9. If the EMTS Node sends a NOTIFY of "FAILURE", this indicates the EMTS did not have a document that matched the parameters supplied in the Solicit request. The EMTS Notify response contains the following information sent to the CDX Node.

The following parameters are used:

- SecurityToken: Security token will be received from regular authenticate against CDX Node.
- NodeAddress: Empty.

- Dataflow: "EMTS"
- Messages (An array of notification messages consisting of one message).
- Objectid: EMTS Solicit transaction ID obtained in step 7.
- MessageCategory: "Status"
- MessageName: "Status Notification"
- Status: "FAILED"
- StatusDetail: EMTS processing failure reason as shown in the table below.

**Table 7: Notify Failure Processing Reason**

|  |
|--|
| The user does not exist.                             |
| The user is not affiliated with the organization.    |
| The organization does not exist.                     |
| The document name does not exist.                    |
| The organization has not subscribed to the document. |
| The document does not exist.                         |

10. The CDX Node extracts the EMTS Solicit transaction ID from the set of passed parameters and retrieves the CDX Node Solicit transaction. The CDX Node updates the status details of the transaction.

The following sequence is performed if the solicit results in success.

11. The EMTS submits the requested document to the CDX Node using the following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/Dataflow2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/Dataflow2Service>

The EMTS Node passes the following parameters:

- SecurityToken: Security token received in step 2.
  - TransactionId: Solicit transaction ID returned to CDX Node in step 2.9.
  - Dataflow: "EMTS"
  - FlowOperation: "solicitResponse"
  - Recipient: Leave empty.
  - Notification: Leave empty.
  - Documents: One document containing a zipped document.
12. The CDX Node receives the document and extracts the EMTS solicit transaction ID from the parameter list. The CDX Node associates the transaction related to the EMTS Solicit transaction and sets the CDX transaction status to "COMPLETED".

The following sequence is performed at the CDX Node after the response from the industry node Solicit request.

13. The industry node issues a GetStatus request to the CDX Node using the following endpoint URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: Security token returned during authentication.
  - TransactionId: CDX Solicit transaction ID.
14. The CDX Node validates the user via NAAS. If the user is validated, the CDX Node returns a StatusResponse containing the status information using the following parameters:
- TransactionId: Passed transaction ID.
  - Status: One of the following statuses:
    - o RECEIVED: Solicit request was successfully received, however the request to EMTS Node has not been sent yet.
    - o PROCESSING: The EMTS Node received the request from the CDX Node and is currently processing the request.
    - o COMPLETED: The EMTS Node has processed the request and the document is available for download.
    - o FAILED: The process failed.
  - StatusDetails: One of the errors messages shown below.

| Error Number | Status Details Value   | Description   |
|--------------|------------------------|---|
| 1            | E_ApplicationIdMapping | CDX is Unable to Find CDX Web User Identification based on NAAS Identification. |
| 2            | E_Solicit              | CDX Node Failure to perform Solicit to EMTS.                                    |
| 3            | E_User                 | The user does not exist.  |
| 4            | E_Affiliation          | The user is not affiliated with the organization.                               |
| 5            | E_Organization         | The organization does not exist.  |
| 6            | E_DocumentName         | The document name does not exist.   |
| 7            | E_OrganizationDocument | The organization has not subscribed to the document.                            |
| 8            | E_DocumentNotAvailable | The document does not exist.  |

15. If the transaction status is "COMPLETED", the industry node invokes the Download web service method using following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- SecurityToken: A security token.
  - Dataflow: "EMTS"
  - TransactionId: The Solicit transaction ID. It must be the same transaction ID issued by the CDX node as response to the Solicit request.
  - Documents: Empty.
16. The CDX Node returns the document to the industry node. The document returned will be either the requested document or the resulting error report containing the reason for failure.

## 7 The EMTS Archive Flow

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### 7.1 Overview

The EMTS submits XML documents to the CDX Node containing transactions performed by the industry users from the EMTS website. The EMTS Node submits these documents on a weekly basis to the CDX Node for archiving. Industry nodes can retrieve the transaction history, using the Query web service and download documents using the Download web service. The EMTS will pass the user credentials (CDX Web User ID, email, and affiliation) as a part of security token. The CDX Node will archive the submission together with the user credentials. Industry Nodes can retrieve transaction history using the Query web service and download documents using the Download web service. The CDX Node will authenticate and authorize document submission and retrieval.

### 7.2 Archive Submission

1. The EMTS Node issues the CreateSecurityToken web service using following endpoint URL:

Test: [https://naas.epacdxnode.net/xml/securityToken\\_v30.wsdl](https://naas.epacdxnode.net/xml/securityToken_v30.wsdl)  
Prod: [https://cdxnodenaas.epa.gov/xml/securityToken\\_v30.wsdl](https://cdxnodenaas.epa.gov/xml/securityToken_v30.wsdl)

The following parameters are passed:

- Trustee: Admin user ID.
  - Credential: EMTS node admin user password.
  - Domain: "default"
  - Token: "csm"
  - Issuer: "CDX-Web RSO"
  - AuthMethod: "password"
  - Subject: EMTS node operator NAAS ID.
  - SubjectData: URL encoded key value pair consisting of:
    - o CDX Web user ID;
    - o User email; and
    - o User affiliation.
  - IP: IP address of the EMTS node.
2. The EMTS submits a zipped document to the CDX Node using the following end point URL:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/WebIntegrationService>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/WebIntegrationService>,

The following parameters are used:

- SecurityToken: Security token received in step 1.
- TransactionId: Not used.
- Dataflow: "EMTS-ARCHIVE"
- FlowOperation: Empty.
- Recipient: Not used.
- Documents: One document containing zipped EMTS XML document.

3. The CDX Node validates the security token via NAAS. This authenticates and authorizes EMTS to archive.
4. The CDX Node validates the payload. The submission payload can contain only one document which must be compressed and be a ZIP document type.
5. The CDX Node archives the submitted document.
6. The CDX Node generates a CDX Transaction ID and assigns it the status of "COMPLETED". The submission CDX Transaction ID identifies the submission, and can be used later by EMTS to check the status of the submission, obtain transaction history, and download the document.
7. The CDX Node archives the CDX Web user ID, email, and affiliation in association with the CDX Transaction ID.
8. If successful, the CDX Node returns the following Submit response to the EMTS Node:
  - TransactionId: The CDX Transaction ID.
  - Status: COMPLETED
  - StatusDetails: Your submission has been accepted and can be tracked using the following id:[transaction id]. If failed, the CDX Node returns a SOAP Fault to the EMTS Node.
9. EMTS Node archives returned transaction for further processing.

## 7.3 EMTS-ARCHIVE Flow

The following steps demonstrate how the industry node obtains archived files for a specified user using the Query web service method.

1. Industry Node invokes the Query web service method using following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

The following parameters are used:

- Security Token: The security token received in authentication.
  - Dataflow: "NODE"
  - Request (GetTransactions).
  - Parameters:
    - o Dataflow: "EMTS-ARCHIVE"
    - o Status: COMPLETED
    - o StartDate: The start date requested (format: "yyyy-mm-dd"). If a date is not specified, all transactions are returned.
    - o EndDate: The end date requested (format: "yyyy-mm-dd"). If a date is not specified, all transactions are returned.
    - o User: CDX Web user ID.
2. The CDX Node validates the Industry Node user via NAAS.

3. The CDX Node returns a SOAP Fault to the Industry Node if validation fails.
4. The CDX Node returns a transaction history XML to the Industry Node in the following format:

```
<TransactionList xmlns="">
  <Transaction xmlns="">
    <Id>_8208d68b-972f-4183-af35-82b3224deceb</Id>
    <CreationTime>2009-12-17T10:10:58</CreationTime>
    <Status>COMPLETED</Status>
    <Dataflow>EMTS-ARCHIVE</Dataflow>
  </Transaction>
  <Transaction xmlns="">
    <Id>_91a30409-6c4c-4ead-8b0f-79d4c80c9274</Id>
    <CreationTime>2009-12-16T21:10:35</CreationTime>
    <Status>FAILED/COMPLETED</Status>
    <Dataflow> EMTS-ARCHIVE </Dataflow>
  </Transaction>
  <Transaction xmlns="">
    <Id>_79b2f0a9-ba83-4cd2-84ad-27d7389104f6</Id>
    <CreationTime>2009-12-04T11:45:38</CreationTime>
    <Status>COMPLETED</Status>
    <Dataflow>EMTS-ARCHIVE</Dataflow>
  </Transaction>
</TransactionList>
```

## 7.4 Download Archived Documents

The following steps demonstrate how the industry node downloads archived documents using the download web service method.

1. The industry node invokes the Download web service method using following end point URLs:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/Dataflow2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/Dataflow2Service>

The following parameters are used:

- SecurityToken: A security token received in authentication.
  - Dataflow: EMTS-ARCHIVE
  - TransactionId: A transaction ID for the submission. It is transaction ID returned in step 4 of Obtain EMTS-ARCHIVE Transaction section.
  - Documents: Documents parameter is empty.
2. The CDX Node validates the user via NAAS.
  3. The CDX Node returns a SOAP fault to industry node if validation fails.
  4. The CDX Node returns the requested document to the industry node.

## 8 Web Service Methods

---

The following section describes the web service methods utilized by an Exchange Network 2.0 node to participate in the EMTS flow.

Please see the Exchange Network 2.0 functional specifications for detailed information of Web services.

### 8.1 Authenticate

The Authenticate method is used to obtain a security token from the CDX Node. This token is passed in any subsequent method calls in the exchange between the submitting node and the CDX Node.

The following URLs may be used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

#### Authenticate Parameters:

- UserId: The submitter's NAAS user ID.
- Credential: The submitter's NAAS password.
- Domain: EMTS uses "default".
- AuthenticationMethod: EMTS uses "password".

#### Returns:

- SecurityToken: A security token used to identify the submitter.

### 8.2 Submit

The Submit method is used to submit an XML file to EMTS.

The following URLs may be used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

#### Submit Parameters:

- SecurityToken: The security token issued by NAAS and returned from the Authenticate method. This security token can be used for several submissions as long as the token has not expired.
- TransactionId: Leave empty.
- Dataflow: "EMTS".
- FlowOperation: Leave empty.
- Recipient: Leave empty.
- NotificationURI: Leave empty.
- Documents: An array of type nodeDocument. Each nodeDocument structure contains a single submission file. The EMTS requires a single nodeDocument.

**Returns:**

A Submit response with the following data:

- TransactionId: A unique CDX Transaction ID.
- Status: Text describing the submission's status ("Received" or "Failed").
- StatusDetails: Additional details regarding the submission.

## 8.3 GetStatus

The GetStatus method is used to obtain the transaction status of a submission.

The following URLs may be used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>  
Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

**GetStatus Parameters:**

- SecurityToken: The security token issued by NAAS and returned from the Authenticate method.
- TransactionId: The Transaction ID issued by the CDX Node from the Submit or Solicit service.

**Returns:**

A GetStatus response with the following data:

- StatusResponseType containing following information:
  - TransactionId: The Transaction ID issued by the CDX Node from the Submit service.
  - Status: Text describing the submission's status ("Received", or "Failed").
  - StatusDetail: Additional details on the Status description shown in the table below.

**Table 5: Status Detail Codes and Descriptions**

| Error Number | Status Details Value   | Description   |
|--------------|------------------------|---|
| 1            | E_XmlValidation        | An XML schema validation failure occurred on the EMTS document.   |
| 2            | E_ApplicationIdMapping | CDX is unable to find a CDX Web user identification based on the NAAS identification.                   |
| 3            | E_OtaqRegNotRegistered | The CDX was unable to verify that the submitter is a registered user in the OTAQ Registration database. |
| 4            | E_OtaqRegNotApproved   | The CDX was unable to verify that the submitter is approved in the OTAQ Registration database.          |

(cont.)

**Table 5: Status Detail Codes and Descriptions (cont.)**

| Error Number | Status Details Value | Description   |
|--------------|----------------------|---|
| 5            | E_Distribution       | The CDX Node was unable to distribute the document to the EMTS. |
| 6            | E_BackendProcessing  | The Document failed processing in the EMTS.                     |

## 8.4 Query

The Query method is used to obtain transaction and document history.

The following URLs may be used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

### Query Parameters:

- SecurityToken: The security token issued by NAAS and returned from the Authenticate method.
- Dataflow: NODE
- Request: GetTransactionHistoryByTransactionId/GetDocument.
- Parameters: See sections 5.4 and 5.5 for parameters.

### Returns:

The XML representing transaction or document history. See 5.4 and 5.5 for details.

## 8.5 Solicit

The Solicit method is used to request EMTS documents.

The following URLs may be used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

### Query Parameters:

- SecurityToken: The security token issued by NAAS and returned from the Authenticate method.
- Dataflow: EMTS
- Request: GetEMTSDocuments
- Recipient: Empty.
- NotificationURI: Empty.

- Parameters:
  - DocumentName: Mandatory parameter of string type. See Appendix F for list of document names for the EMTS.
  - OrganizationIdentifier: Conditionally required parameter of string type. Provide an empty string if no organization or multiple organizations are associated with the document contents.
  - DocumentDate: Optional parameter of string type in following format: YYYY-MM-DDThh:mm:ss±hh:mm. Leave empty for EMTS documents.

**Returns:**

The CDX Node returns a StatusResponseType to the node containing the following information:

- TransactionId: CDX Solicit transaction ID.
- Status: "RECEIVED" if successful, "FAILED" if error occurs.
- StatusDetail: Empty.

## 8.6 Download

The Download method is used to download document. The following documents can be downloaded:

- Original submission
- XML Validation report
- QA Feedback report
- Web Service documents
- Archived XML files

The following URLs will be used:

Test: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>

Prod: <https://cdxnodengn.epa.gov/ngn-enws20/services/NetworkNode2Service>

**Download Parameters:**

- SecurityToken: The security token issued by NAAS and returned from the Authenticate method.
- Dataflow: EMTS or EMTS-ARCHIVE
- TransactionId: The Transaction ID issued by the CDX Node from the Submit service.
- Documents: An array of NodeDocumentType. When the documents parameter is empty, the CDX Node will return all documents associated with the Transaction ID. When a Document ID is specified in the documents parameter, the Node will return only the associated document.

**Returns:**

A message contains an array of zero or more NodeDocumentType.

## Appendix A

---

### Node Options

There are several options for how to transport the XML file through the Exchange Network.

**CDX Network Node:** A server that facilitates the interface between database systems and the Exchange Network. It is a partner's "point of presence" on the Exchange Network. Each partner has only one node. Nodes support:

- Server accessibility on the Web;
- Protocols to ensure secure exchanges;
- Sending and receiving standards-based messages; and
- Returning requested information as XML.

**Exchange Network Web Client:** EPA's site for submitting environmental information via standard web browsers. The web client supports:

- Users to submit data via web-based forms and file uploads (flat file, XML file);
- Users to receive submission confirmation and processing reports;
- XML for the payload;
- Simple Object Access Protocol (SOAP) as a wrapper for the payload;
- Web Services Description Language (WSDL) for network exchange functions and services; and
- Hypertext Transfer Protocol (HTTP) for secure communication via the Internet.

**EMTS Web Client:** The EMTS Website also supports a submittal environment which allows:

- Users to submit data via file uploads (XML file only); and
- XML for the payload.

## Appendix B

---

### OTAQ Registration Process

This section describes the business processes for obtaining a CDX and NAAS account and the permissions to participate in the EMTS flow.

#### B-1 New User Registration

The following procedures are for all new users that are currently not registered with CDX.

All users must register for a CDX Web account by self-registering in the following two available environments:

Test: <https://test.epacdx.net/>

Prod: <https://epacdx.net/>

Once the user has acquired a CDX Web account, they are prompted to register for one or more programs. To register for the EMTS program, the steps are as follows:

- The user registers for the EMTS flow. This will automatically register the user for the OTAQ Registration Fuels flow.
- The user enters all necessary information into OTAQ Registration Fuel application.
- The user prints appropriate document prior to submitting registration information and mail the document to the address provided on the screen.
- EPA will review and approve registration materials.
- User will request registration with NAAS (See section B-2).
- Once approved, the user will receive permissions to submit documents to the EMTS flow and access the EMTS website.

#### B-2 NAAS Node Clients User Registration

Users who plan to use Node Clients to submit files must be affiliated with the CDX Node EMTS Domain. These users will be registered and managed by CDX Node Administrator. Setting access privileges for the EMTS flow will be managed by the CDX Node Administrator via NAAS Web UI. The mapping between Web CDX user ID's and NAAS user ID's will be managed by the CDX Node Administrator via NAAS application mapping UI.

The following procedures will be required for all the users which were not registered with CDX or registered with CDX for other than EMTS/OTAQ REG flows and does not have NAAS EMTS user ID:

1. Register with CDX Web for the EMTS flow. The user will be automatically registered for OTAQ Reg flow. (See Appendix B-1 for details).
2. Enter all necessary information into OTAQ Reg application.
3. The OTAQ Registration Approver reviews and approves the user.

4. Once approved, request the Node Administrator to register with NAAS and request privileges for accessing EMTS flow and user mapping between the NAAS and CDX Web user ID's. Provide following information to the Node Administrator:
  - Email address to receive communications from the EMTS flow associated with the user NAAS ID.
  - EMTS Web CDX user ID.
  - Application: EMTS
  
5. The CDX Node Administrator will register the user with NAAS. This includes:
  - Creating the NAAS user ID using email provided by the user.
  - Activating the user.
  - Setting privileges for the user to be able to:
    - o Submit EMTS data; and
    - o Get EMTS transaction status.
  
  - Query the CDX Node for the following:
    - o Flow: "NODE"
    - o Services: "GetTransactionHistoryByTransactionId" and "GetDocuments"
    - o Parameters: Any.
    - o Download EMTS documents.
  
  - Map the NAAS user ID to CDX Web user ID for the EMTS Application using NAAS application mapping UI.
  - Send confirmation email to the user.

For users already registered with CDX Web for the EMTS flow and who do not have NAAS user ID's, see sections 4.4. For all users registered with CDX Web for the EMTS flow with existing NAAS user ID's see sections 4.5.3 through 4.5.5.

### **B-3 NAAS Full Nodes User Registration**

Full node users must be registered by the CDX Node Administrator. Setting access privileges for EMTS and mapping NAAS user ID and CDX web user ID is managed by CDX Node Administrator.

The following procedures demonstrate how all users which were not registered with CDX Web or are registered with CDX Web for flows other than EMTS/OTAQ REG and do not have NAAS EMTS user ID.

1. Register with CDX Web for the EMTS flow. The user will be automatically registered for OTAQ Reg flow. (See Appendix B-1 for details).
2. Enter all necessary information into OTAQ Registration application.
3. The OTAQ Registration Approver reviews and approves the user.

4. Once approved, request the Node Administrator to register with NAAS and request privileges for accessing EMTS flow and user mapping between the NAAS and CDX Web user ID's. The user must provide the following information to the Node Administrator:
  - Email address to receive communications from the EMTS flow associated with the user NAAS ID;
  - EMTS Web CDX user ID; and
  - Identify the application as EMTS.
  
5. The CDX Node Administrator will register the user with NAAS. This includes:
  - Creating the NAAS user ID using email provided by the user.
  - Activating the user.
  - Setting privileges for the user to be able to:
    - o Submit EMTS data.
    - o Get EMTS transaction status.
    - o Query the CDX Node for the following:
      - Flow: "NODE";
      - Services: "GetTransactionHistoryByTransactionId" and "GetDocuments";
      - Parameters: Any; and
      - Download EMTS documents.
  
  - Map the NAAS user ID to CDX Web user ID for the EMTS Application using NAAS application mapping UI.
  - Send confirmation email to the user.

For all the users already registered with CDX Web for EMTS Flow and does not have NAAS user ID's, see sections 4.4 through 4.8. For all the users registered with CDX Web for EMTS Flow with existing NAAS user ID see sections 4.5.3 through 4.8.

## **B-4 NAAS User Revocation**

If a user is deactivated from OTAQ Registration application, the user's privileges to access EMTS flow are also revoked. The following describes the steps taken to revoke a users privileges.

1. The OTAQ Reg Approver will send CDX Node Administrator email to revoke user privileges providing the user NAAS user ID.
  
2. The CDX Node Administrator will revoke the following user privileges:
  - Submit EMTS data.
  - Get EMTS transaction status.
  - Query THE CDX Node for the following:
    - o Flow: "NODE";
    - o Services: "GetTransactionHistoryByTransactionId" and "GetDocuments"; and
    - o Parameters: Any.
  
  - Download EMTS documents.
  
3. The CDX Node Administrator will email OTAQ Reg Approver upon completion of revocation.

## Appendix C

---

### Procedure for Testing the EMTS Flow

The following describe how a user should test their connectivity to the EMTS flow. The following steps apply to the TEST environment and not Production.

1. If the user is not registered in either CDX or the OTAQ Registration, the user will create a Web CDX account and register their information in the OTAQ Registration application at <https://test.epacdx.net/>. See Appendix B-1 for more details.
2. The user will register their NAAS credentials. See Appendix B-2 for more details.
3. The user will produce a valid EMTS XML document for submission. See section 3 for more details.
4. The user will validate XML document via QA Server Web UI at <https://tools.epacdxnode.net/> or using any local XML validation tool.
5. The user will submit the XML document to the CDX Node using their submitter node. The submitter node will submit the XML document to the CDX Node. The following end point URL will be used: <https://testngn.epacdxnode.net/ngn-enws20/services/NetworkNode2Service>.
6. The CDX Node will process the submission and returns Transaction ID to the submitter node. The submitter node retains the Transaction ID for future processing. See section 5.1 for more details.
7. The user obtains the current transaction status using submitter node. See section 5.2 for more details.
8. The user can obtain the transaction history for the Transaction ID. See section 5.3 for more details.
9. The user can download submission documents. See section 5.4 for more details.

## Appendix D

### Accessing EMTS from MyCDX Web

This section describes how users access the EMTS website from MyCDX Web. During the EMTS beta testing period, select users will have access to the EMTS application. Users may only access the EMTS through a registered account profile. An example of an account profile with access to the EMTS is shown below in Figure D-1.

**Figure D-1: MyCDX Account Profile**

| Central Data Exchange - MyCDX  |   |   |  |
|--|---|---|--|
| Welcome,<br>Ms. Cindy Ferreira , None  |   | Last Login:                                   | December 21, 2009                        |
|  |   | Registered Since:                             | November 23, 2009                        |
|  |   | Recertification Date:                         | November 23, 2009                        |
| CDX Registration Status: Active  |   |   |  |
| You have 1 new message in your <a href="#">Inbox</a>   |   |   |  |
| <a href="#">Change System Password</a>   | <a href="#">Edit Personal Information</a> | <a href="#">Edit Current Account Profiles</a> | <a href="#">Add New Employer Profile</a> |
| <b>Available Account Profiles:</b>   |   |   |  |
| <ul style="list-style-type: none"><li>• <a href="#">OTAQEMTS: OTAQ EMTS Application</a></li><li>• <a href="#">OTAQREG: Fuels Programs Registration</a></li></ul> |   |   |  |

The EMTS URL link will be active for all registered OTAQ Fuels Registration participants. During the beta testing period, active beta testers will have access to the EMTS by clicking on the OTAQEMTS:OTAQ EMTS Application link. Users that are not approved beta testers will receive an error message indicating that you are not a registered EMTS user.

After the end of the beta testing period, all users that have registered for EMTS and Fuels and have been approved by EPA to participate in the EMTS flow can access the EMTS website through this link. Delays may occur for new users waiting for approval of their registration materials by EPA.

## Appendix E

### Notifications for EMTS Flow

The following table outlines the notifications that are sent from either the CDX Node or the EMTS to the submitter.

**Table E-1: Emails Sent Regarding File Submission Status**

| Sender | Recipient                | Notification Subject Line                                | Content   |
|--------|--------------------------|--|---|
| CDX    | Submitter, CDX Help Desk | CDX Node Failure to Distribute Document to EMTS.         | <p>CDX Node failed to distribute the following document to the EMTS.</p> <p>EMTS submission with transaction ID of: &lt;cdx transaction id&gt; On: &lt;DEV/TEST/PROD&gt;<br/>           Submission time: &lt;mm/dd/yyyy hh:mm:ss&gt;<br/>           Document name: &lt;Document Name&gt;<br/>           Submitter NAAS user ID: &lt;NAAS user id&gt;<br/>           Submitter CDX Web user ID: &lt;CDX Web user id&gt;<br/>           Submission status: FAILED.</p> <p>CDX Node may be experiencing some technical difficulties. Please resubmit your document at a later time. Contact the CDX Help Desk at &lt;CDX email&gt; if the problem persists.</p>      |
| CDX    | Submitter                | CDX Node XML Schema Validation Failure on EMTS Document. | <p>Document: &lt;Document Name&gt; did not pass XML schema validation.</p> <p>EMTS submission with transaction ID of: &lt;cdx transaction id&gt; On: &lt;DEV/TEST/PROD&gt;<br/>           Submission time: &lt;mm/dd/yyyy hh:mm:ss&gt;<br/>           Submitter NAAS user ID: &lt;NAAS user id&gt;<br/>           Submitter CDX Web user ID: &lt;CDX Web user id&gt;<br/>           Submission status: FAILED.</p> <p>The following XML error report &lt;XML validation Report&gt; is available for download. Please check the format of your XML document against the EMTS schema to ensure that it is valid and well-formed before re-submitting your file.</p> |

(cont.)

**Table E-1: Emails Sent Regarding File Submission Status (cont.)**

| Sender      | Recipient | Notification Subject Line   | Content   |
|-------------|-----------|---|---|
| <b>CDX</b>  | Submitter | CDX is unable to Find CDX Web User Identification based on NAAS Identification. | <p>CDX Node was unable to map NAAS user ID &lt;NAAS user id&gt; to CDX Web user ID.</p> <p>EMTS submission with transaction ID of: &lt;cdx transaction id&gt; On: &lt;DEV/TEST/PROD&gt; Submission time: &lt;mm/dd/yyyy hh:mm:ss&gt; Submitter NAAS user ID: &lt;NAAS user id&gt; Submitter CDX Web user ID: &lt;unknown&gt; Submission status: FAILED.</p> <p>Please contact the CDX Node help desk at &lt;CDX Node email&gt; to verify that your NAAS account has been completed properly.</p>                                    |
| <b>EMTS</b> | CDX       | EMTS has completed is processing of the document.                               | <p>EMTS submission with transaction ID of: &lt;cdx transaction id&gt; Document: &lt;Document Name&gt; Submission status: COMPLETED/FAILED.</p>  |
| <b>CDX</b>  | Submitter | CDX was unable to verify that the submitter is a registered user in OTAQReg.    | <p>CDX is unable to verify that you are a registered user in the OTAQ Registration system with permission to submit documents to the EMTS.</p> <p>EMTS submission with transaction ID of: &lt;cdx transaction id&gt; Document: &lt;Document Name&gt; Submission time: &lt;mm/dd/yyyy hh:mm:ss&gt; Submitter NAAS user ID: &lt;NAAS user id&gt; Submitter CDX Web user ID: &lt;CDX Web user id&gt; Submission status: FAILED</p> <p>Please contact the OTAQ Registration Help desk at &lt;OTAQReg Help email&gt; for assistance.</p> |

(cont.)

**Table E-1: Emails Sent Regarding File Submission Status (cont.)**

| Sender | Recipient | Notification Subject Line                                | Content  |
|--------|-----------|--|--|
| CDX    | Submitter | CDX Node has completed transaction.                      | <p>EMTS submission of: &lt;cdx transaction id&gt;<br/> Document: &lt;Document Name&gt;<br/> Submission time: &lt;mm/dd/yyyy hh:mm:ss&gt;<br/> Submitter NAAS user ID: &lt;NAAS user id&gt;<br/> Submitter CDX Web user ID: &lt;CDX Web user id&gt;<br/> Submission status: COMPLETED/FAILED</p> <p>You will receive additional email from the EMTS containing additional information regarding your submission document.</p>   |
| CDX    | Submitter | CDX Node XML schema validation failure on EMTS document. | <p>Document: &lt;Document Name&gt; did not pass XML schema validation.</p> <p>EMTS submission with transaction ID of: &lt;cdx transaction id&gt; On: &lt;DEV/TEST/PROD&gt;<br/> Submission time: &lt;mm/dd/yyyy hh:mm:ss&gt;<br/> Submitter NAAS user ID: &lt;NAAS user id&gt;<br/> Submitter CDX Web user ID: &lt;CDX Web user id&gt;<br/> Submission status: FAILED.</p> <p>The following XML error report &lt;XML validation Report&gt; is available for download. Please check the format of your XML document against the EMTS schema to ensure that it is valid and well-formed before resubmitting your file.</p> |

(cont.)

**Table E-1: Emails Sent Regarding File Submission Status (cont.)**

| Sender      | Recipient                           | Notification Subject Line | Content  |
|-------------|-------------------------------------|---------------------------|--|
| <b>EMTS</b> | All Submitters with an Organization | EMTS Processing Failure.  | <p>The following document submitted on &lt;date&gt; on behalf of &lt;organization&gt; could not be processed due to one or more critical errors. Information regarding the document is shown below.</p> <p>File name: &lt;file name &gt;<br/>           Submission Date/Time: &lt;Submission date/time&gt;<br/>           Submitter: &lt;user name&gt;</p> <p>If you are a node user, you may retrieve the full QA Feedback report from the CDX node using the document download service. If you are a web user, you may view the feedback results online or download the document from the EMTS website. Additional information regarding your submission is provided below.</p> <p>Submission Comment:<br/>           &lt;SubmittalCommentText&gt;</p> <p>The following individuals were sent a copy of this notification:<br/>           &lt;user name&gt;<br/>           &lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;.</p> |

(cont.)

**Table E-1: Emails Sent Regarding File Submission Status (cont.)**

| Sender | Recipient                           | Notification Subject Line              | Content   |
|--------|-------------------------------------|--|---|
| EMTS   | All Submitters with an Organization | EMTS Daily Processed Document Summary. | <p>The following documents submitted on &lt;date&gt; on behalf of &lt;organization&gt; have been processed.</p> <p>File name: &lt;file name&gt;<br/>           Submission Date/Time: &lt;Submission date/time&gt;<br/>           Submitter: &lt;submitter&gt;<br/>           Submission Status: &lt;Submission Status&gt;<br/>           Submission Comment:<br/>           &lt;SubmissionCommentText&gt;</p> <p>File name: &lt;file name&gt;<br/>           Submission Date/Time: &lt;Submission date/time&gt;<br/>           Submitter: &lt;submitter&gt;<br/>           Submission Status: &lt;Submission Status&gt;<br/>           Submission Comment:<br/>           &lt;SubmissionCommentText&gt; {Show only if SubmissionCommentText is not null}</p> <p>If you are a node user, you may retrieve the full QA Feedback report from the CDX node using the document download service. If you are a web user, you may view these results online or download the document from the EMTS website.</p> <p>The following individuals were sent a copy of this notification:<br/>           &lt;user name&gt;<br/>           &lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;</p> |

(cont.)

**Table E-1: Emails Sent Regarding File Submission Status (cont.)**

| Sender      | Recipient                             | Notification Subject Line            | Content  |
|-------------|---------------------------------------|--------------------------------------|--|
| <b>EMTS</b> | All Submitters within an Organization | EMTS Notification of Pending Trades. | <p>Your organization, &lt;organization&gt;, has been identified as a trading partner for &lt;pending trades count&gt; trades. Please accept or deny these trades no later than &lt;date&gt;.</p> <p>The following individuals were sent a copy of this notification:<br/>&lt;user name&gt;<br/>&lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;.</p>   |
| <b>EMTS</b> | All Submitters within an Organization | EMTS has Changed Status of RINs.     | <p>The following RINS held by &lt;organization&gt; have recently had a change in lock status:</p> <p>Fuel: &lt;fuel code&gt;<br/>Assignment: &lt;assignment&gt;<br/>RIN Quantity: &lt;RIN Quantity&gt;<br/>RIN Year: &lt;RIN Year&gt;<br/>Current Status: &lt;locked status&gt;<br/>Status Comment: &lt;Status Comment&gt;<br/>Changed by: &lt;user name&gt;</p> <p>The following individuals were sent a copy of this notification:<br/>&lt;user name&gt;<br/>&lt;user name&gt;<br/>&lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;.</p> |

(cont.)

**Table E-1: Emails Sent Regarding File Submission Status (cont.)**

| Sender      | Recipient  | Notification Subject Line                           | Content  |
|-------------|--|---|--|
| <b>EMTS</b> | All Submitters within an Organization  | EMTS Trade Expired.                                 | <p>There are five trades for &lt;organization&gt; that have expired as of &lt;date&gt;.</p> <p>The following individuals were sent a copy of this notification:<br/>&lt;user name&gt;<br/>&lt;user name&gt;<br/>&lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;.</p>  |
| <b>EMTS</b> | All Submitters within an Organization/<br>All Submitters within the Trading Partner. | EMTS Trade Denied.                                  | <p>A trade initiated by &lt;organization&gt; on &lt;date&gt; has been denied by &lt;trading partner&gt;.</p> <p>The reason for denial is as follows:<br/>&lt;TransactionDetailCommentText&gt;</p> <p>The following individuals were sent a copy of this notification:</p> <p>&lt;selling organization&gt;<br/>&lt;user name&gt;<br/>&lt;user name&gt;</p> <p>&lt;buying organization&gt;<br/>&lt;user name&gt;<br/>&lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;.</p> |
| <b>EMTS</b> | All Submitters within an Organization  | EMTS Organization Account has been locked/unlocked. | <p>The EMTS account for &lt;organization&gt; has been &lt;lock status&gt; on &lt;date&gt; by EPA.</p> <p>The following individuals were sent a copy of this notification:<br/>&lt;user name&gt;<br/>&lt;user name&gt;<br/>&lt;user name&gt;</p> <p>For additional support regarding the EMTS, please contact &lt;contact_email&gt; or &lt;contact_phone_number&gt;.</p>  |

## Appendix F

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### EMTS Web Service Documents

If you are a node or node client user, you may subscribe to several documents that you can retrieve from the CDX Node on a scheduled basis. The procedures for retrieving documents are described in section 6. These documents are available in several file formats, CSV being the first format available for node users during the testing period for the EMTS. Since the documents are intended for node users, they contain code values rather than text descriptions.

#### F-1 Intervals for Documents

Document subscriptions may be provided daily, once per week, or once per month. If the report contains log or a history of transactions, these documents always contain the last ten days of transaction activity. If the document is an aggregate report such as the RIN Holding document, the contents contain a snapshot of the most recent aggregate information. In all cases, do not provide a date in the solicit request. Each document will include information on the last full day of transactions contained in the report and the date in which the EMTS created the document.

#### F-2 Document Parameters

When invoking the Solicit web service method to request a document, you must identify the name of the document, the organization identifier, and the date in which the document was created. The following table demonstrates how these parameters are used.

| Parameter              | Required | Format                              | Description  | Example        |
|------------------------|----------|-------------------------------------|--|----------------|
| DocumentName           | Yes      | See document names in this section. | The name of the document.  | PENDING TRADES |
| OrganizationIdentifier | No       | String                              | The public identification number of the organization. This must be reported for all documents, with the exception of agency reports. | 1234           |
| DocumentDate           |          | YYYY-MM-DD                          | Not used.  |                |

### F-3 Summary of Web Service Documents

| Document Name       | Description  | Intervals Available                             | Contents  |
|---------------------|--|---|---|
| PENDING TRADES      | This document lists all trades that are in a pending state. Pending trades are either transactions that the seller has offered on one or more batches of RINS for which the buyer has not accepted yet, or the buyer has initiated a transaction and the trading partner has not yet issued a matching sell transaction yet. | Available on a daily or weekly basis.           | Not date sensitive as pending trades expire within ten days.                      |
| RIN HOLDINGS        | This document lists the current aggregate total RIN Holdings for an organization, grouped by fuel code, assignment, and RIN year.  | Available on a daily, weekly, or monthly basis. | Not date sensitive as this document always captures the current aggregate totals. |
| TRANSACTION HISTORY | The document includes all generate, separate, buy, sell and retire transactions submitted by an organization through XML files or online transactions.   | Available on a daily or weekly basis.           | Always contains the last ten days of transaction activity.                        |
| EXPIRED TRADES      | This document lists all transactions that will expire within 1 business day as well as all trades that have recently expired.  | Available on a daily or weekly basis.           | Always contains the last ten days of transaction activity.                        |
| CONFIRMED TRADES    | This document lists all trades that have been completed.   | Available on a daily or weekly basis.           | Always contains the last ten days of transaction activity.                        |

### F-4 Pending Trades

This document includes all pending trades initiated and received for an organization. The trades with TradeSource of "Initiated" show trades that were offered by the organization to their trading partner. When a transaction includes advanced options for RIN selection, the originating organization, facility, and batch number are shown. The CDX transaction identifier, submission identifier, submission comment text, transaction identifier, transaction comment text, and supporting document information is intended for internal use. These fields are populated only for initiated trades.

**Table F-4: Data Elements in the Pending Trades Document**

|  |
|--|
| CDXTransactionIdentifier                 |
| SubmissionIdentifier                     |
| SubmissionDate                           |
| SubmissionMethod                         |
| TransactionIdentifier                    |
| TransactionTypeCode                      |
| TradeSource                              |
| TransactionPartnerOrganizationIdentifier |
| TransactionPartnerOrganizationName       |
| RINQuantity                              |
| BatchVolume                              |
| FuelCode                                 |
| AssignmentCode                           |
| RINYear                                  |
| ReasonCode                               |
| RINPriceAmount                           |
| GallonPriceAmount                        |
| TransactionDate                          |
| PTDNumber                                |
| GenerateOrganizationIdentifier           |
| GenerateFacilityIdentifier               |
| BatchNumberText                          |
| SubmissionCommentText                    |
| TransactionDetailCommentText             |
| SupportingDocumentText1                  |
| SupportingDocumentNumberText1            |
| SupportingDocumentText2                  |
| SupportingDocumentNumberText2            |

## F-5 RIN Holding

This document is an aggregate view of the total number of RINs held by an organization, grouped by fuel code, assignment code, and RIN year. The total available RINs are the number of RINs that can be used for transactions. The total pending RINs are RINs that have been designated for a sell transaction that are still pending. These RINs are not available for any other transaction until the trade is cancelled, denied, or expired. The total reserved RINs are RINs that are associated with a separate, sell, or retire transaction that has not been submitted from the EMTS Transaction Bin. These RINs cannot be used for any other transactions until the user removes the transaction from the EMTS Transaction Bin. The number of total locked RINs are RINs that have been locked (by either the industry user or EPA) and cannot be used for any transactions until they are unlocked.

**Table F-5: Data Elements in the RIN Holding Document**

|                    |
|--------------------|
| FuelCode           |
| RINYear            |
| AssignmentCode     |
| TotalAvailableRINs |
| TotalPendingRINs   |
| TotalReservedRINs  |
| TotalLockedRINs    |
| TotalRINs          |

## F-6 Transaction History

The Transaction History document contains generate, separate, retire, buy and sell transactions submitted by an organization for the most recent ten day period. The document includes buy and sell transactions submitted by that organization that are in a pending state. If two or more batches are used in a single trade or separate transaction then multiple batches are identified with the same transaction ID.

**Table F-6: Data Elements in the Transaction History Document**

|                          |
|--------------------------|
| CDXTransactionIdentifier |
| SubmissionIdentifier     |
| SubmissionDate           |
| SubmissionMethod         |
| TransactionIdentifier    |
| TransactionStatusCode    |
| TransactionTypeCode      |
| RINQuantity              |

(cont.)

**Table F-6: Data Elements in the Transaction History Document (cont.)**

|  |
|--|
| BatchVolume                              |
| FuelCode                                 |
| AssignmentCode                           |
| RINYear                                  |
| ReasonCode                               |
| TransactionPartnerOrganizationIdentifier |
| TransactionPartnerOrganizationName       |
| RINPriceAmount                           |
| GallonPriceAmount                        |
| TransactionDate                          |
| PTDNumber                                |
| GenerateOrganizationIdentifier           |
| GenerateFacilityIdentifier               |
| BatchNumberText                          |
| ProcessCode                              |
| ProductionDate                           |
| FuelCategoryCode                         |
| DenaturantVolume                         |
| EquivalenceValue                         |
| SubmissionCommentText                    |
| TransactionDetailCommentText             |
| SupportingDocumentText1                  |
| SupportingDocumentNumberText1            |
| SupportingDocumentText2                  |
| SupportingDocumentNumberText2            |
| CDXTransactionIdentifier                 |
| SubmissionIdentifier                     |
| SubmissionDate                           |
| SubmissionMethod                         |

(cont.)

**Table F-6: Data Elements in the Transaction History Document (cont.)**

|  |
|--|
| TransactionIdentifier                    |
| TransactionStatusCode                    |
| TransactionTypeCode                      |
| RINQuantity                              |
| BatchVolume                              |
| FuelCode                                 |
| AssignmentCode                           |
| RINYear                                  |
| ReasonCode                               |
| TransactionPartnerOrganizationIdentifier |
| TransactionPartnerOrganizationName       |
| RINPriceAmount                           |
| GallonPriceAmount                        |

## F-7 Expired Trades

The Expired Trades document lists all of an organization's pending trades that have expired in the previous ten days as well as all pending trades that will expire within the next 24 hours. The trades with a TradeSource of "Initiated" show trades that were offered by the organization to their trading partner.

**Table F-7: Data Elements in the Expired Trades Document**

|                          |
|--------------------------|
| CDXTransactionIdentifier |
| SubmissionIdentifier     |
| SubmissionDate           |
| ExpirationDate           |
| SubmissionMethod         |
| TransactionIdentifier    |
| TransactionStatusCode    |
| TransactionStatusDate    |
| TransactionTypeCode      |
| TradeSource              |

(cont.)

**Table F-7: Data Elements in the Expired Trades Document (cont.)**

|  |
|--|
| TransactionPartnerOrganizationIdentifier |
| TransactionPartnerOrganizationName       |
| RINQuantity                              |
| BatchVolume                              |
| FuelCode                                 |
| AssignmentCode                           |
| RINYear                                  |
| ReasonCode                               |
| RINPriceAmount                           |
| GallonPriceAmount                        |
| TransactionDate                          |
| PTDNumber                                |
| GenerateOrganizationIdentifier           |
| GenerateFacilityIdentifier               |
| BatchNumberText                          |
| SubmissionCommentText                    |
| TransactionDetailCommentText             |
| SupportingDocumentText1                  |
| SupportingDocumentNumberText1            |
| SupportingDocumentText2                  |
| SupportingDocumentNumberText2            |

## **F-8 Confirmed Trades**

The confirmed trades document shows all of an organization's trades that have been completed (processed, cancelled or denied) in the last ten days. This includes trades that were initiated by the organization and trades that were initiated by the organization's trading partner.

**Table F-8: Data Elements in the Confirmed Trades Document**

|  |
|--|
| CDXTransactionIdentifier                 |
| SubmissionIdentifier                     |
| SubmissionDate                           |
| SubmissionMethod                         |
| TransactionIdentifier                    |
| TransactionStatusCode                    |
| TransactionStatusDate                    |
| TransactionTypeCode                      |
| TradeSource                              |
| TransactionPartnerOrganizationIdentifier |
| TransactionPartnerOrganizationName       |
| RINQuantity                              |
| BatchVolume                              |
| FuelCode                                 |
| AssignmentCode                           |
| RINYear                                  |
| ReasonCode                               |
| RINPriceAmount                           |
| GallonPriceAmount                        |
| TransactionDate                          |
| PTDNumber                                |
| GenerateOrganizationIdentifier           |
| GenerateFacilityIdentifier               |
| BatchNumberText                          |
| SubmissionCommentText                    |
| TransactionDetailCommentText             |
| SupportingDocumentText1                  |
| SupportingDocumentNumberText1            |
| SupportingDocumentText2                  |
| SupportingDocumentNumberText2            |

## Appendix G

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### EMTS Support

#### Using EMTS

- EMTS Technical Support
  - o [emts-testing@pga.com](mailto:emts-testing@pga.com)
  - o 1-800-385-6164
  - o (Monday through Friday 9:00 a.m. until 5:00 p.m. ET)

#### Establishing CDX Login

- CDX Helpdesk
  - o [helpdesk@epacdx.net](mailto:helpdesk@epacdx.net)
  - o 1-888-890-1995, then select Option 1.

#### NAAS Authentication and Node Questions

- CDX Node Support
  - o [nodehelpdesk@epacdx.net](mailto:nodehelpdesk@epacdx.net)
  - o 1-888-890-1995, then select Option 2.