



Chapter 10 Submitting Report via XML

Organizations with sufficient technical experience may choose to submit a properly formatted Extensible Markup Language (XML) file for report submission. The XML schema is available for download from FederalReporting.gov. The downloaded XML schema is a compressed Zip file containing the XML schema documents and reference data required for structuring the XML reports. An organization's XML report must match this schema for successful report submission.

Submission via XML is intended for organizations with experience in data exchange using XML. This chapter assumes knowledge of XML schema and experience with creating XML files in compliance with a given XML schema.

This chapter covers the following topics:

- Downloading the XML schema
- Understanding the XML schema folders
- Validating your XML file
- Uploading the XML file
- Making updates in report submission via XML

The XML schema is structured specifically to accept data into FederalReporting.gov. Therefore, it is important that users NOT change the structure of the XML schema. If the XML schema structure is modified, the submission will not be accepted.



10.1 Downloading the XML schema

FederalReporting.gov makes it simple to access the XML schema for download. Users can access functionality to download the XML schema from two locations within the FederalReporting.gov system—the Home Page and the Downloads Page. The two sample screens below show both locations where users can download the XML schema.

Home Page—Create / Upload ARRA Reports

FederalReporting.gov

Home | About | Downloads | FAQ | Help

Hello, Recipient User (Recipient User)
You have 52 unread messages.
[Logout](#)

Current Reporting Cycle
Recipient Review - Prime Recipients review reports. Prime and Sub Recipients make necessary corrections.

Messages

- **Registration is ongoing.** Registration for all Federal Agencies and Recipients begins Monday, August 17, 2009. Users are encouraged to register prior to the beginning of the reporting period.
- **Excel and XML Validation Tool Available September 15th:** Registered users of the system will have the ability to test the structure and business rules associated with a sample file to verify compliance before full reporting begins October 1st.
- **Reporting begins Thursday, October 1, 2009.** The FederalReporting.gov system opens for reporting on Thursday, October 1, 2009. The Service Desk will be available from 7 a.m. through 9 p.m. (ET) Monday through Friday throughout October. In addition, the Service Desk will be available from 9 a.m. through 5 p.m. on Saturday October 3rd and Saturday October 10th to assist users.
- **FederalReporting.gov will be unavailable** nightly from 9:30 p.m. through 6 a.m. (ET) for scheduled maintenance now through September 30th.

FederalReporting.gov Reporting

Welcome to FederalReporting.gov
This reporting period spans from October 1, 2009 through October 30, 2009.
During this time, Prime Recipients of awards from programs subject to Section 1512 of the Recovery Act will submit reports. Prime recipients may choose to delegate certain reporting requirements to Sub Recipients. Awarding Federal Agencies will view and comment on reports only. Federal Agency users will not submit reporting data.

Create / Upload ARRA Reports
[Create Report](#)
[Upload Report](#)
[Validate File](#)

Downloads Page—Download Templates

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Downloads

Templates

Two templates are provided as alternatives to using the online form for report submission:

- **Excel spreadsheet:** A Microsoft Excel spreadsheet may be used for report submission. The user can download this spreadsheet template and fill it in. The spreadsheet can then be uploaded to the FederalReporting.gov website.
Note: Recipients must not modify the structure of the spreadsheet or their submission will be considered invalid.
[Download Template for Microsoft Excel - Microsoft Excel](#)
- **Custom software system extract in XML:** Organizations with sufficient technical experience may choose to submit a properly formatted Extensible Markup Language (XML) file for their report submission. The XML file download provides a zip file containing the XML schema required for formatting and structuring the XML system extracts. An organization's XML extract must match this XML schema for successful report submission. The FederalReporting.gov website provides logged-in users with functionality to validate their XML submission against the published XML schema prior to submission.
Download XML Schema: [XML Schema](#)

All Upload submissions require an FRPIN. Please log in and click "Request FRPIN" to obtain your DUNS FRPIN.



Click on the “XML Schema” command button to begin downloading the Zip file which contains the XML Schema. We recommend saving the Zip file which includes the XML Schema to your desktop or a preferred location on your hard drive as opposed to simply opening the file.

When the XML schema files are extracted from the Zip file, you will see that it includes one folder entitled “RecoveryRR” and a ReleaseNotes.txt file.

The Release Notes file contains changes related to this release of the documents. Check the Release Notes file to understand changes incorporated in this release of the XML schema. Should the data model and data dictionary associated with reporting change and impact the XML schema, a new release of the XML schema may be published. As new releases of the XML schema are created and published, FederalReporting.gov will post the new XML schema Zip file.

Within the “RecoveryRR” folder, you will find the XML schema related files under the folder entitled “Schemas.”



10.2 Understanding the XML Schema folders

The “Schemas” folder contains four subfolders:

- Exchange
- Extensions
- Sample Messages
- Subset

The sections which follow explain the contents of each folder.

A Recipient organization may have multiple DUNS Numbers. A Recipient organization may also have received multiple Prime Awards or Subawards.

Recipients can only submit data associated with one DUNS Number and one Award Number per XML file.

If reporting for multiple DUNS Number or multiple Award Numbers, you must create a separate XML file for each award.

10.2.1 Exchange folder

The Exchange folder holds the RecoveryRR-xc.xsd file which contains the basic XML file structure for each of the two reporting award types: federally awarded contracts or grants and loans. Based upon award type, the basic requirements of the XML structure will vary.

In order to create the XML file, the user must also understand the report submission model. As described in Chapter 7, there are three report submission roles or models:

- **Prime Recipient Reporting Model**—The report is submitted by the Prime Recipient organization for the Prime Award only. Sub Recipients will separately be entering their own Reports associated with subawards under this Prime Award.
- **Prime Service Provider Model**—The Prime Recipient organization chooses to enter all reporting data associated with its Prime Award as well as all Subawards within one report. The Prime Service Provider Model is required for all recipients



of federally awarded contracts (federal contractors) reporting Sub Recipient data.

- **Sub Recipient Reporting Model**—The report is submitted by the Sub Recipient organization for Subaward only. The Prime Recipient of a grant or loan has delegated this reporting authority to the Sub Recipient and will not be providing the Sub Recipient information within the Prime Recipient Report.

In the sections that follow, we discuss the basic XML file structure required for each award type: first Federally Awarded Contracts, then Grants and Loans.



10.2.1.1 Federally Awarded Contracts

The basic XML file structure required for the Federally Awarded Contracts award type includes the following objects:

- ContractReportHeader
- ContractPrimeRecipientReport
- SubRecipientReport

All submitted XML files must include the ContractReportHeader object. The following tables provide the required objects by report submission model: Prime Recipient Reporting Model, Prime Service Provider Reporting Model, or Sub Recipient Reporting Model.

Table 1 Prime Recipient Reporting Model

Object	Required?
ContractReportHeader	Yes
ContractPrimeRecipientReport	Yes

Table 2 Prime Service Provider Reporting Model

Object	Required?
ContractReportHeader	Yes
ContractPrimeRecipientReport	Yes
SubRecipientReport	Yes

It is important to note that within the schema, the SubRecipientReport object supports the inclusion of multiple Sub Recipients associated with an award.

Helpful tip for users submitting reports for federally awarded contract:

If your Award Type is “federally awarded contract,” you will need to provide the Awarding Agency Code and the Government Contracting Office Code. The Government Contracting Office Code of 6 or less characters must correlate with the Awarding Agency Code. If you enter a Government Contracting Office Code that does not exist within the Awarding Agency, your report submission will not pass FederalReporting.gov’s business rules validation.



10.2.1.2 Grants and Loans

The basic XML file structure required for the Grants and Loans award type includes the following objects:

- GrantLoanReportHeader
- GrantLoanPrimeRecipientReport
- GrantLoanSubRecipientReport
- Vendor

All submitted XML files must include the GrantLoanReportHeader object. The following tables provide the required objects by report submission model: Prime Recipient Reporting Model, Prime Service Provider Reporting Model, or Sub Recipient Reporting Model.

Table 3 Prime Recipient Reporting Model

Object	Required?
GrantLoanReportHeader	Yes
GrantLoanPrimeRecipientReport	Yes
Vendor	Optional

Table 4 Prime Service Provider Reporting Model

Object	Required?
GrantLoanReportHeader	Yes
GrantLoanPrimeRecipientReport	Yes
GrantLoanSubRecipientReport	Yes
Vendor	Optional

Table 5 Sub Recipient Reporting Model

Object	Required?
GrantLoanReportHeader	Yes
GrantLoanSubRecipientReport	Yes
Vendor	Optional

As noted, the Vendor object is optional based upon whether the Recipient or Sub recipient has purchased goods and/or services from a vendor. It is also important to note that within the schema, the GrantLoanSubRecipientReport object and the Vendor object support the inclusion of multiple Sub Recipients or multiple Vendors associated with an award.

If an object type does not apply to your submission (for example, no vendors are associated with this award), you can choose to set the data fields associated with that



object as nil or remove the data fields associated with that object from your XML report submission.

10.2.2 Extensions folder

The Extensions folder holds the RecoveryRR-ec.xsd file which contains the detail object types associated with the XML file structure for each of the two reporting award types described in the previous section. The Extensions folder aligns with the appropriate data dictionary elements applicable to the federally awarded contracts report type or the grants and loans report type.

Whether reporting for a federally awarded contract or a grant/loan, it is important for the XML schema user to know what data is required within the Header object for reporting. This data must be included in the Header object for the report submission to be accepted.

The information which must be included in the Header for federally awarded contract report type is provided in Table 7.

Table 6 Header Data Element Requirements—Federally Awarded Contracts

Header Data Element	Required?
Contract Award Category (Federally Awarded Contract)	Yes
Prime Recipient DUNS Number	Yes
Prime Award Number	Yes
Order Number	Optional

Table 7 Header Data Element Requirements—Grants and Loans

Header Data Element	Required?
Contract Award Category (Grant/Loan)	Yes
Prime Recipient DUNS Number	Yes
Prime Award Number	Yes



10.2.3 Sample Messages folder

The Sample Messages folder contains two sample .xml files. One is for a federally awarded contract report submission (ContractReport.xml). The second is for a grant or loan report submission (GrantLoan.xml). Use these sample reports as a guide for understanding the structure of the XML file you will create as your report submission.

As previously described, the Header object complies with the mandatory requirements for Header object submission. In the sample, “aaaaaaaa” serves as the Prime Recipient Duns Number.

10.2.4 Subset folder

The Subset folder includes two items: recoveryrr-facet.xsd and the NIEM folder.

RecoveryRR-facet.xsd is a large file which includes key reference codes required for Recovery Act reporting. Reference data, as defined in the Data Dictionary, includes such items as Agency Code (whether Funding Agency Code or Awarding Agency Code), Program Source (TAS), and Activity Code (as derived from NAICS or NTEE-NPC). FederalReporting.gov will validate reference data and will obtain updated reference data as needed to support Recipient reporting.

Note that two reference data types are not included in this portion of the schema because the files are either very large or subject to intermittent change/update by the government. The reference data types not included are:

- CFDA—Catalog of Federal Domestic Assistance (CFDA) number associated with grants and loans only
- Government Contracting Office Code associated with federally awarded contracts only

Data elements such as Program Source, Activity Code, CFDA, and Government Contracting Office Code should appear on your award document. If you cannot find the appropriate information on your award document, contact your awarding agency.

The second item in the Subset folder is the NIEM folder. The XML schema is designed to support NIEM 2.0 structures. A number of the XML data types in the ARRA report schema are based on data types defined in the NIEM core information model as documented in the niem-corec.xsd file. Other information model elements are based upon established data standards—for example, FIPS 5-2 (version 2.0) for State Codes (see fips_5-2.xsd) and ISO 3166 CountryAlpha2CodeSimpleType (see iso_3166.xsd).



10.3 Validating your XML structure

Prior to submitting your report file via upload of the XML, we strongly suggest using the Validation Utility to validate structure and business rules. The Validation Utility is not intended to validate each and every report you intend to submit. Rather, the Validation Utility will allow you to validate a small sample report to help ensure that your report file structure is compliant with the required report schema and will be accepted by the system.

See Chapter 7, Section 7.5 for more information regarding the Validation Utility.

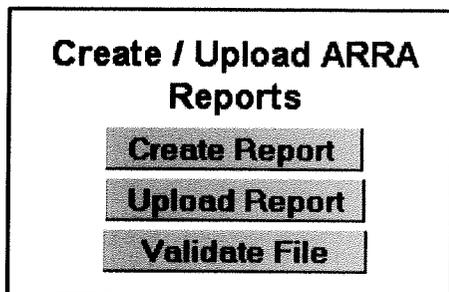
When submitting your report via XML upload, all business rules defined in the Recipient Reporting Data Dictionary are enforced. When you validate your XML structure, the Validation Utility looks for compliance with the XML schema as well as compliance with the data element-specific business rules set forth in the Recipient Reporting Data Dictionary.



10.4 Uploading the completed XML file

The following sections take you step-by-step through the process required to upload the XML file to FederalReporting.gov for submission. You must be logged on to FederalReporting.gov in order to upload the file. See Chapter 4 for log-in instructions.

Begin by clicking the “Upload” button found within the Left Side Bar.



From the Upload Report Page, you will need to select the appropriate radio button for Award Type and Recipient Type, select the file to upload, and enter the FRPIN in order to submit the report.

FederalReporting.gov

Home | About | Downloads | FAQ | Help

Hello, Recipient User (Recipient User)
You have 1 unread messages. **Logout**

Current Reporting Cycle
Initial Submission - Prime and Sub Recipients enter draft and initial report submission.

Create / Upload ARRA Reports
Create Report
Upload Report
Validate File

Quick Links
My Reports
• Prime Recipient
• Sub Recipient
Administration
• My Account
• Request FRPIN

Upload ARRA Report File

Award Type
 Federally Awarded Contract
 Grant
 Loan

Recipient Type
 Prime Recipient [Prime Only]
 Prime Recipient [Prime reporting for self and Sub(s)]
 Sub Recipient [Sub Only]

File
Select File to Upload
Browse to the document you intend to upload.
File **Browse...**

Submission Acknowledgement
You are submitting a report.
FRPIN

Upload Report **Cancel**



Begin by selecting the appropriate radio buttons for Award Type and Recipient Type. Each field is a mandatory field. This data will correlate with the information provided in your XML file in the Header object.

Required Data	Entry Method	Notes
Award Type	Radio button	<ul style="list-style-type: none"> Choose appropriate award type: <ul style="list-style-type: none"> Federally awarded contract Grant Loan
Recipient Type	Radio button	<ul style="list-style-type: none"> Choose appropriate User Recipient type based on your report submission model: <ul style="list-style-type: none"> Prime Recipient [Prime Only] Prime Recipient [Prime reporting for self and Sub(s)] Sub Recipient [Sub Only] (applicable to grants and loans only)

Next you want to select the report file to upload. Click the “Browse” button and select the appropriate file to upload. FederalReporting.gov will only accept files with a file extension of .xml for report submission via the XML upload.

In the Submission Acknowledgement section of the Upload page, you will enter the FRPIN associated with the DUNS number for which you are reporting. Remember, each DUNS Number is assigned by FederalReporting.gov a unique 9-digit FRPIN. If you as a user are responsible for submitting reports for multiple DUNS numbers, you must be sure to use the FRPIN associated with the DUNS number of this report.

Click “Upload Report.” The report will upload and you will receive the Report Submitted Successfully message.



<p>Hello, Recipient User (Recipient User)</p> <p>You have 1 unread messages.</p> <p>Logout</p>	<p>Report Submitted Successfully</p> <p>Your report has been received for processing. Once we have validated your report information, you will receive an email with information about any corrections you need to make.</p>
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The page indicates that your XML file has been submitted for processing. On average, processing takes from 1 to 24 hours, depending upon the number of files to be processed across the system.



Upon completion of processing, FederalReporting.gov will send you an email indicating whether your XML file has been accepted as a valid submission or whether there are validation errors associated with the XML file.

If your XML file has been accepted as a valid submission, you will receive an email indicating successful submission.

Example email text—XML file successfully submitted

Award_G278K-L_Grant.xml: successfully submitted.

Do not reply to this e-mail. Please contact the [FederalReporting.gov Service Desk](http://FederalReporting.gov) or call us at 877-508-7386; TTY: 877-881-5186 if you have any questions.

If there are validation errors associated with the XML file, you will receive an email describing the errors. Use the information in the validation errors email to review the XML file and make all necessary corrections.

Example email text—XML file submission unsuccessful

Award_G278K-L_Grant.xml failed on validation as follows:

The submitted report contains validation errors.

Error Code: cvc-enumeration-valid Error Message: string value 'No' is not a valid enumeration value for FinalReportIndicatorType in namespace urn:us:gov:recoveryrr-facet

Do not reply to this e-mail. Please contact the [FederalReporting.gov Service Desk](http://FederalReporting.gov) or call us at 877-508-7386; TTY: 877-881-5186 if you have any questions.

Errors must be corrected in your XML file and a new file uploaded for submission to be completed. An XML file with errors is not considered a valid submission.



10.5 Making updates in report submission via XML

As described in Chapter 7, one of the key actions which Recipients can perform is to make changes to a report. When a Recipient User or Federal Agency User comments on a submitted report, the organization that submitted that report will review those comments and make any needed updates to the submitted report.

Recipient organizations can choose to make changes to reports via any of the three report submission methods: online Web browser, Excel file, or XML.

If a change is simple and applies to one data field in one report section, a Recipient organization may choose to simply make that change in the Web browser. However, where multiple changes are required, a Recipient organization may decide to make the change within the XML file and upload a new XML file. The new XML file will be submitted using the same process described in Section 10.4 above.

Prior to submitting the new XML file, though, it is important to understand how new XML files are written to the FederalReporting.gov database.

FederalReporting.gov understands each Prime Recipient Report, Sub Recipient Report, and Vendor report submitted with an XML file as separate report components. This is an important concept to understand when uploading a new XML file.

For example, a State Department of Environmental Protection submits its Prime Recipient report for its grant award CXL-EP-045 under the Prime Service Provider model, also submitting with its report data for three Sub Recipients—Brown Environmental, SRT Environmental Engineering Corp, and MRC Group. After submitting the report, the State realizes that MRC Group was not, in fact, a Sub Recipient under grant award CXL-EP-045. The State chooses to upload a new XML file which includes Prime Recipient reporting data for the State as well as Sub Recipient reporting data for Brown Environmental and SRT Environmental Engineering Corp. The State uploads the new XML file, which overwrites the original file submission for the State's Prime report, Brown Environmental's Sub report, and SRT Environmental Engineering Corp's Sub report. However, as no new data was included in the updated XML submission for MRC Group, that report has not been overwritten. FederalReporting.gov still recognizes the MRC Group as being associated with that Prime Award.

In order to submit a new report with the MRC Group data removed from the report, the State has two options:

Option 1: The Prime Recipient User from the State will first deactivate the incorrect report via My Reports. (See Section 11.5 of this User Guide to learn how to deactivate a report.) Then the user uploads the new XML report with the accurate report data.



Option 2: Alternatively, the State may choose to simply make all changes online via My Reports. First, the user removes the MRC Group report from the Sub Recipient report using the Remove from Report icon . If the user needs to make any additional changes in the remaining report data, the user can make those changes online as well. Once finished, the user clicks “Submit” to submit the updated report.