

# Safe Drinking Water (SDWIS) Flow Implementation Guide

The Safe Drinking Water Information System (SDWIS) flow allows users to submit data to the EPA's Safe Drinking Water Information System. SDWIS is an EPA national data system that contains information about public water systems and violations of EPA's drinking water regulations.

## BENEFITS

The Exchange Network offers a fully automated approach for submitting data, avoiding the manual steps needed to flow data via the non-EN CDX web application

When partners use their EN Node, they can publish SDWIS data for integration with other partners

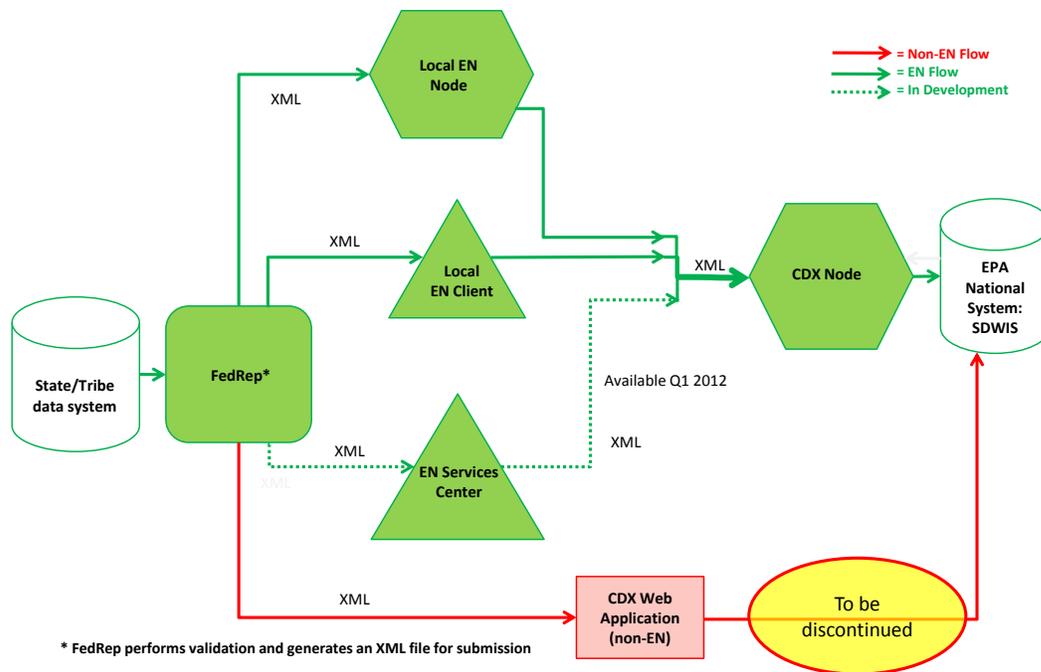
## Practical Implementation Advice

- States and tribes that are currently using the Exchange Network to flow SDWIS data should keep doing what they are doing.
- States and tribes that are using SDWIS/STATE and FedRep but are flowing data through the non-EN CDX web application should wait until the EN Services Center is ready and then use it for EN drinking water data submittals.
- States and tribes that are interested in automating drinking water reporting now should reconfigure FEDREP to flow data through their nodes.
- Institutions (e.g., some health departments) that don't already have a node, shouldn't implement a node just to flow SDWIS data. They are advised to wait until the EN Services Center is completed or to partner with agencies that have nodes.
- States and tribes with their own drinking water data system (i.e., not SDWIS/STATE) may want to volunteer for the Exchange Network Drinking Water IPT so that new flows will work with other data management systems.

## SDWIS Data Flow Options

The graphic below shows the current options for flowing SDWIS data. Exchange Network (EN) flow options are shown in green and non-EN options are shown in red. (Terms are explained in Attachment 1).

Exchange Network Flows: Safe Drinking Water Information System (SDWIS)



### EXCHANGE NETWORK (EN) OPTIONS:

- Submit an XML file via FedRep to CDX through a local EN Node, EN Client or the Services Center when it is available.
- Other EN submission methods are possible (e.g., directly via a local EN node or client), but are not commonly implemented.

### NON-EXCHANGE NETWORK OPTIONS:

- Submit an XML file via the non-EN CDX Web Application. This is presently the most common submission path. This pathway will be discontinued once the EN Services Center is available.

## Summary of Current Practice

Most partners use SDWIS/STATE as their local information management system. SDWIS/STATE contains FedRep which validates the data submission and converts data to XML format.

Currently, partners that use SDWIS/STATE and FedRep have two options for submitting data. The user can use the Exchange Network by configuring FedRep to make its output file available to its node, client, or the EN Services Center when it is available. Alternatively, the user can submit data without the Exchange Network by manually uploading the file using the legacy non-EN CDX web application. These two options are also available to States that use their own drinking water information management systems.

## SDWIS Flow Status and Milestones

EPA is working to develop the EN Services Center that will allow users to automatically submit data to CDX using FedRep (for SDWIS/STATE users) or directly from local systems. This will allow a transition away from the non-EN CDX web application that EPA anticipates turning off in Q2 2012.

A new version of FedRep will be released Q2 2012 that addresses a 1-MB file limitation in the current version (FedRep users currently break large files into smaller parts to avoid this file size limit).

In the short-run, EN staff will work with OW to help transition States away from the legacy non-EN CDX web application to the EN Services Center. In the long-run, EN staff, the governance and OW should collaborate on plans to modernize SDWIS and ensure that the new system accepts data only through the Network.

Criteria	Status	Actions	Primary Responsibility	Completion Period (CY)
Automation Ready	On Track	Develop and deliver new version of SDWIS FedRep that allows file sizes greater than 1 MB	Office of Water (OW) with EN staff support	Q2 2012
Solutions for all partners	On Track	Design, develop, and deploy EN Services Center	EN staff	Q4 2011
	On Track	Provision Services Center for SDWIS reporting services	OW with EN staff support	Q4 2011
	On Track	Provide training and outreach to transition users away from legacy non-EN CDX web application to CDX EN Services Center	OW with EN staff support	Q4 2011
Access to transaction status	On Track	Develop transaction messaging	EN staff	Q4 2011
Accessible and stable flow documentation	On Track	Update documentation to reflect current specifications of data flow	OW	Q2 2012
Specifications for Data Access Services	On Track	Develop, document, and demonstrate standard specifications for data access services for drinking water occurrence data that meets the needs of the public health community	Network Operations Board (NOB) with OW input	Q4 2012
Clear path to eliminate alternatives	On Track	Eliminate non-EN CDX web application	EN staff with OW input	Q2 2012

## Attachment 1: Terms

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**Node:** A partner's point of presence on the EN consisting of a server (hardware and software) enabled with web services that allow partners to automatically provide and receive information via the EN and to publish data for use by other EN partners.

**EN Client:** A stand-alone application (i.e., software code) that lets partners submit data, request data, and receive results from an EN request. Clients differ from nodes in that they cannot respond to queries from other nodes and so cannot publish data. Clients also need more manual (vs. automated) steps, for example, to extract data and generate and review reports before submission.

**EN Services Center:** A website that allows EN users to easily send, get, and download information from other partners on the EN. The Services Center will serve as a replacement for manual submissions of information through CDX Web. It is an appropriate solution for those EN partners who do not require or are not yet ready for the automation and data publishing capabilities of an EN Node. The EN Services Center is available at <https://enservices.epa.gov>.

**CDX:** EPA's Central Data Exchange. It serves as EPA's centralized electronic report receiving system. It receives data from partners and directs the data to EPA's program-specific National Systems (e.g., AQS, WQX, etc.).

**CDX Node:** CDX Node is EPA's node on the EN, allowing EPA to receive, send, and provide information via the Network. CDX Node can also publish EPA data for use by other EN partners.

**CDX Web (non-EN) Application:** A legacy CDX application that receives data (flat file or XML format) via standard web browsers. CDX Web applications are not consistent with EN protocols (e.g., they have a separate authentication and authorization service from the EN) and typically involve more manual steps than a node-to-node exchange of data.

**Data Access Services:** Using web services to make data available to Network users by querying nodes and returning environmental data in the form of XML documents. Published data can be accessed using a node or clients. Published data can be used in a number of ways, such as populating Web pages, synchronizing data between sites, viewing data in a Web service client, or building new sources of data into an integrated application.

**Direct User:** A partner entering data directly into a National Data System through a system-specific interface (manual entry).

**EPA National Data System:** Program-specific data systems at EPA that can receive and publish data.

**Local Data System:** A partner's database or series of databases in which environmental data is stored, managed, and manipulated.

**XML:** eXtensible Markup Language is a flexible language for creating common information formats and sharing both the format and content of data over the Internet and elsewhere. The electronic language that expresses and transports data standards and transaction sets. XML uses an extensible set of tags to describe the meaning of data.

## Attachment 2: National System Flow “Ready to Use” Criteria

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A focus of Exchange Network (EN) governance has been developing the National System Flows to help partners take advantage of the Network’s business value. Governance has identified six criteria for each flow to meet to make these flows “ready to use” by partners:

- Automation-ready. Support fully automated node-to-node flows.
- Solutions for all partners. Provide appropriately scaled EN solutions for partners of all sizes, needs, and capabilities. Some partners such as tribes and local clean air authorities may not need a fully functional node. Other EN solutions should be available to these users.
- Access to transaction status. Support a fully automated process for reporting transaction status, processing results, and QA results from receipt by CDX through final processing in the National System.
- Accessible and stable flow documentation. Develop and make accessible stable documentation that describes all flow requirements. This includes a complete Flow Configuration Document (FCD) that is in compliance with EN procedures for version management.
- Specifications for Data Access Services. Provide a national standard set of query/solicit services defined in the FCD whether or not data are currently published. Implement a publishing interface where published data are critical to partner business processes (such as NPDES permit information for NetDMR).
- Clear path to eliminate alternatives. Have a clear path to eliminate legacy system alternatives to EN exchanges, including transition support for partners.

*For more information on SDWIS:*

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