

Base Functionality for the New SDWIS Modernization Product

The goal of **Modernization of the Safe Drinking Water Information System (SDWIS)** is to identify a sustainable long-term replacement for SDWIS State (an EPA-developed program management and reporting system for primacy agencies). The objective is to provide a near equivalency of functionality. To enable taking advantage of new technologies and opportunities, it should not be assumed that there will be a one to one direct replacement of all current SDWIS core and add-on functionalities.

The EPA will work with the SDWIS Modernization Board to provide a requirements review / finalization structure that enables doing things better and more sustainably in the SDWIS Modernization product than they currently are done in SDWIS State. The structure will include priority setting across functional areas with respect to available resources. More specific details will be defined through iterative EPA engagement with primacy agencies during the development phase of this effort.

The following description of base functionality is based on high level SDWIS Prime requirements that were discussed and agreed upon for with the state-EPA SDWIS Steering Committee, with a few modifications to make the functionality descriptions less specific to the SDWIS Prime and more applicable to all the options in the SDWIS Modernization Alternatives Analysis.

The SDWIS Modernization product must support all Safe Drinking Water Act drinking water rules:

- Revised Total Coliform Rule (RTCR)
- Lead and Copper Rule (LCR) (& LCR Revisions (LCRR))
- Groundwater Rule (GWR)
- Inorganic Compounds (IOC)
- Synthetic Organic Compounds (SOC)
- Nitrite (NO₂)
- Volatile Organic Compounds (VOC)
- Nitrate (NO₃)
- Disinfection and Disinfection By-Products (DDBP)
- Radionuclides (RAD)
- Consumer Confidence Reports (CCR)
- Public Notification (PN)
- Surface Water Treatment Rule (SWTR)

Rule support will include:

1. Rule Applicability
 - a. Determines Rules Applicability
 - i. Based on Changes to Water System Inventory
 - ii. Triggered by inventory additions and changes
2. Sample Evaluation
 - a. Determines compliance with water quality standards and other related evaluations
 - i. Triggered by the entry of and modifications to samples and results
 - ii. Creates candidate violations for staff review

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3. Monitoring & Reporting (M&R) Compliance
 - a. Determines compliance with monitoring schedules (known as “M&R Compliance Determination”)
 - b. Scheduled based on monitoring periods
4. Return to Compliance (RTC) Determination
 - a. Evaluates when an existing violation can be “Returned to Compliance”
 - i. Triggered by Sample Evaluation and M&R Compliance when no failures are determined
5. Monitoring Schedule (MS) Determination
 - a. Determines compliance with compliance schedules
 - b. Scheduled based on due dates
6. Scheduled Activities Compliance
 - a. Determines likely monitoring schedules
 - i. Based on Rule Applicability, water system inventory, and the system’s history of monitoring
 - ii. Triggered by inventory additions and changes

The SDWIS Modernization product must also facilitate:

1. Migration of historical data into the system, as needed
 - a. Water system inventory, sampling, violations, etc.
2. Data in/data out to accommodate additional functionality
 - a. Web service data sharing to support needs of Interfacing applications developed by Primacy Agencies and needs of SDWIS add-on applications (e.g. Drinking Water Watch)
 - b. Interoperability with CMDP
 - c. Bulk upload/download of data
 - i. Upload necessary for data originated outside of systems (e.g. sampling data in spreadsheets)
 - ii. Download useful for primacy agency business uses of the data (e.g. use in a query tool, use in primacy agency managed interfacing applications)
3. Federal reporting
 - a. Report system inventory and violations data quarterly to EPA SDWIS Fed
 - b. Share compliance monitoring data to EPA SDWIS Fed as needed for program oversight (as required by America’s Water Infrastructure Act (AWIA) and in alignment with statutory mandates of SDWA and Evidence Act, and Executive Order on Modernizing America’s Water Resource Management and Water Infrastructure)
4. Water System inventory management
 - a. Legal entities (names, addresses)
 - b. Facility locations
 - c. Sampling points
 - d. Treatment process and objectives

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5. Site visit and assessments
 - a. Schedule and track site visits and assessments
6. Enforcement management
 - a. Schedule and track enforcement actions
7. System administration
 - a. Ability to support a subset of allowable state variances with federal requirements
 - b. Ability to manage user access and system roles per Primacy Agency
 - c. Ability for EPA to access all compliance monitoring data for program oversight (as required by America's Water Infrastructure Act (AWIA) and in alignment with statutory mandates of SDWA and Evidence Act, and Executive Order on Modernizing America's Water Resource Management and Water Infrastructure)