



Safe Drinking Water Information System Next Generation (NextGen)

Business Requirements Document (BRD)

February 13, 2013

Version 8.1

Prepared for: Greg Fabian
U.S. EPA
Office of Water
Office of Ground Water and Drinking Water

Prepared by: INDUS Corporation
1951 Kidwell Drive 8th Floor
Vienna, Virginia 22182

Contract Number:	CM130105CT0027, EP-G11H-00057
Contract Name:	Office of Water Information Technology Portfolio Management Services
Job Number:	61

TABLE OF CONTENTS

A. APPROVALS	5
A.1 VERSION 8.1 APPROVAL	5
B. ABOUT THIS DOCUMENT	6
B.1 DOCUMENT PURPOSE	6
B.2 INTENDED AUDIENCE	6
B.3 DOCUMENT ORGANIZATION	6
B.4 GLOSSARY	6
C. PROJECT BACKGROUND	10
C.1 PROJECT SCOPE	11
C.2 REQUIREMENTS PROCESS TO DATE	11
C.3 ASSIGNING PRIORITIES	13
D. NEXTGEN DEVELOPMENT PROCESS	14
E. NEXTGEN BUSINESS REQUIREMENTS	16
E.1 MAINTAIN WATER SYSTEM CORE INFORMATION BUSINESS NEED	17
E.2 MAINTAIN WATER SYSTEM INFORMATION BUSINESS NEED	17
E.3 DETERMINE WATER SYSTEM REQUIREMENTS BUSINESS NEED	18
E.4 DOCUMENT AND NOTIFY WATER SYSTEM OF REQUIREMENTS BUSINESS NEED	20
E.5 ASSURE WATER SYSTEM MEETS OBLIGATIONS BUSINESS NEED	20
E.6 DETERMINE COMPLIANCE WITH OBLIGATIONS BUSINESS NEED	22
E.7 IMPLEMENT DRINKING WATER PROGRAM BUSINESS NEED	24
E.8 EPA REGIONAL OVERSIGHT, ENFORCEMENT AND COMPLIANCE BUSINESS REQUIREMENTS	24
F. OPERATIONAL (TECHNICAL) REQUIREMENTS	26
F.1 SECURITY AND ACCESS CONTROL REQUIREMENTS	26
F.2 AVAILABILITY REQUIREMENTS	26
F.3 USABILITY REQUIREMENTS	27
F.4 SYSTEM HELP REQUIREMENTS	27
F.5 PERFORMANCE REQUIREMENTS	27
F.6 RECOVERABILITY REQUIREMENTS	27
F.7 INTERFACE REQUIREMENTS	28
F.8 SECTION 508 COMPLIANCE REQUIREMENTS	28


G.	PRIORITIZED LIST OF BUSINESS REQUIREMENTS	29
G.1	BUSINESS REQUIREMENTS WITH “MUST HAVE” PRIORITY	29
G.2	BUSINESS REQUIREMENTS WITH “SHOULD HAVE” PRIORITY	32
G.3	BUSINESS REQUIREMENTS WITH “COULD HAVE” PRIORITY	33
G.4	BUSINESS REQUIREMENTS WITH “FUTURE” PRIORITY	33
G.5	DISTRIBUTION OF REQUIREMENT PRIORITY BY BUSINESS AREA	36

REVISION HISTORY

Version Number	Date	Description of Change
0.9	10/02/2012	Initial version
1.0	10/22/2012	Updated version to present to client as Draft.
2.0	10/26/2012	Inclusion of comments from EPA OGWDW Management
3.0	11/01/2012	Update across the document based on comments from Steering Committee Overview of V2.0 document.
4.0	11/07/2012	Reviewed, validated, modified operational-technical requirements with client stakeholders (Greg Fabian & Roger Howard).
5.0	12/04/2012	Modifications as a result of Comment-Response period and changes decided by SC Review Sessions [November 27-28].
6.0	12/7/2012	Reviewed BRD with Steering Committee. Modifications in state, regional and operational requirements.
7.0	12/14/2012	Added priorities for EPA Regional oversight, compliance and enforcement business requirements as determined by the NextGen sponsor and a new section showing business requirements in priority order.
8.0	12/18/2012	Finalized the document by adding a signature line for the project sponsor, and adjusted the business requirements tables to show the final priorities.
8.1	02/12/2013	After revision of the requirements during subject matter experts meetings, NG-BR-100 (Line 85bis) was added as a new requirement. Priorities of NG-BR-11.5.1 (Line 30) and NG-BR-11.6.1 (Line 32) were modified from Should Have to Must Have. ADDED the word "operator" to NG-BR-11.3.

A. APPROVALS

NextGen Project Sponsor approval of the business and operational requirements described in this Business Requirements Document:

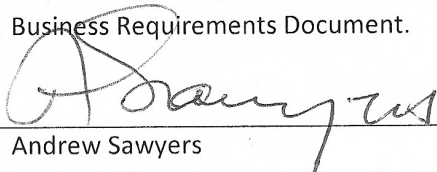


Andrew Sawyers
Deputy Office Director, Office of Ground Water and Drinking Water
SDWIS NextGeneration Project Sponsor

Date 12/20/12

A.1 VERSION 8.1 APPROVAL

NextGen Project Sponsor approval of the revised business and operation requirements described in this Business Requirements Document.



Andrew Sawyers
Deputy Office Director, Office of Ground Water and Drinking Water
SDWIS NextGeneration Project Sponsor

Date 3.19.13

B. ABOUT THIS DOCUMENT

B.1 DOCUMENT PURPOSE

This NextGen Business Requirements Document (BRD) describes the high level business requirements, along with their priorities (assigned by the stakeholders) for managing a Public Water System Supervision (PWSS) program from the perspectives of the Drinking Water Primacy Agencies and EPA Regions having direct implementation responsibilities. Additionally, NextGen operational requirements and an overview of the development process are included.

B.2 INTENDED AUDIENCE

The audience for this BRD consists of the:

- EPA Sponsor responsible for approving this BRD and the requirements and their associated priorities contained therein;
- Individuals responsible for managing, working in and supporting State, Territorial, and Tribal PWSS programs;
- Personnel working in and supporting an EPA Region's PWSS direct implementation program;
- Personnel in EPA Regional Offices responsible for oversight of PWSS programs, including enforcement and compliance, located within their Region;
- EPA Headquarters personnel involved in overseeing the PWSS program at the national level; and
- Contractor teams responsible for developing and maintaining the NextGen system.

B.3 DOCUMENT ORGANIZATION

This document is organized by:

Section A - About This Document: The purpose, intended audience and organization of the document.

Section B - Project Background: Describes the history and context of the NextGen project, the process used to gather and define requirements and the scope of the NextGen System.

Section C -The NextGen Development Process: Discussion on the process that will be used to develop the NextGen system and how business requirements drive the effort.

Section D - NextGen Business Requirements and Prioritization: The validated business requirements along with EPA Regional business requirements and related priorities grouped by business needs.

Section E - Operational Requirements: Requirements to accommodate the NextGen system in the areas of Security, Availability, Usability, System Help, Performance, Recoverability, Interfaces and Section 508 Compliance.

B.4 GLOSSARY

The table below provides a basic glossary and definition of key terms and acronyms considered relevant to this document.

Term/ Acronym	Definition
------------------	------------

Term/ Acronym	Definition
ASDWA	Association of State Drinking Water Administrators
BRD	Business Requirement Document
Business Need	Very high level needs that an organization must follow or a goal that it must achieve. NextGen has defined seven (7) primary business needs.
Business Process / Requirement	Higher-level workflow that can be progressively resolved into lower level business processes/requirements and workflows.
CCR	Consumer Confidence Report Rule – a report prepared by a community water system and sent to its customers describing its source water, water quality and violation (if any) history.
CDC	Centers for Disease Control – an agency within the U.S. Department of Health and Human Services
“Could Have” priority	Features that are nice to have and could potentially be included without incurring too much effort or cost. These will be the first features to be removed from scope if the NextGen schedule and budget are at risk.
EPA	Environmental Protection Agency
FISMA	Federal Information Security Management Act
FOIA	Freedom of Information Act
Focus Group	Consists of State and EPA Subject Matter Experts and Product Owner on a particular area of NextGen. Focus Groups remain as defined according to SDWIS State functional groupings (Inventory, Site Visits, Legal Entities, Laboratory, Monitoring, Sampling, Water System Assistance, Compliance, Enforcement, Security and System Administration). Focus Group SMEs will participate in User Story working sessions, assist in analysis and design, participate in demonstrations and clarification session, conduct User Acceptance Testing during sprints to produce a working increment of software and contribute lessons learned.
Functional Requirement	Defines a specific function or behavior of a system.
GPRA	Government Performance and Result Act
IT	Information Technology
LCR	Lead and Copper Rule

Term/ Acronym	Definition
LRAA	Locational Running Annual Average – the calculation of the maximum contaminant levels for disinfection byproducts in a water system’s distribution system
MCL	Maximum Contaminant Level
MRDL	Maximum Residual Disinfectant Level
“Must Have” priority	Features that must be included before NextGen becomes operational. Requirements with “must have” priority represent the minimum set of useful features.
NextGen	Safe Drinking Water Information System Next Generation – the replacement system having functionality similar to SDWIS State 3.2.
Operational Requirements	Non-functional or fundamental requirements necessary to develop a system.
OGWDW	Office of Ground Water and Drinking Water
O&M	Operations and Maintenance
OW	Office of Water, the “parent” office of OGWDW
OEL	Operational Evaluation Level -
PHS	Public Health Service – an agency within the U.S. Department of Health and Human Services
PN	Public Notice – a notice issued from a water system to its customers under the Public Notice rule
Product Backlog (or “Master To- Do List”)	Term used in Agile development for a “Master to-do list” showing the elaborated functional requirements identified and verified by the focus groups in priority order. The product backlog is used for tracking the implementation of requirements in NextGen and those waiting for implementation.
Product Owner	EPA HQ Representative overseeing User Story working sessions and providing assistance in analysis and design, as well as assistance in coordination with focus group SMEs on prioritization. The Product Owner acts as decision maker during the sprints.
PWS	Public Water System – a water system serving at least 25 people or having 15 service connections.
PWSS	Public Water System Supervision
SC	Steering Committee or SDWIS Steering committee – an advisory body consisting of State, EPA Regional and EPA Headquarters managers and executives involved in the Public Water System Supervision Program

Term/ Acronym	Definition
SCADA	Supervisory Control and Data Acquisition – pertaining to computerized, industrial control system, such as a system used to control a water system treatment plant.
Scrum	Particular type of agile development methodology
Scrum Master	Contractor personnel with responsibility to lead and facilitate NextGen software development.
SDWA	Safe Drinking Water Act
SDWIS	Safe Drinking Water Information System
SME	Subject Matter Expert (may be a representative from a Primacy Agency, EPA Headquarters, or an EPA Region)
Sprint	A single iteration of development of the NextGen system lasting 4 to 6 weeks and producing a working increment of software.
Sprint Cycle	The duration of a particular sprint. For NextGen, it is expected for the cycle to have a 4-6 week or 20-30 business day duration.
Sprint Backlog	Term used in Agile development for a “Sprint To-Do List” for NextGen user stories and their complexity that are identified and verified by the focus groups during individual sprints and listed in priority order. Items in the sprint backlog are developed into a working release of the system.
“Should Have” priority	Features that are not critical to launch, but are considered important and of a high value to the user.
Stage 2 D/DBP	Stage 2 Disinfectants and Disinfection Byproducts rule
UAG	User Advisory Group
User Story	Statement in the form of: <i>As a [role], I want to [goal/desire] so that [benefit]</i> . User stories are a shorter way of describing functional requirements.
“Won’t Have” priority	Features that have been requested but are explicitly excluded from the scope of NextGen version 1.0, and may be included in a future development phase.
Workflow	Collection of related, structured activities or tasks that produce a specific service or product.

C. PROJECT BACKGROUND

The Safe Drinking Water Information System (SDWIS) is an important tool for managing the Public Water System Supervision (PWSS) program under the Safe Drinking Water Act (SDWA). The goal of the PWSS program is to protect public health by ensuring that the nation has water safe to drink. While EPA establishes the policies for the PWSS program and sets the rules for ensuring Public Water System (PWS) compliance, authorized state, territorial and tribal governments implement PWSS programs under primacy agreements with EPA.¹

EPA's Office of Ground Water and Drinking Water (OGWDW) developed SDWIS to enable primacy agencies to manage the information used to implement the PWSS program and to enable primacy agencies to report reliable, timely and accurate data to EPA. SDWIS consists of two major components: SDWIS Fed and SDWIS State.

SDWIS Fed, hosted at EPA, is composed of the Operational Data Store (ODS), ODS Web, and the Drinking Water Data Warehouse. The ODS is the central collection point for drinking water data reported to EPA by the primacy agencies. ODS Web is used by EPA Regions to enter and manage federal violations and enforcement actions. Data are transferred quarterly from ODS to the Data Warehouse, which EPA uses for national program oversight, Freedom of Information Act (FOIA) requests, and reporting program performance measures under the Government Performance and Results Act (GPRA). SDWIS Fed contains a subset of the data used by the primacy agencies.

SDWIS State is a custom-developed program management system developed by the EPA and provided to the primacy agencies, which are not required to use the system (although 54 currently do). In addition to features supporting PWSS program management, SDWIS State evaluates data and generates possible violations of drinking water rules. Primacy agencies may use SDWIS State to manage enforcement actions to bring water systems back into compliance. Every quarter, the primacy agencies report inventory, violations, enforcement actions, milestones, corrective actions and lead and copper action level exceedance data to EPA using SDWIS FedRep. Primacy agencies not using SDWIS State also report these data directly using SDWIS FedRep.

Originally deployed in the early 1990s to the primacy agencies, SDWIS State has become increasingly expensive for EPA to maintain. The tool originally used to develop the SDWIS State is not conducive to producing modern, web-based applications. More importantly, the presentation and screen flows are inconsistent with the way primacy agency personnel conduct their work, which results in excessive mouse clicks, page displays and searching for information. Maintaining an inefficient system imposes a burden on the primacy agencies state employees spend more time working with data in SDWIS State. Over time, many primacy agencies have developed applications replacing the SDWIS State user interface with ones suited to their workflows to improve worker productivity. In addition primacy agencies are

¹ Nine of the 10 EPA Regions have PWSS programs for the Indian lands located within their areas. All states (except Wyoming), territories, and the Navajo Nation manage their own PWSS programs under primacy agreements with EPA.

faced with high costs to install each update to SDWIS State, which has resulted in deferred maintenance and upgrades by their Information Technology (IT) departments.

Starting in March 2009, OGWDW conducted an alternatives analysis to evaluate various options for replacing SDWIS State with a new system.² The cost benefit analysis, completed in July 2010, considered newer technologies available since 2006 and concluded that a modern centralized, web-based system clearly had the best benefit cost ratio. In June 2011, the EPA's Chief Information Officer (CIO) approved OGWDW's business case for proceeding with SDWIS Next Generation (NextGen) planning. Beginning in August 2011, EPA established the Steering Committee and other groups in the SDWIS Governance Structure with the purpose of guiding NextGen development. In-depth work began in January 2012 with the business analysis effort documented here.

C.1 PROJECT SCOPE

The goal of the NextGen development project is to build and deliver a system that will replace SDWIS State version 3.2, and the ODS and ODS Web components of SDWIS Fed. NextGen will include many of the functions and features in SDWIS State 3.2; however, there will be some differences between the two systems. For example, there are several SDWIS State components that may carry on and interact with NextGen. Drinking Water Watch, Lab-to-State and the Electronic Sanitary Survey are examples of existing software components used by many primacy agencies. Instead of completely redeveloping these SDWIS components, it may be more cost-effective to build the ability to exchange data between them and NextGen.

There may be functions not in SDWIS State 3.2 that the SDWIS Steering Committee recommends for inclusion in NextGen version 1.0. Similarly, there may be functions and features in SDWIS State 3.2 that are obsolete or are used by only a few primacy agencies that the SDWIS Steering Committee recommends to not be built into NextGen. Note that these specific features and functions have not been identified as of the date of this BRD. The decision on what features and functions will be included in NextGen, and when they will be included, will be made by the Project Sponsor in consultation with the SDWIS Steering Committee.

C.2 REQUIREMENTS PROCESS TO DATE

Beginning in January 2012 and continuing through April 2012, the SDWIS User Advisory Group (UAG) identified and prioritized the NextGen functional requirements using SDWIS State version 3.1 as a guide.³ During that time, contractor business analysts documented the business processes supported by SDWIS State by completing a functional decomposition of the system using information generated from the development tool used to build SDWIS State.

² The Office of Management and Budget requires federal agencies to conduct an alternatives analysis every 3-5 years or when there is an anticipated major change in a system.

³ UAG members represent 13 State Drinking Water Primacy Agencies, 3 EPA Regions, and EPA Headquarters.

In order to validate the business processes and to identify other business processes not covered by SDWIS State, EPA initially established 11 focus groups, each concentrating on a functional area of the system.⁴ Membership in each focus group consisted of Subject Matter Experts (SMEs) representing state primacy agencies, EPA Regions and EPA Headquarters. Three community stewards (from the Colorado, Massachusetts and Washington primacy agencies) with broad knowledge and experience in the PWSS program were recruited by ASDWA to coordinate and review the products of the focus groups. During the months of June and July 2012, a series of facilitated requirements sessions with six of the focus groups reviewed, corrected as needed and verified the business processes derived from the functional decomposition described earlier.

The overall effort required to manage and coordinate all of the groups soon overwhelmed the business analysts and EPA, and this process was not cost-effective. EPA suspended the focus groups and modified the plan by adding two community stewards (one from EPA Region 4 and the other from EPA Headquarters) to the group. EPA also refocused the effort to identify and define the high-level business requirements for managing a PWSS program.

Before initiating work with the community stewards, EPA and the business analysts traveled to Oregon to meet with representatives from the Idaho, Oregon and Washington primacy agencies to facilitate a transition from business processes to the business needs for managing a PWSS program. Through demonstrations of SDWIS State (including several state-developed add-on applications that improve data entry efficiency) and Washington's Sentry system, the business analysts gained an understanding and appreciation of how a new system could support the work of the primacy agencies.

Beginning in early September, the community stewards followed a process to methodically identify the primary business needs within a PWSS program. This resulted in the identification of seven areas with 27 high-level business requirements validated and agreed upon by the steward group. Subsequent sessions proceeded with a further decomposition into 93 business requirements at a high level of business operations. These were validated and prioritized by the stewards. The stewards submitted a Draft Business Requirements Document (BRD) to EPA as their recommendation for an effective NextGen system. The entire community from November 1-19, 2012, reviewed this Draft BRD and all comments were compiled into a BRD Comment Response Document and a BRD Prioritization Variation Matrix. The BRD Prioritization Variation Matrix represents a culmination of all community changes in the priority of a particular requirement. This matrix was presented to the Steering Committee on November 27 and 28 over the course of three hours of review. At the end of these sessions, the BRD Prioritization of each requirement was discussed, modified in certain cases and then agreed upon by the Steering Committee attendees.

The regional community steward, in consultation with other EPA Regions, developed and submitted oversight, direction implementation, compliance, and enforcement requirements to the Steering Committee. In the November 1 delivery of the Draft BRD, these requirements were in a more detailed

⁴ These functional areas included: Inventory, Compliance, Laboratory, Legal Entities, Water System Assistance, Sampling, Monitoring, System Administration, Security Administration, Site Visits, and Enforcement.

format than the state requirements. EPA and INDUS generalized these requirements into a format consistent with state requirements. When a Regional requirement matched a state requirement, a cross-reference was created linking the regional requirements with corresponding state requirement.⁵ The regional community steward coordinated with other EPA Regions in providing feedback on this work. These revised regional requirements are included in this BRD.

Section D presents all of the high-level business requirements. The BRD Comment Response Document was distributed to the Steering Committee during the week of December 4 to address the comments received on the Draft BRD. All comments that are applicable to this BRD have been incorporated below.

C.3 ASSIGNING PRIORITIES

As noted above, the target set of functionality for the initial version of NextGen is SDWIS State 3.2, the last planned release of that system. When assigning priorities to a business need, the process was to have the Stewards set a “Must/Should/Could” priority to each business need. Recall that the Stewards were considering the Public Water System Supervision Program set, or “domain”, of business needs *regardless* if an EPA or a Primacy Agency system supported the business need. Any business need falling outside the PWSS domain was considered irrelevant to the NextGen effort and was not included in the list of business needs for inclusion into the BRD.

Using the list of business needs developed by the Stewards, the EPA SDWIS project manager reviewed each one and determined if SDWIS State fully, partially, or did not (“not in”) support the need. One would assume that a business need not currently met by SDWIS State 3.2 would automatically receive a “won’t” priority, but this is not necessarily the case. For example, the capability to generate Enforcement Response Policy scores and to automatically calculate candidate return to compliance actions to close out violations are highly desirable by the Primacy Agencies, but not included in SDWIS State 3.2. These two requirements, for example, are “must have” priority, but not in SDWIS State 3.2. Similarly, EPA Regions have identified several business needs not covered in SDWIS State 3.2 that are also highly desirable in NextGen.

Earlier versions of this BRD included a column indicating if the business need was fully, partially, or not included in SDWIS State 3.2. This information was moved to Section G, which lists the business requirements in priority order.

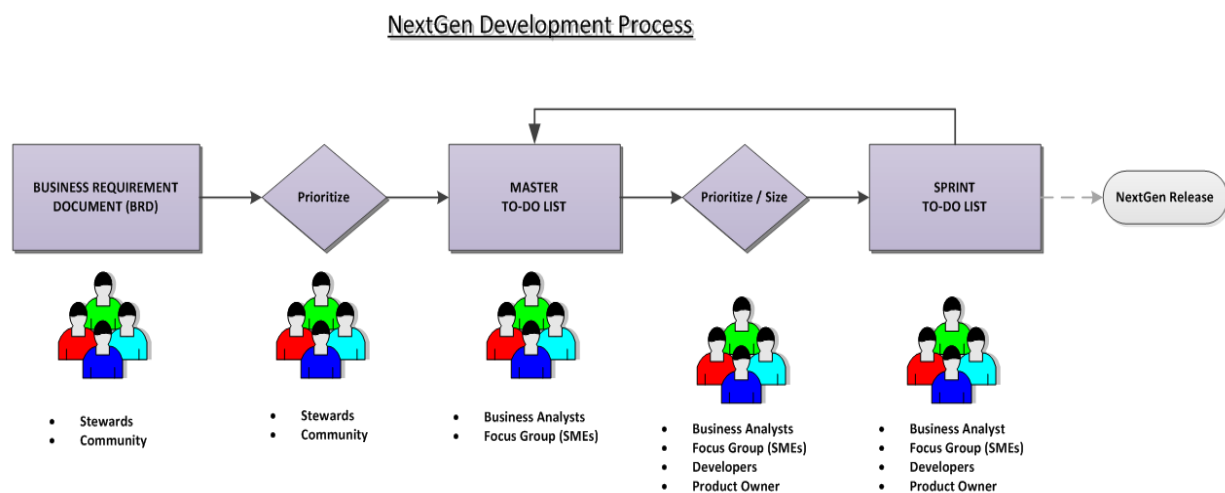
⁵ Most of the correspondence between state and regional requirements was found in the Direct Implementation (DI) program area. This is expected as regional DI programs share many similarities with state drinking water programs.

D. NEXTGEN DEVELOPMENT PROCESS

This section describes the process that will be used to develop the NextGen system and how the business requirements drive this effort.

The diagram below shows the development process for SDWIS NextGen, which is a variation of the “Scrum” Agile software development methodology modified specifically for NextGen. This process has several advantages for the NextGen project:

- Focus Group Subject Matter Experts will collaborate during the development of working software.
- Changes can be addressed as the system is being developed.
- There will be faster turnaround of working software with iterative development.
- There will be less rework and greater stakeholder buy-in with new or changing requirements.
- Detailed requirements can be developed “Just In Time” before implementation



The first step in the NextGen development approach is to identify, define and prioritize all of the high-level business requirements for managing a PWSS program. This important step focuses on the “what” and not the “how.”

After the NextGen sponsor approves the validated and prioritized Business Requirements Document (BRD), a Master To-Do List (also known as “Product Backlog”) is assembled by decomposing each business requirement into a list of functional requirements expressed as summary user stories that reflect the approved BRD priorities. The Master To-Do List evolves to add/subtract requirements based on stakeholder involvement, including User Advisory Group, Focus Groups, Community Stewards and the drinking water regulatory Community. This Master To-Do List will contain all of the potential functionality for the NextGen system.

At this point, a draft schedule of development sprints through completion of NextGen version 1.0 (schedule for September 2014) can be derived from the Master To-Do List. The sprint team is ready to start development with the first “sprint.”

Sprints start with items on the top of the Master To-Do List and designation of those requirements to be included in the Sprint To-Do List (also known as Sprint Backlog). At the beginning of a sprint, Business Analysts, Focus Group SMEs, EPA and Developers review the business and functional requirements and derive detailed “user stories.” A user story is a statement in the form of: As a [role], I want to [goal/desire] so that [benefit]. These user stories will explicitly explain the behavior of how the system should operate. The Focus Group SMEs also will assign a priority to each user story and the developers will work to assign complexity and level of effort. If the total estimate exceeds the duration of the sprint, then these user stories are removed from the Sprint To-Do list and added back onto the Master To-Do List for consideration by subsequent sprint teams.

Sprint teams consist of the “Scrum Master,” who is a contractor responsible for managing the sprint team, the Product Owner (an EPA employee and serves as the “tie breaker” for making decisions), 3-4 Focus Group SMEs, and the contractor developers. The sprint team uses the user stories as a guide to develop a working increment of the NextGen system. Near the end of the sprint, the team tests the software developed and, upon successful test results, deploys the NextGen software to a staging environment. The sprint team then holds a lessons learned session and documents any findings and adjustments to make for future sprints. Any user stories that are not completed by the end of the sprint are placed back onto the Master To-Do List.

The sprint cycle begins again using the same SMEs and product owner or different individuals if the user stories selected for the sprint are in a different NextGen business area. If a new requirement is identified during a sprint, it is added to the Master To-Do List after analysis and approval. Likewise, if an error was discovered in the staging environment, it can be added to the Master To-Do List. At the end of each sprint, a working portion of NextGen is deployed into the staging environment. Subsequent sprints deliver more NextGen functions until the system is built-out to the point where it can be used for production.

E. NEXTGEN BUSINESS REQUIREMENTS

The following business requirements are based on the key business drivers or needs communicated by the PWSS primary agencies and EPA Project Stewards. These requirements are written to focus on possible NextGen capabilities or “WHAT” without any mention of “HOW” or “WHO” or “WHEN.” This allows for clear communication of what the system should include, but does not specify or restrict the elaboration of user stories and behavior of the system to be built. Each validated requirement in the tables below contains the following:

Line Number – included for ease of discussion,

Identification Number – formal numbering of requirements and sub-requirements (e.g., NG-BR-3.1 is a NextGen – Business Requirement which is a subset of NG-BR-3.)

Description – written explanation of the proposed capability.

Stewards Priority – State Steward assessment of:

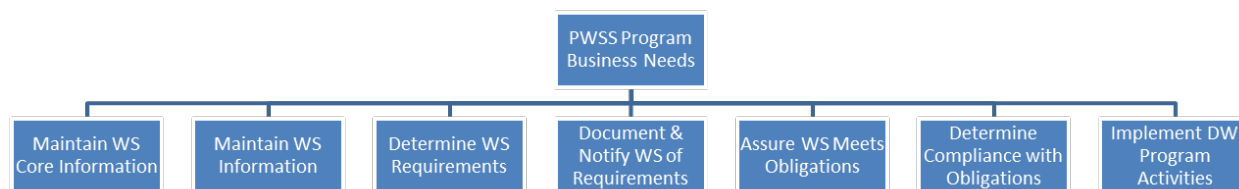
- “Must Have” (Features that must be included before NextGen becomes operational. Requirements with “must have” priority represent the minimum set of useful features.)
- “Should Have” (Features that are not critical to launch, but are considered important and of a high value to the user.)
- “Could Have” (Features that are nice to have and could potentially be included without incurring too much effort or cost. These will be the first features to be removed from scope if the NextGen schedule and budget are at risk.)

NextGen v1.0 Priority – Prioritization of a requirement as it applies to development for the NextGen first release. All items not included in the initial release are marked as “Future”.

The figure below displays the seven identified Primacy Agency high-level business needs for managing a PWSS programs. Not shown on the diagram are the EPA Regional business needs for compliance, enforcement and oversight.⁶ These EPA Regional business needs are considered in scope for NextGen and included in this BRD.

⁶ As mentioned earlier, EPA Regional Direct Implementation needs correspond to a great degree (but with some differences) to the Primacy Agency business needs.

Primacy Agency Business Needs



E.1 MAINTAIN WATER SYSTEM CORE INFORMATION BUSINESS NEED

The business requirements below relate to activities for establishing water systems (e.g., design, permits) and submitting information to the Primacy Agencies.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
1	NG-BR-1	Provide the capability for water systems to submit designs to the primacy agency.	FUTURE
2	NG-BR-2	Provide the capability for water systems to apply for permits/approvals/licenses from the primacy agency.	FUTURE
3	NG-BR-3	Provide the capability for water systems to submit system summary/details to the primacy agency.	FUTURE
4	NG-BR-3.1	Provide the capability for water systems to record administrative information about the water systems.	FUTURE
5	NG-BR-3.2	Provide the capability for water systems to record technical information about the water systems.	FUTURE
6	NG-BR-3.3	Provide the capability for water systems to record use factors information (e.g., service connections, population served and seasonal information).	FUTURE

E.2 MAINTAIN WATER SYSTEM INFORMATION BUSINESS NEED

The business requirements below relate to activities performed by Primacy Agencies to review information submitted by water systems and maintain information about their operations.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
7	NG-BR-4	Provide the capability for primacy agency to track [review] designs submitted by the water systems.	FUTURE
8	NG-BR-5	Provide the capability for primacy agency to maintain permits/approvals/licenses.	FUTURE

Line No.	Identification Number	Description	NextGen v 1.0 Priority
9	NG-BR-5.1	Provide the capability for primacy agency to grant or deny permits.	FUTURE
10	NG-BR-6	Provide the capability for primacy agency to evaluate, review, and update water system summaries/details from the water system.	MUST HAVE
11	NG-BR-7	Provide the capability for primacy agency to determine if water system is regulated.	MUST HAVE
12	NG-BR-7.1	Provide the capability for primacy agency to determine if water system is regulated under SDWA regulations.	MUST HAVE
13	NG-BR-7.2	Provide the capability for primacy agency to determine if water system is regulated under state regulations.	FUTURE
14	NG-BR-7.3	Provide the capability for primacy agency to determine if water system is regulated under local regulations.	FUTURE
15	NG-BR-8	Provide the capability for primacy agency to assign a water system identification number and classification.	MUST HAVE
16	NG-BR-9	Provide the capability for primacy agency to determine if enforcement is applicable for a designated water system.	FUTURE

E.3 DETERMINE WATER SYSTEM REQUIREMENTS BUSINESS NEED

The business requirements below relate to activities performed by Primacy Agencies to determine applicable rules and generate specific requirements for water systems.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
17	NG-BR-10	Provide the capability for primacy agency to determine if/what rules apply to a designated water system based on system information.	MUST HAVE
18	NG-BR-11	Provide the capability for primacy agency to translate rule applicability into specific requirements for the water system.	MUST HAVE
19	NG-BR-11.1	Provide the capability for primacy agency to determine monitoring requirements for water systems.	MUST HAVE
20	NG-BR-11.1.1	Provide the capability for primacy agency to determine sampling requirements for water systems.	MUST HAVE
21	NG-BR-11.1.2	Provide the capability for primacy agency to determine system operational monitoring requirements.	SHOULD HAVE
22	NG-BR-11.1.2.1	Provide the capability for primacy agency to determine metering.	COULD HAVE

Line No.	Identification Number	Description	NextGen v 1.0 Priority
23	NG-BR-11.1.2.2	Provide the capability for primacy agency to determine alarms and controls [e.g. SCADA].	FUTURE
24	NG-BR-11.2	Provide the capability for primacy agency to determine treatment requirements.	MUST HAVE
25	NG-BR-11.2.1	Provide the capability for primacy agency to determine minimum treatment required.	MUST HAVE
26	NG-BR-11.2.2	Provide the capability for primacy agency to determine treatment performance level.	MUST HAVE
27	NG-BR- 11.3	Provide the capability for primacy agency to determine operator certification and staffing requirements.	MUST HAVE
28	NG-BR- 11.4	Provide the capability for primacy agency to determine reporting requirements.	MUST HAVE
29	NG-BR- 11.5	Provide the capability for primacy agency to determine site visits and field inspection requirements.	MUST HAVE
30	NG-BR-11.5.1	Provide the capability for primacy agency to determine outstanding performance, waivers, increase frequency for water systems.	SHOULD HAVE MUST HAVE
31	NG-BR- 11.6	Provide the capability for primacy agency to determine specific state requirements.	FUTURE
32	NG-BR-11.6.1	Provide the capability for primacy agency to determine waivers, exemptions, variances.	SHOULD HAVE MUST HAVE
33	NG-BR-11.6.2	Provide the capability for primacy agency to determine fees.	FUTURE
34	NG-BR- 11.7	Provide the capability for primacy agency to determine enforcement-based modification requirements.	MUST HAVE
35	NG-BR-11.7.1	Provide the capability for primacy agency to determine public notification requirements.	MUST HAVE
36	NG-BR-11.7.2	Provide the capability for primacy agency to determine technical change requirements (maintenance/operational).	SHOULD HAVE
37	NG-BR-11.7.3	Provide the capability for primacy agency to determine applicable penalties for non-compliant water systems.	SHOULD HAVE
38	NG-BR- 11.8	Provide the capability for primacy agency to determine design-based modification requirements.	SHOULD HAVE

E.4 DOCUMENT AND NOTIFY WATER SYSTEM OF REQUIREMENTS BUSINESS NEED

The business requirements below relate to activities related to the consolidation and documentation of requirements determined by Primacy Agencies and that need to be communicated to the water systems.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
39	NG-BR-12	Provide the capability for primacy agency to consolidate the requirements for a water system.	MUST HAVE
40	NG-BR-12.1	Provide the capability for primacy agency to consolidate monitoring schedule requirements.	MUST HAVE
41	NG-BR-12.2	Provide the capability for primacy agency to produce the enforcement document for a water system.	FUTURE
42	NG-BR-12.3	Provide the capability for primacy agency to produce inspection reports.	SHOULD HAVE
43	NG-BR-12.4	Provide the capability for primacy agency to produce an approval letter for water system applications.	FUTURE
44	NG-BR-12.5	Provide the capability for primacy agency to produce a permit letter for a water system.	FUTURE
45	NG-BR-12.6	Provide the capability for primacy agency to generate invoice for water systems.	FUTURE
46	NG-BR-13	Provide the capability for primacy agency to notify the water system of the applicable requirements.	SHOULD HAVE
47	NG-BR-13.1	Provide the capability for primacy agency to publish notifications about which requirements are to be implemented by water systems (passive mode).	FUTURE
48	NG-BR-13.2	Provide the capability for primacy agency to send notifications to water systems to inform them which requirements are to be implemented (active mode).	SHOULD HAVE
49	NG-BR-13.2.1	Provide the capability for primacy agency to send informal notifications to water systems.	FUTURE
50	NG-BR-13.2.2	Provide the capability for primacy agency to send formal/legal notifications to water systems.	FUTURE

E.5 ASSURE WATER SYSTEM MEETS OBLIGATIONS BUSINESS NEED

The business requirements below relate to activities performed by the water systems to meet the requirements determined by the Primacy Agencies.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
----------	-----------------------	-------------	------------------------

Line No.	Identification Number	Description	NextGen v 1.0 Priority
51	NG-BR-14	Provide the capability for water systems to notify the primacy agency that requirements have been integrated into their operations.	FUTURE
52	NG-BR-14.1	Provide the capability for water systems to inform the primacy agency about their staff (e.g., contact info, position assignments, etc.).	FUTURE
53	NG-BR-14.2	Provide the capability for water systems to conduct monitoring activities.	FUTURE
54	NG-BR-14.3	Provide the capability for water systems to manage facilities.	FUTURE
55	NG-BR-14.3.1	Provide the capability for water systems to keep track of operations and maintenance activities.	FUTURE
56	NG-BR-14.4	Provide the capability for water systems to produce consumer reporting. (e.g., CCR, PN, LCR.)	FUTURE
57	NG-BR-14.4.1	Provide the capability for water systems to produce Public Notification as required by the primacy agency.	FUTURE
58	NG-BR-14.4.2	Provide the capability for water systems to produce the Consumer Confidence Report.	FUTURE
58	NG-BR-14.4.3	Provide the capability for water systems to produce public education and Lead consumer notification (related to the LCR).	FUTURE
60	NG-BR-14.4.4	Provide the capability for water systems to produce state-specific reporting, if required by the primacy agency.	FUTURE
61	NG-BR-15	Provide the capability for water systems to evaluate analytical results. (LRAA and OEL under Stage 2 DBP requirements.)	FUTURE
62	NG-BR-15.1	Provide the capability for water systems to adjust monitoring, as appropriate, after analytical results.	FUTURE
63	NG-BR-15.2	Provide the capability for water systems to request adjustment to monitoring, as appropriate, after analytical results.	FUTURE
64	NG-BR-15.3	Provide the capability for water systems to notify the primacy agency if any modifications / adjustments are made.	FUTURE
65	NG-BR-16	Provide the capability for water systems to respond to capacity, enforcement, and inspection requirements, as a result of analytical evaluation.	FUTURE

E.6 DETERMINE COMPLIANCE WITH OBLIGATIONS BUSINESS NEED

The business requirements below relate to activities performed by Primacy Agencies to review and analyze water systems information to determine compliance with previously established obligations.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
66	NG-BR-17	Provide the capability for primacy agency to receive information from water systems.	MUST HAVE
67	NG-BR-17.1	Provide the capability for primacy agency to receive information from 3rd parties authorized by the primacy agency (e.g. certified laboratories) for water systems on sampling.	MUST HAVE
68	NG-BR-17.2	Provide the capability for primacy agency to receive information from water systems on O&M compliance reports [includes MOR and OELs].	MUST HAVE
69	NG-BR-17.3	Provide the capability for primacy agency to receive information from water systems on certifications.	MUST HAVE
70	NG-BR-17.4	Provide the capability for primacy agency to receive information from water systems on-site inspection reports (surveys).	MUST HAVE
71	NG-BR-17.5	Provide the capability for primacy agency to receive information from water systems on incidents (reports) (e.g. Pipe Breaks and pressure loss).	SHOULD HAVE
72	NG-BR-17.6	Provide the capability for primacy agency to receive information from water systems on Public Notifications, public education, CCR and lead consumer notices.	MUST HAVE
73	NG-BR-17.7	Provide the capability for primacy agency to receive information from water systems on misc. water systems reports.	FUTURE
74	NG-BR-18	Provide the capability for primacy agency to conduct a technical review of the information.	MUST HAVE
75	NG-BR-18.1	Provide the capability for primacy agency to assess if data conforms to standards.	MUST HAVE
76	NG-BR-18.2	Provide the capability for primacy agency to determine detection limits.	MUST HAVE
77	NG-BR-19	Provide the capability for primacy agency to perform calculations using analytical data.	MUST HAVE
78	NG-BR-19.1	Provide the capability for primacy agency to perform calculations on Running Annual Average/Locational Running Annual Average.	MUST HAVE

Line No.	Identification Number	Description	NextGen v 1.0 Priority
79	NG-BR-19.2	Provide the capability for primacy agency to perform calculations on 90th percentile.	MUST HAVE
80	NG-BR-19.3	Provide the capability for primacy agency to perform calculations on derived values (e.g., TCR, SWTR and MDBP summaries).	MUST HAVE
81	NG-BR-20	Provide the capability for primacy agency to automatically compare analytical/derived data against thresholds. (MCLs, MRDLs, lead and copper action levels, treatment technique requirements, and the identification of candidate systems that qualify for increased or decreased monitoring.)	MUST HAVE
82	NG-BR-21	Provide the capability for primacy agency to review and compare results to monitoring schedules to identify systems that fail to meet the monitoring requirements.	MUST HAVE
82.1	NG-BR-21.1	Provide the capability to produce a discrepancy report to show system-generated compliance determination versus Primacy Agency confirmed compliance determinations, including the capability to identify those water systems & requirements for which compliance was not determined due to the lack of sampling and/or compliance schedules. (Jointly requested by PA's and Regions)	MUST HAVE
83	NG-BR-22	Provide the capability for primacy agency to review reports submitted by the water systems. (e.g., interfacing with document management systems)	SHOULD HAVE
84	NG-BR-23	Provide the capability for primacy agency to accept, review, and evaluate water systems' responses to enforcement actions.	MUST HAVE
84.1	NG-BR-23.1	Provide the capability to evaluate water system performance against violations and identify candidate Return to Compliance enforcement actions.	MUST HAVE
84.2	NG-BR-23.2	Provide the capability to generate Enforcement Response Policy (ERP) scores on a single or a selected group of water systems on demand.	MUST HAVE
85	NG-BR-24	Provide the capability for primacy agency to record and credit payments received from the water systems.	FUTURE
85-A	NG-BR-100	NextGen will provide the capability to manage violations, enforcement actions and assistance actions.	MUST HAVE

E.7 IMPLEMENT DRINKING WATER PROGRAM BUSINESS NEED

The business requirements below relate to drinking water program activities performed by the Primacy Agencies to meet special primacy requirements, licensing requirements or data sharing with other agencies.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
86	NG-BR-25	Provide the capability for primacy agency to implement special primacy requirements.	MUST HAVE
87	NG-BR-25.1	Provide the capability for primacy agency to maintain laboratory certification requirements.	MUST HAVE
88	NG-BR-25.2	Provide the capability for primacy agency to maintain operator certifications.	MUST HAVE
89	NG-BR-25.3	Provide the capability for primacy agency to maintain the minimum EPA reporting requirements.	MUST HAVE
90	NG-BR-25.4	Provide the capability for primacy agency to implement new rules.	SHOULD HAVE
91	NG-BR-26	Provide the capability for primacy agency to implement 3 rd -party licensing requirements.	SHOULD HAVE
92	NG-BR-26.1	Provide the capability for primacy agency to maintain sanitary survey partners.	SHOULD HAVE
93	NG-BR-27	Provide the capability for primary agency to share data with other stakeholders (e.g. CDC, PHS).	COULD HAVE

E.8 EPA REGIONAL OVERSIGHT, ENFORCEMENT AND COMPLIANCE BUSINESS REQUIREMENTS

The business requirements below relate to drinking water program activities performed by the EPA Regions to meet their oversight, enforcement and compliance business requirements. Although the EPA Region's Direct Implementation (DI) programs are not fully equivalent to a Primacy Agency PWSS program, EPA considers the business requirements in Sections D.1 through D.7 to meet those needs.

Line No.	Identification Number	Description	NextGen v 1.0 Priority
94	NG-BR-28	Provide the capability to produce Ad-hoc reports based on Primacy Agency data pertaining to Inventory, Samples, Schedules, Site Visits, Violations and Enforcement, when authorized by the Primacy Agency. <i>(For emergency responses purposes, partial/direct implementation. Regions need data not available in the to do Stage 2 DBP troubleshooting)</i>	COULD HAVE

Line No.	Identification Number	Description	NextGen v 1.0 Priority
95	NG-BR-29	Provide the capability to produce a set of standardized compliance trend reports. <i>(State authorization would be required.)</i>	COULD HAVE
96	NG-BR-30	Provide the capability for regional enforcement officers to manage federal enforcement actions against water systems in NextGen so that these actions are visible to the Primacy Agency.	MUST HAVE
97	NG-BR-31	Provide the capability for a Primacy Agency to authorize an EPA Region to run compliance and manage violations/enforcements for a specific NPDWR for that Primacy Agency. <i>(State authorization would be required.)</i>	MUST HAVE
98	NG-BR-32	Provide the capability to access the Primacy Agency NextGen data directly in emergency response situations. <i>(State authorization would be required.)</i>	SHOULD HAVE
99	NG-BR-33	Provide the capability to allow desktop/screen sharing between the Region and a Primacy Agency or between regions, primacy agencies or within a primacy agency or a region to help provide technical assistance on data/system issues.	FUTURE
100	NG-BR-34	Provide the capability to resolve individual tribal drinking water data through the public view (Drinking Water Watch)	COULD HAVE
101	NG-BR-35	Provide the ability to generate regulation compliant Consumer Confidence Reports for tribal systems.	COULD HAVE
102	NG-BR-36	Provide the capability to track the type of technical and/or financial assistance given to public water systems. <i>(Note: This requirement is covered under NG-BR-26 and NG-BR-26.1, but left in this version of the BRD for traceability.)</i>	SHOULD HAVE
103	NG-BR-37	Provide the capability to track expanded Source Water Protection (SWP) data.	SHOULD HAVE
104	NG-BR-38	Provide the capability to track raw water results, which have many uses in the Water Program. ⁷	COULD HAVE

⁷ Examples are the DW Program providing data for Clean Water monitoring and assessment programs, Watershed Protection planning and monitoring, etc.

F. OPERATIONAL (TECHNICAL) REQUIREMENTS

This section describes those technical requirements necessary to develop an operational system. Some of these contain EPA standards, which must be followed, such as Security and Section 508 Compliance, while others may be negotiable. The requirements will be going through a review process with EPA Headquarters to determine methods for modification and approval. Each section elaborates on the required areas with a designated identification number and description. Due to the operational nature of requirements, there is no prioritization, as any finalized requirements must be satisfied by the system.

F.1 SECURITY AND ACCESS CONTROL REQUIREMENTS

The following table describes the NextGen security, access control and authorization requirements.

Identification Number	Description
NG-SEC-1	The EPA-NextGen Administrator will assign the Primacy Agency-NextGen Administrator role to a designated representative from the Primacy Agency.
NG-SEC-2	NextGen must provide Primacy Agencies with the ability to authorize and track user access and privileges.
NG-SEC-3	NextGen will provide role-based access control to NextGen data and functionality based on user permissions.
NG-SEC-4	NextGen shall provide Primacy Agency-NextGen Administrators the ability to grant/deny access to their Primacy Agency's data.
NG-SEC-5	NextGen must provide a reporting mechanism for user access and accounts.
NG-SEC-6	NextGen will leverage the access and security controls of the hosting environment.
NG-SEC-7	NextGen will automatically log the user out after 30 minutes of inactivity in accordance with EPA standards. (Ref: FISMA guidance)
NG-SEC-8	NextGen system audit logs shall be strictly controlled.

F.2 AVAILABILITY REQUIREMENTS

The following table describes the NextGen system availability requirements.

Identification Number	Description
NG-AV-1	NextGen shall be available 7 days/week, 24 hours/day, 365 days/year. ⁸
NG-AV-2	Scheduled downtimes due to system maintenance and backups shall be scheduled to minimize impact to the users.
NG-AV-3	NextGen shall notify users of any scheduled or unscheduled outages.
NG-AV-4	Availability thresholds (i.e., probability that the system shall be available when needed) shall be determined by EPA <u>in consultation with the Steering Committee after a hosting provider is determined.</u>

⁸ Includes 366-day leap years

F.3 USABILITY REQUIREMENTS

Usability requirements for NextGen include the elements described below and these provide general guidance to the look and feel of the user interface or presentation layer for NextGen.

Identification Number	Description
NG-UI-1	NextGen must provide a uniform and consistent look-and-feel and navigation across all functions and web pages.
NG-UI-2	NextGen will minimize “white-space” on web pages to increase user productivity and maximize work area.
NG-UI-3	NextGen will minimize horizontal scrolling on web pages.
NG-UI-4	NextGen will minimize navigation between web pages to complete a user task.
NG-UI-5	NextGen will use non-technical language for user messages.
NG-UI-6	NextGen will provide clear indicators showing if the user is in add/edit or view mode.

F.4 SYSTEM HELP REQUIREMENTS

The following table describes NextGen operational requirements to implement system help functionality.

Identification Number	Description
NG-HLP-1	NextGen shall include online documentation available to the users at more than one level (function, screen and field level).
NG-HLP-2	NextGen shall include context-sensitive help.

F.5 PERFORMANCE REQUIREMENTS

The following table lists the NextGen performance requirements.

Identification Number	Description
NG-PERF-1	NextGen system response time per transaction will average (TBD) seconds (TBD in consultation with the Steering Committee).
NG-PERF-2	The system must support an average of (TBD) concurrent users with overall (TBD) users of the system (TBD in consultation with the Steering Committee).
NG-PERF-3	NextGen must support (TBD) minimum and (TBD) maximum transactions (TBD in consultation with the Steering Committee).

F.6 RECOVERABILITY REQUIREMENTS

The following table lists the NextGen recoverability requirements.

Identification Number	Description
NG-RCV-1	NextGen shall have daily backups.
NG-RCV-2	NextGen shall leverage the Continuity of Operations (COOP) and Disaster Recovery (DR) operations of the hosting environment.
NG-RCV-3	The system must recover from unplanned system outages in no more than (TBD) minutes (TBD in consultation with the Steering Committee).

F.7 INTERFACE REQUIREMENTS

The following table describes NextGen Interface Requirements.

Identification Number	Description
NG-INT-1	The system shall be able to interface with external systems and applications, such as Lab-to-State, Drinking Water Watch, Lab Reporting Portal (Kansas), eSample Entry Portal (Indiana), Integrated Compliance Information System (ICIS), and State Permitting / Billing / Plan Review Tracking Systems.
NG-INT-2	The system shall be able to interface with document management systems.

F.8 SECTION 508 COMPLIANCE REQUIREMENTS

The following table describes the components that shall be implemented in NextGen to comply with Section 508 requirements. Full Section 508 documentation can be found at the official Section 508 website: <https://www.section508.gov/>

Identification Number	Description
NG-S-508-1	The system shall be compliant with Section 508 requirements, as defined by Section 508 of the Rehabilitation Act (29 U.S.C. '794 d), as amended by the Workforce Investment Act of 1998 (P.L. 105 - 220), August 7, 1998.

G. PRIORITIZED LIST OF BUSINESS REQUIREMENTS

G.1 BUSINESS REQUIREMENTS WITH “MUST HAVE” PRIORITY

This section lists the “Must Have” business requirements as recommended by the Steering Committee and approved by the NextGen Sponsor. All business requirements are of equal priority in the table.

Line No.	Identification Number	Description
Maintain Water System Information Business Need		
10	NG-BR-6	Provide the capability for primacy agency to evaluate, review, and update water system summaries/details from the water system.
11	NG-BR-7	Provide the capability for primacy agency to determine if water system is regulated.
12	NG-BR-7.1	Provide the capability for primacy agency to determine if water system is regulated under SDWA regulations.
15	NG-BR-8	Provide the capability for primacy agency to assign a water system identification number and classification.
Determine Water System Requirements Business Need		
17	NG-BR-10	Provide the capability for primacy agency to determine if/what rules apply to a designated water system based on system information.
18	NG-BR-11	Provide the capability for primacy agency to translate rule applicability into specific requirements for the water system.
19	NG-BR-11.1	Provide the capability for primacy agency to determine monitoring requirements for water systems.
20	NG-BR-11.1.1	Provide the capability for primacy agency to determine sampling requirements for water systems.
24	NG-BR-11.2	Provide the capability for primacy agency to determine treatment requirements.
25	NG-BR-11.2.1	Provide the capability for primacy agency to determine minimum treatment required.
26	NG-BR-11.2.2	Provide the capability for primacy agency to determine treatment performance level.
27	NG-BR- 11.3	Provide the capability for primacy agency to determine certification and staffing requirements.
28	NG-BR- 11.4	Provide the capability for primacy agency to determine reporting requirements.
29	NG-BR- 11.5	Provide the capability for primacy agency to determine site visits and field inspection requirements.
34	NG-BR- 11.7	Provide the capability for primacy agency to determine enforcement-based modification requirements.

Line No.	Identification Number	Description
35	NG-BR-11.7.1	Provide the capability for primacy agency to determine public notification requirements.
Document and Notify Water System of Requirements Business Need		
39	NG-BR-12	Provide the capability for primacy agency to consolidate the requirements for a water system.
40	NG-BR-12.1	Provide the capability for primacy agency to consolidate monitoring schedule requirements.
Determine Compliance with Obligations Business Need		
66	NG-BR-17	Provide the capability for primacy agency to receive information from water systems.
67	NG-BR-17.1	Provide the capability for primacy agency to receive information from 3rd parties authorized by the primacy agency (e.g. certified laboratories) for water systems on sampling.
68	NG-BR-17.2	Provide the capability for primacy agency to receive information from water systems on O&M compliance reports [includes MOR and OELs].
69	NG-BR-17.3	Provide the capability for primacy agency to receive information from water systems on certifications.
70	NG-BR-17.4	Provide the capability for primacy agency to receive information from water systems on-site inspection reports (surveys).
72	NG-BR-17.6	Provide the capability for primacy agency to receive information from water systems on Public Notifications, public education, CCR and lead consumer notices.
74	NG-BR-18	Provide the capability for primacy agency to conduct a technical review of the information.
75	NG-BR-18.1	Provide the capability for primacy agency to assess if data conforms to standards.
76	NG-BR-18.2	Provide the capability for primacy agency to determine detection limits.
77	NG-BR-19	Provide the capability for primacy agency to perform calculations using analytical data.
78	NG-BR-19.1	Provide the capability for primacy agency to perform calculations on Running Annual Average/Locational Running Annual Average.
79	NG-BR-19.2	Provide the capability for primacy agency to perform calculations on 90th percentile.
80	NG-BR-19.3	Provide the capability for primacy agency to perform calculations on derived values (e.g., TCR, SWTR and MDBP summaries).

Line No.	Identification Number	Description
81	NG-BR-20	Provide the capability for primacy agency to automatically compare analytical/derived data against thresholds. (MCLs, MRDLs, lead and copper action levels, treatment technique requirements, and the identification of candidate systems that qualify for increased or decreased monitoring.)
82	NG-BR-21	Provide the capability for primacy agency to review and compare results to monitoring schedules to identify systems that fail to meet the monitoring requirements.
82.1	NG-BR-21.1	Provide the capability to produce a discrepancy report to show system-generated compliance determination versus Primacy Agency confirmed compliance determinations, including the capability to identify those water systems & requirements for which compliance was not determined due to the lack of sampling and/or compliance schedules. (Jointly requested by PA's and Regions)
84	NG-BR-23	Provide the capability for primacy agency to accept, review, and evaluate water systems' responses to enforcement actions.
84.1	NG-BR-23.1	Provide the capability to evaluate water system performance against violations and identify candidate Return to Compliance enforcement actions.
84.2	NG-BR-23.2	Provide the capability to generate Enforcement Response Policy (ERP) scores on a single or a selected group of water systems on demand.
85-A	NG-BR-100	NextGen will provide the capability to manage violations, enforcement actions and assistance actions.
Implement Drinking Water Program Business Need		
86	NG-BR-25	Provide the capability for primacy agency to implement special primacy requirements.
87	NG-BR-25.1	Provide the capability for primacy agency to maintain laboratory certification requirements.
88	NG-BR-25.2	Provide the capability for primacy agency to maintain operator certifications.
89	NG-BR-25.3	Provide the capability for primacy agency to maintain the minimum EPA reporting requirements.
EPA Regional Oversight, Enforcement and Compliance Business Requirements		
96	NG-BR-30	Provide the capability for regional enforcement officers to manage federal enforcement actions against water systems in NextGen so that these actions are visible to the Primacy Agency.
97	NG-BR-31	Provide the capability for a Primacy Agency to authorize an EPA Region to run compliance and manage violations/enforcements for a specific NPDWR for that Primacy Agency. <i>(State authorization would be required.)</i>

G.2 BUSINESS REQUIREMENTS WITH “SHOULD HAVE” PRIORITY

This section lists the “Should Have” business requirements as recommended by the Steering Committee and approved by the NextGen Sponsor. All business requirements are of equal priority in the table.

Line No.	Identification Number	Description
Determine Water System Requirements Business Need		
21	NG-BR-11.1.2	Provide the capability for primacy agency to determine system operational monitoring requirements.
30	NG-BR-11.5.1	Provide the capability for primacy agency to determine outstanding performance, waivers, increase frequency for water systems.
32	NG-BR-11.6.1	Provide the capability for primacy agency to determine waivers, exemptions, variances.
36	NG-BR-11.7.2	Provide the capability for primacy agency to determine technical change requirements (maintenance/operational).
37	NG-BR-11.7.3	Provide the capability for primacy agency to determine applicable penalties for non-compliant water systems.
38	NG-BR- 11.8	Provide the capability for primacy agency to determine design-based modification requirements.
Document and Notify Water System of Requirements Business Need		
42	NG-BR-12.3	Provide the capability for primacy agency to produce inspection reports.
46	NG-BR-13	Provide the capability for primacy agency to notify the water system of the applicable requirements.
48	NG-BR-13.2	Provide the capability for primacy agency to send notifications to water systems to inform them which requirements are to be implemented (active mode).
Determine Compliance with Obligations Business Need		
71	NG-BR-17.5	Provide the capability for primacy agency to receive information from water systems on incidents (reports) (e.g. Pipe Breaks and pressure loss).
83	NG-BR-22	Provide the capability for primacy agency to review reports submitted by the water systems. (e.g., interfacing with document management systems)
		Implement Drinking Water Program Business Need
90	NG-BR-25.4	Provide the capability for primacy agency to implement new rules.
91	NG-BR-26	Provide the capability for primacy agency to implement 3 rd -party licensing requirements.
92	NG-BR-26.1	Provide the capability for primacy agency to maintain sanitary survey partners.
		EPA Regional Oversight, Enforcement and Compliance Business Requirements
98	NG-BR-32	Provide the capability to access the Primacy Agency NextGen data directly in emergency response situations. <i>(State authorization would be required.)</i>
102	NG-BR-36	Provide the capability to track the type of technical and/or financial assistance given to public water systems. <i>(Note: This requirement is covered under NG-BR-26 and NG-BR-26.1, but left in this version of the BRD for traceability.)</i>
103	NG-BR-37	Provide the capability to track expanded Source Water Protection (SWP) data.

G.3 BUSINESS REQUIREMENTS WITH “COULD HAVE” PRIORITY

This section lists the “Could Have” business requirements as recommended by the Steering Committee and approved by the NextGen Sponsor. All business requirements are of equal priority in the table.

Line No.	Identification Number	Description
Determine Water System Requirements Business Need		
22	NG-BR-11.1.2.1	Provide the capability for primacy agency to determine metering.
Implement Drinking Water Program Business Need		
93	NG-BR-27	Provide the capability for primary agency to share data with other stakeholders (e.g. CDC, PHS).
EPA Regional Oversight, Enforcement and Compliance Business Requirements		
94	NG-BR-28	Provide the capability to produce Ad-hoc reports based on Primacy Agency data pertaining to Inventory, Samples, Schedules, Site Visits, Violations and Enforcement, when authorized by the Primacy Agency.
95	NG-BR-29	Provide the capability to produce a set of standardized compliance trend reports. <i>(State authorization would be required.)</i>
100	NG-BR-34	Provide the capability to resolve individual tribal drinking water data through the public view (Drinking Water Watch)
101	NG-BR-35	Provide the ability to generate regulation compliant Consumer Confidence Reports for tribal systems.
104	NG-BR-38	Provide the capability to track raw water results, which have many uses in the Water Program.

G.4 BUSINESS REQUIREMENTS WITH “FUTURE” PRIORITY

This section lists the “Future” business requirements as recommended by the Steering Committee and approved by the NextGen Sponsor. All business requirements are of equal priority in the table.

Line No.	Identification Number	Description
Maintain Water System Core Information Business Need		
1	NG-BR-1	Provide the capability for water systems to submit designs to the primacy agency.
2	NG-BR-2	Provide the capability for water systems to apply for permits/approvals/licenses from the primacy agency.
3	NG-BR-3	Provide the capability for water systems to submit system summary/details to the primacy agency.
4	NG-BR-3.1	Provide the capability for water systems to record administrative information about the water systems.

Line No.	Identification Number	Description
5	NG-BR-3.2	Provide the capability for water systems to record technical information about the water systems.
6	NG-BR-3.3	Provide the capability for water systems to record use factors information (e.g., service connections, population served and seasonal information).
Maintain Water System Information Business Need		
7	NG-BR-4	Provide the capability for primacy agency to track [review] designs submitted by the water systems.
8	NG-BR-5	Provide the capability for primacy agency to maintain permits/approvals/licenses.
9	NG-BR-5.1	Provide the capability for primacy agency to grant or deny permits.
13	NG-BR-7.2	Provide the capability for primacy agency to determine if water system is regulated under state regulations.
14	NG-BR-7.3	Provide the capability for primacy agency to determine if water system is regulated under local regulations.
16	NG-BR-9	Provide the capability for primacy agency to determine if enforcement is applicable for a designated water system.
Determine Water System Requirements Business Need		
23	NG-BR-11.1.2.2	Provide the capability for primacy agency to determine alarms and controls [e.g. SCADA].
31	NG-BR- 11.6	Provide the capability for primacy agency to determine specific state requirements.
33	NG-BR-11.6.2	Provide the capability for primacy agency to determine fees.
Document and Notify Water System of Requirements Business Need		
41	NG-BR-12.2	Provide the capability for primacy agency to produce the enforcement document for a water system.
43	NG-BR-12.4	Provide the capability for primacy agency to produce an approval letter for water system applications.
44	NG-BR-12.5	Provide the capability for primacy agency to produce a permit letter for a water system.
45	NG-BR-12.6	Provide the capability for primacy agency to generate invoice for water systems.
47	NG-BR-13.1	Provide the capability for primacy agency to publish notifications about which requirements are to be implemented by water systems (passive mode).
49	NG-BR-13.2.1	Provide the capability for primacy agency to send informal notifications to water systems.
50	NG-BR-13.2.2	Provide the capability for primacy agency to send formal/legal notifications to water systems.
Assure Water System Meets Obligations Business Need		

Line No.	Identification Number	Description
51	NG-BR-14	Provide the capability for water systems to notify the primacy agency that requirements have been integrated into their operations.
52	NG-BR-14.1	Provide the capability for water systems to inform the primacy agency about their staff (e.g., contact info, position assignments, etc.).
53	NG-BR-14.2	Provide the capability for water systems to conduct monitoring activities.
54	NG-BR-14.3	Provide the capability for water systems to manage facilities.
55	NG-BR-14.3.1	Provide the capability for water systems to keep track of operations and maintenance activities.
56	NG-BR-14.4	Provide the capability for water systems to produce consumer reporting. (e.g., CCR, PN, LCR.)
57	NG-BR-14.4.1	Provide the capability for water systems to produce Public Notification as required by the primacy agency.
58	NG-BR-14.4.2	Provide the capability for water systems to produce the Consumer Confidence Report.
58	NG-BR-14.4.3	Provide the capability for water systems to produce public education and Lead consumer notification (related to the LCR).
60	NG-BR-14.4.4	Provide the capability for water systems to produce state-specific reporting, if required by the primacy agency.
61	NG-BR-15	Provide the capability for water systems to evaluate analytical results. (LRAA and OEL under Stage 2 DBP requirements.)
62	NG-BR-15.1	Provide the capability for water systems to adjust monitoring, as appropriate, after analytical results.
63	NG-BR-15.2	Provide the capability for water systems to request adjustment to monitoring, as appropriate, after analytical results.
64	NG-BR-15.3	Provide the capability for water systems to notify the primacy agency if any modifications / adjustments are made.
65	NG-BR-16	Provide the capability for water systems to respond to capacity, enforcement, and inspection requirements, as a result of analytical evaluation.
Determine Compliance with Obligations Business Need		
73	NG-BR-17.7	Provide the capability for primacy agency to receive information from water systems on misc. water systems reports.
85	NG-BR-24	Provide the capability for primacy agency to record and credit payments received from the water systems.
EPA Regional Oversight, Enforcement and Compliance Business Requirements		
99	NG-BR-33	Provide the capability to allow desktop/screen sharing between the Region and a Primacy Agency or between regions, primacy agencies or within a primacy agency or a region to help provide technical assistance on data/system issues.

G.5 DISTRIBUTION OF REQUIREMENT PRIORITY BY BUSINESS AREA

The table below presents the distribution of business need priority by business area.

	Must	Should	Could	Future
Maintain Water System Core Information Business Need	0	0	0	6
Maintain Water System Information Business Need	4	0	0	6
Determine Water System Requirements Business Need	13	6	1	3
Document and Notify Water System of Requirements Business Need	2	3	0	7
Assure Water System Meets Obligations Business Need	0	0	0	15
Determine Compliance with Obligations Business Need	19	2	0	2
Implement Drinking Water Program Business Need	4	3	1	0
EPA Regional Oversight, Enforcement and Compliance Business Requirements	2	3	5	1
Grand Total	44	17	7	40