Document title: # ICD 02 – Interface Control Document for Potable Water

Document number: 24590-WTP-ICD-MG-01-002, Rev 7

Contract: DE-AC27-01RV14136 **Contract deliverable:** C.9.1

Department: Project Management

NOTE: **Obtain concurrence and approval signatures on the following page prior to approval of this ICD.**

Approved by: Scott Monson

Scott H Monson 11/26/2018

Signature *Date*

BNI Area Project Manager

Issue Status: Approved

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NOTE: This document defines current service needs, future needs, and service gaps. The identified service levels do not represent contractual obligations between service recipient and providers. Future contractual and funding actions to close service gaps will be accomplished by integration between the federal offices as part of the budget planning process.

Interface Signature Page

Interface organizations, as appropriate, sign this sheet indicating concurrence and approval with the ICD contents. These signatures signify that the ICD accurately reflects the current baselines of interface organization's contracts, except as indicated in Appendix A, ICD 02 Issues and Open Items. The BNI APM does not approve this ICD until all required signatures on this page have been obtained.

Contractor Concurrence

Organization	Position	Name	Signature	Date
WTP Contractor	ICD 02 Lead	Guy Robertshaw		10-17-18
WTP Contractor	ICD 02 Interface Owner	Dave Reinemann		10-17-18
TOC	ICD 02 Interface Owner	Rick Tedeschi		10-22-18
MSC	ICD 02 Interface Owner	Daniel Sauceda		10/23/18
PRC	ICD 02 Interface Owner	N/A	N/A	N/A

DOE Approval

Position	Name	Signature	Date
ORP Assistant Manager for Waste Treatment Plant	Tom Fletcher		10/28/18
ORP Assistant Manager for Tank Farms	Rob Hastings		11/27/18
RL Assistant Manager for Mission Support / River and Plateau	Jeff Frey		11/20/18

History Sheet

Rev	Date	Reason for revision	Revised by
0	14-Mar-2002	Provided for ORP Contracting Officer to Issue as Operative ICD. Upon issuance, this document will supersede BNFL-5193-ID-02, Rev 6	K Cleveland
1	15-Nov-2002	Provided for ORP Contracting Officer to Issue as Operative ICD as part of the required ICD update. Incorporated ICFs: 24590-WTP-ICF-M-01-004, Rev 1 and 24590-WTP-ICF-M-02-001, Rev 0.	R Cioli
2	15-Nov-2003	Provided for ORP Contracting Officer to Issue as Operative ICD as part of the required ICD update. Incorporated ICFs: 24590-WTP-ICF-ENG-02-006 and 24590-BOF-ICF-ENG-03-005.	R Cioli
3	12-June-2012	Periodic update. There are no open Issues or Actions associated with this ICD at this time. Incorporated all outstanding ICFs.	M Pell
4	29-Jan-2014	Periodic update. There are no open Issues, Actions, or ICFs associated with this ICD at this time.	M Miller
5	23-Dec-2015	Periodic update. Reformatted document in accordance with updated Interface Control Procedure (24590-WTP-GPP-MGT-003, Rev 10). No revision bars are used to indicate changes; however, changes are described in the Revision Description. Added Open Item 0003 (Appendix C).	K Cleveland
6	13-Dec-2016	Periodic update	K Cleveland
7	26-Nov-2018	Updated in accordance with procedure Interface Control Documents, 24590-WTP-GPP-RAOS-OS-0001, Rev 2, and incorporated ICFs 24590-WTP-ICF-MGT-18-0004 and 24590-WTP-ICF-MGT-18-0012. Revised per scope document CCN 305689. This is a major revision, and change bars are not shown.	G Robertshaw

Revision Description

ICD Section	Description
All	The ICD has been reformatted in accordance with the requirements of procedure Interface Control Documents (24590-WTP-GPP-RAOS-OS-0001, Rev 2).
Acronyms	Removed: CHPRC, PHMC, TFC. Added: NDNREcology, LERF, MSC.
1.1	Renamed section to "Interface Scope" and revised to provide a brief description of the Hanford Site potable water system and the WTP and MSA interfaces for the potable water provided to WTP.
1.2	Renamed section to "System Overview," deleted Table 1, revised text to provide a brief description of the supporting systems on each side of the interface, and added a new block diagram (Figure 1).
1.3	Added section, "Interface Functions," that lists the general functions of the interface and considers aspects that need to be in place to have a complete interface. Added a new table (Table 1).
Table 1	Added table that identifies interface functions and contractor responsibilities for the potable water interface.
1.4	Added section, "Special Interface Roles," that lists the general responsibilities and authority of the Water Purveyor and the BNI Authority Having Jurisdiction.
2	Renamed section to "Interface Background Information" and expanded subsection discussions.
2.1	Renamed subsection to "Physical Information" and expanded discussion to address consideration of construction and commissioning activities.
2.2	Renamed subsection to "Administrative Information" and revised subsection discussions to address Safety Information (Section 2.2.1), Regulatory Information (Section 2.2.2), Post-Commissioning/Maintenance (Section 2.2.3), and Interface Schedule (Section 2.2.4).
2.2.1	Renamed subsection to "Safety Information" and revised discussion to address potential safety-related issues associated with the interface.
2.2.1.1	Deleted.
2.2.1.2	Deleted.
2.2.2	Renamed subsection to "Regulatory Information" and revised discussion to provide background regulatory information related to the interface.
2.2.3	Added new subsection, "Post-Commissioning/Maintenance," to provide background information associated with the operation and maintenance aspects of the interface, including ongoing monitoring by MSA at WTP, potable water usage/loads/demands, and documentation to support the interface.
2.2.4	Added new subsection, "Interface Schedule," to reference the Integrated Project Baseline Schedule and include appropriate interface milestones from each contractor's baseline schedule.
2.3	Renamed subsection to "Acceptance Criteria"
2.4	Deleted.
Table 2	Deleted.
3	Added new section, "Requirements," and subsections to address technical, activity level flow down, and programmatic requirements for ICD 02.
3.1	Added to address Technical Requirements (Design Criteria)
3.2	Added to address Activity Level Flowdown Requirements
3.3	Added to address Programmatic Requirements

Revision Description

ICD Section	Description
4	Added new section, "Requisite Interface Items," and subsections to address internal and external interface items
4.1	Added to address WTP Contractor Requisite Interface Items
4.2	Added to address TOC Requisite Interface Items
4.3	Added to address MSC Requisite Interface Items
5	Renumbered "References" from previous Section 3
5 and throughout the ICD	Various references were deleted and added to support the update of this revision.
Appendix A	Re-labeled as Issues and Open Items. Changed table format to align with ICD Action Item List.
Appendix B	Re-labeled as Interface Control Drawing Mark-up. Closed ICD issues to be identified in Appendix A.
Appendix C	Deleted. New open items to be listed in Appendix A.

Contents

Appendices

Tables

Figures

Acronyms

AHJ	authority having jurisdiction
AWWA	American Water Works Association
BFP	backflow preventer
BNI	Bechtel National, Incorporated
BOF	Balance of Facilities
DFLAW	direct-feed low-activity waste
DOE	US Department of Energy
DOORS	dynamic object-oriented requirements system
DOW	domestic (potable) water
FFS	Fluor Federal Services
HLW	high-level waste
ICD	interface control document
LAW	low-activity waste
MSA	Mission Support Alliance, LLC
MSC	Mission Support Contractor
NHC	Numatech Hanford Corporation
ORP	US Department of Energy, Office of River Protection
PRC	Plateau Remediation Contractor
PSW	process service water
PT	Pretreatment
RAMI	reliability, availability, maintainability, and inspectability
RL	US Department of Energy, Richland Operations Office
TOC	Tank Operations Contractor
TWRS	Tank Waste Remediation System
UPC	Uniform Plumbing Code
WAC	Washington Administrative Code
WDOH	Washington State Department of Health
WTCC	Waste Treatment Completion Company, LLC
WTP	Hanford Tank Waste Treatment and Immobilization Plant

1 Interface Description

1.1 Interface Scope

This Interface Control Document (ICD) describes the physical and administrative interactions for managing the transfer of potable water from the 200 West Area potable water system to the Hanford Tank Waste Treatment and Immobilization Plant (WTP). The WTP Contractor interfaces with the Tank Operations Contractor (TOC) and the Mission Support Contractor (MSC) for this transfer. TOC has contractual responsibility for providing Hanford services to the WTP Site. MSC operates the 200 West Area potable water system for the Hanford Site.

The Hanford Site 200 West Area potable water system (System ID# 001004) provides potable water for WTP use during construction, startup testing, commissioning, and operation. Potable water is used at the WTP for plant cooling water (PCW) make up, process service Water (PSW), and as domestic water (DOW) for drinking fountains, restrooms, showers, eyewash stations, and other domestic uses.

This ICD focuses on the WTP direct-feed low-activity waste (DFLAW) operating configuration.

1.2 System Overview

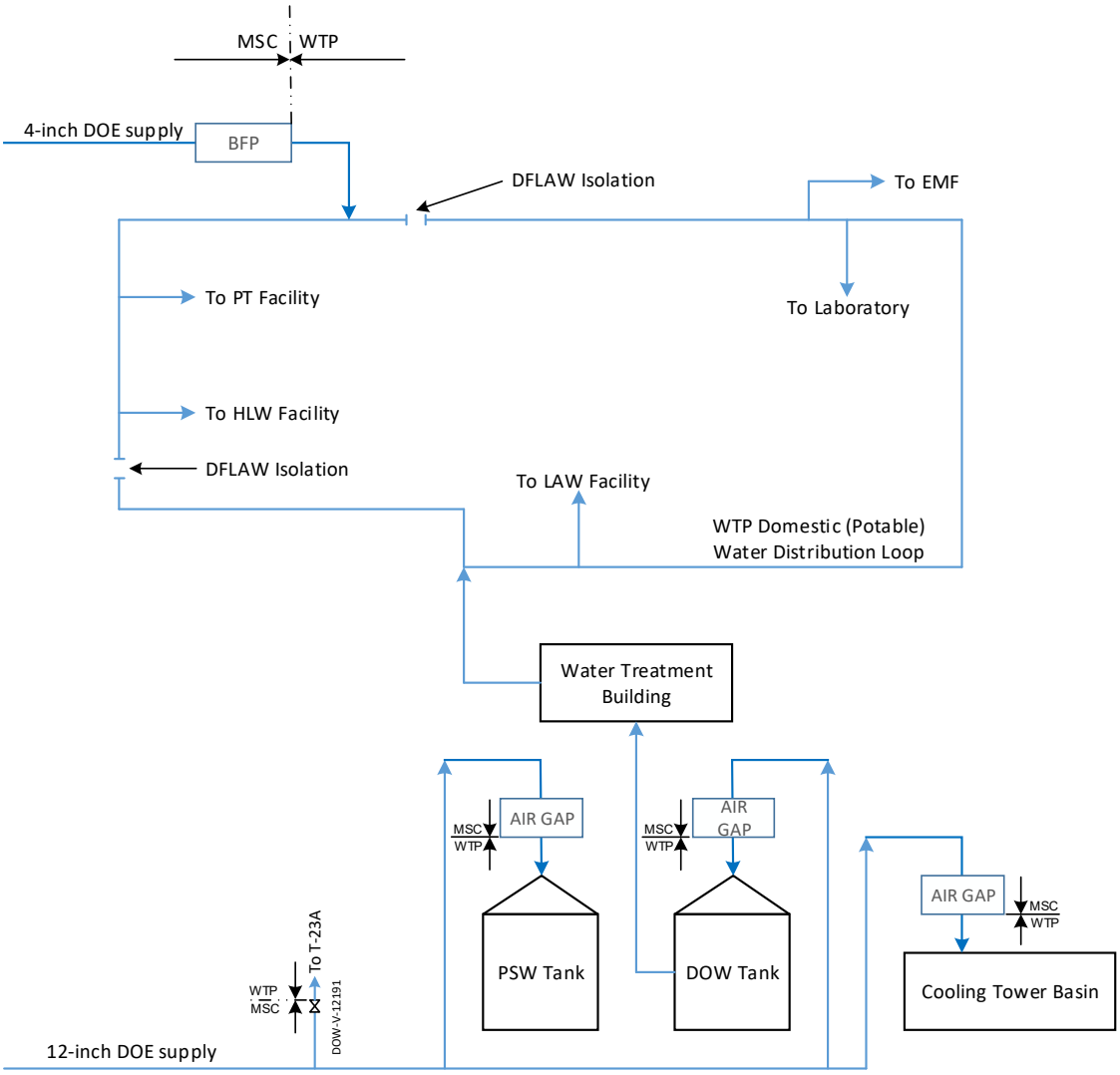
The interfaces for the supply of potable water to the WTP during DFLAW operation are illustrated in Figure 1.

The potable water is pumped to the WTP Site from the 200 West Area potable water distribution system via potable water pipelines to the WTP interfaces. The connection for the potable water system during construction is the 4-inch pipeline at the north WTP Site boundary. The connection for the potable water system during startup, commissioning, and operations is the 12-inch pipeline at the south WTP site boundary.

The 12-inch pipeline supplies the DOW storage tank, the process service water (PSW) supply tank, and the Balance of Facilities (BOF) cooling tower as make-up water. From the DOW storage tank, the DOW distribution pumps in the Water Treatment Building feeds the 6-inch ring header that supplies the WTP site. A chlorination injection skid in the Water Treatment Building can be used to boost chlorine levels in the DOW. The 4-inch pipeline connects directly to the WTP Site 6-inch distribution header.

During direct feed Low Activity Waste (DFLAW) operations, the Low Activity Waste (LAW) Facility, Analytical Laboratory, and the BOF will be supplied by the 12-inch pipeline at the south WTP site boundary. The Pretreatment (PT) Facility, High Level Waste (HLW) Facility, and wet chemical storage facility construction activities will be supplied by the 4-inch pipeline at the north WTP Site boundary.

Figure 1 Interface Block Diagram



1.3 Interface Functions

Table 1 presents the general interface functions and corresponding responsibilities for each interfacing contractor. Requirements derived from these functions are listed in Section 3 for each contractor.

Table 1 Functions of the Potable Water Interface

Interface Function	WTP Responsibility	TOC Responsibility	MSC/PRC Responsibility
Provide potable water from the Hanford Site 200 West Area for WTP construction, startup, commissioning, and operations.	Connect to potable water supply and distribute to users.	Provide administrative coordination between MSC and the WTP Contractor.	Provide connection for long-term potable water use.
Isolate potable water supply for DFLAW operations.	Provide for isolation of users for DFLAW operations in distribution.	None	Provides Inspection of Piping Systems up to and including air gaps at interface points.
Establish parameters for potable water demand and supply pressure per section 3.1.3.1 and 3.1.3.2	Establish maximum demand and supply pressure range.	None	Ensure supply meets demand and operates within supply pressure range.
Define operation and maintenance responsibilities.	Operate and maintain piping and components downstream of interface points.	None	Operate and maintain piping and components upstream of interface points.
Coordinate installation, maintenance, and inspection activities with the Water Purveyor.	Notify Water Purveyor of activities affecting transition pipes prior to the WTP Air Gaps and allow access to site.	None	Water Purveyor provides oversight to WTP Contractor activities affecting all supply piping up to the air gap
Provide contamination control.	Design and install features to prevent contamination of potable water supply.	None	Water Purveyor reviews, inspects, and approves features to prevent contamination.
Communicate changes to the potable water supply and demand.	Notify MSC of changes in demand.	Evaluate changes for impacts.	Notify WTP Contractor of changes in supply, and review changes in demand.
Implement regulatory requirements.	Design, install, and operate according to Washington Administrative Code.	None	Water Purveyor provides oversight to WTP Contractor.

1.4 Special Interface Roles

1.4.1 Water Purveyor

The Washington Administrative Code (WAC) 246-290-490 establishes the authority and the responsibility to a Water Purveyor who has the responsibility to protect the potable water system from contamination. The Water Purveyor's jurisdiction begins at the potable water source and ends at the premise isolations to the WTP water systems. Each premise isolation consists of an air gap or a backflow prevention assembly, as shown in Figure 1. The potable water pipes from the WTP Site boundary to the air gaps and backflow prevention assembly are referred to as the "transmission pipelines".

The Water Purveyor is responsible for the transmission pipelines and the following activities within the WTP, in accordance with the MSC Contract Section J.3.

- Review and approval of the potable water system design up to and including the air gaps
- Review and approval of any design changes associated with the transmission pipelines
- Review and approval of any WTP backflow prevention designs within 30 calendar days of final submittal
- Oversight of any maintenance and/or any modification activities performed by the WTP contractor on the potable water transmission pipelines feeding tanks DOW-TK-00001, PSW-TK-00003, and the BOF cooling tower. Oversight not required on temporary pipeline feeding trailer T-23A from valve DOW-V-12191.
- Performance of inspections of the backflow prevention provisions within the WTP boundary mandated by the WAC, up to the approved air gaps, that are within the regulatory scope of the Water Purveyor
- Performance of periodic sampling and tests within the WTP boundary mandated by the WAC that are within the regulatory scope of the Water Purveyor
- Performance of any other work within the WTP boundary mandated by the WAC that is required to be performed by the Water Purveyor
- Performance of notification and reporting requirements pursuant to WAC 246-290 and complementary notification communications with the WTP water system users

1.4.2 WTP Contractor Authority Having Jurisdiction

The Authority Having Jurisdiction (AHJ) is the WTP Contractor designee who is authorized to administer and enforce the Uniform Plumbing Code. The AHJ has responsibility for the cross-connection controls within the WTP Site. The AHJ coordinates with the Water Purveyor in all matters concerning cross-connection control.

2 Interface Background Information

This section only contains background information pertinent to the interface. For requirements, along with their basis, implementation, and configuration management, see Section 3. Other actions needed to complete the interface are listed in Section 4.

2.1 Physical Information

2.1.1 Physical Description

Project W-519 (NHC 1999) provided a 4-inch pipeline for potable water at the north of the WTP site. Water from this pipeline is being used during the construction period. The WTP physical interface point for operations is the connection to a 12-inch potable water pipeline at the south boundary of the WTP site.

The physical interface locations for connection of the potable water pipelines are shown on the *Interface Control Drawing*, 24590-WTP-B2-C12T-00001, (BNI 2018l) and the sketch shown in Appendix B for the new air gap locations as follows:

- Node 4A for the PSW-TK-00001 Air Gap
- Node 4B for the DOW-TK-00001 Air Gap
- Node 4C for the BOF Cooling Tower Air Gap
- Node 4D for the 2-inch potable water pipeline to T-23A
- Node 4T for the 4-inch potable water pipeline

A backflow prevention assembly is installed where the 4-inch potable water supply pipeline crosses the WTP site perimeter fence at the northwestern corner of the site (Node 4T on the *Interface Control Drawing*). The location of Node 4T is the 4-inch flange on the downstream side of valve PCV-8001. The locations of Nodes 4A, 4B, and 4C are the air gaps at DOW-TK-00001, PSW-TK-00003, and the BOF Cooling Tower respectively, Node 4D is 2-inch potable water line from valve DOW-V-12191 going to trailer T-23A as shown in Appendix B sketch.

The (12-inch) potable water pipeline was hydrostatically tested in 2011. The results of this hydrostatic test were recorded on pressure test data sheet 24590-BOF-PPTR-CON-11-0032 (BNI 2011).

2.2 Administrative Information

2.2.1 Safety Information

The respective organizations' design processes include integrated safety management principles and are communicated through the interface in the configuration management documents identified in Section 3.

No new hazards or accident scenarios are introduced through this interface that are not adequately controlled by the interface contractors and through controls placed across this interface. The physical and administrative controls to mitigate these risks using a graded approach have been or will be adequately addressed through requirements on each contractor's authorization basis and no additional physical and administrative controls are necessary. Any new identified hazards or accident scenarios will be evaluated, and controls implemented as necessary.

2.2.2 Regulatory Information

The potable water system interface is subject to the WAC, Chapter 246-290.

Properties and characteristics of potable water supplied by the MSC to the WTP interface meet the drinking water standards and requirements mandated by the state of Washington (WAC 246-290-300). Water system contaminant monitoring required by the state of Washington includes samples taken within the WTP site.

WTP DOW system is a service connection of the 200 West Area potable water distribution system (System ID# 001004). The WTP DOW system has a chlorine injection unit that was installed to boost the

chlorine level in the WTP potable water. The Washington State Department of Health (WDOH) has determined that the WTP DOW system will continue to be classified as a 200 West Area potable water (System ID# 001004) service connection once it becomes operational. The WTP can chlorinate within their boundaries without any reporting requirements to the WDOH or MSC. Issue Identification Form MSA-IIF-2015-0713, attached to CCN 289148 (BNI 2016k) has been completed to record the WDOH decision.

The cross-connection control requirements for the potable water MSC/WTP interface are identified in the WAC, Chapter 246-290-490.

The air gap at the cooling tower and the air gaps at the tanks receiving a direct potable water feed from the MSC will be the permanent, operations interface points to be in compliance with the Washington Administrative Code (WAC). These future interface nodes are shown in Appendix B.

BNI submitted the construction completion reports (WAC 246-290-120 (5)) for WDOH project ID numbers 04-0103 and 04-0602, to the Water Purveyor in August 2017, CCN 298507 (BNI 2017j). Acknowledgement from the WDOH was received in November 2017, CCN 201392 (BNI 2017k).

2.2.3 Post-Commissioning/Maintenance

The ICD team has not identified any deactivation or reliability, availability, maintainability, and inspectability (RAMI) considerations that require management across the interface. Systematic RAMI assessments of this interface have not been conducted.

The set of operating manuals for the WTP DOW system, including routine and non-routine operations, operating ranges, authorizations, and checklists, is listed in *BOF Domestic Water System Operating Manual*, 24590-BOF-DOW-SOM-0001 (WTCC 2017).

2.2.4 Interface Schedule

Refer to the One System DFLAW Integrated Program Schedule for monitoring appropriate interface schedule milestones.

2.3 Acceptance Criteria

No acceptance criteria are defined for the transfer of potable water.

3 Requirements

This section identifies all Technical (Design Criteria), Activity Level, and Programmatic requirements associated with the interfaces defined by the ICD. Specific requirements for implementation by the appropriate contractors are listed in this section only. In addition to the requirement statement, each requirement includes a basis for that requirement, the requirement source document(s), and the implementing document(s) (if known at the time of revision). Source and implementing documents are listed as configuration management items for each requirement.

3.1 Technical Requirements (Design Criteria)

Technical requirements are requirements managed by engineering organizations according to engineering procedures and work processes.

3.1.1 WTP Contractor Technical Requirements

For the WTP Contractor, technical requirements are managed in accordance with *Technical Requirements Management,* 24590-WTP-3DP-G04B-00004 (BNI 2016m). Any changes to the requirements in this sub-section are reviewed with the WTP Design Authority.

3.1.1.1 Approved backflow prevention measures shall be provided for premise isolation of all WTP service connections receiving a direct potable water feed from the US Department of Energy (DOE) 200W potable water distribution system as follows:

a) For WTP Construction activities, the temporary potable water feed from the 4-inch DOE temporary pipeline at the northwest corner of the WTP site (Node 4T on the *Interface Control Drawing* 24590-WTP-B2-C12T-00001) shall utilize approved reduced-pressure backflow assemblies for premise isolation, unless an exception is made by the Water Purveyor. Per WAC 246-290-010(10), only assemblies that appear on the current approved backflow prevention assemblies list developed by the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research or other entity acceptable to the Washington State Department of Health (WDOH) are considered approved by WDOH.

b) For WTP Operations, the permanent potable water feeds from the 12-inch DOE pipeline at the WTP southern site boundary (Node 4B on *the Interface Control Drawing* 24590-WTP-B2-C12T-00001) to tanks DOW-TK-00001, PSW-TK-00003, and the BOF Cooling Tower shall utilize approved air gaps for premise isolation, unless an exception is made by the Water Purveyor. Approved air gaps shall also be provided for premise isolation of any future storage tanks with a direct potable water feed from the 12-inch DOE pipeline. An approved air gap is defined in WAC 246-290-010(7).

Requirement Basis: WAC Chapter 246-290-490 details the minimum acceptable cross-connection control requirements for potable water. This code is invoked by both the WTP *Basis of Design* (BNI 2018j) and by the MSC *Cross-Connection Control Program for the Hanford Water Systems* (MSA 2017a) and the *Controlling Cross Connections* requirements document (MSA 2017b). All WTP service connections that receive a direct potable water feed from the DOE 200W water distribution system (existing and new) necessitate approved backflow prevention measures (i.e., approved air gaps and/or approved backflow prevention assemblies) to protect and isolate the DOE 200W potable water system from potential back-contamination from WTP. These approved backflow prevention measures that are used for premise isolation are under the Water Purveyor jurisdictional control.

The 12-inch permanent DOE potable water pipeline will feed the operational portion of the WTP when DFLAW operations begin. At that point, the WTP operational facilities will be considered a severe health cross-connection hazard per WAC 246-290-490(4) (i.e., radioactive material processing plant). Therefore, the Water Purveyor has determined that premise isolation for all permanent potable water feeds used for WTP operations from the 12-inch DOE pipeline shall consist of approved air gaps.

The WTP currently has four (4) premise-isolation, approved backflow prevention measures for potable water which are under the Water Purveyor jurisdictional control, as follows.

- The permanent air gap at the WTP potable water tank DOW-TK-00001.
- The permanent air gap at the WTP process service water tank PSW-TK-00003.

- The permanent air gap at the WTP/BOF Cooling Tower.
- The pair of temporary backflow prevention assemblies (DOW-BFP-00001 and DOW-BFP-00002) at the northwest corner of the site (Node 4T on BNI 2018l) where the 4-inch diameter DOE-provided temporary potable water line crosses the WTP site perimeter fence.

Configuration Control Document(s):

Requirement Source(s):

- WAC 246-290 – *Group A Public Water Supplies*
- *Cross-Connection Control Program for the Hanford Water Systems,* WSU-PRO-CP-60404, Rev 2/Chg 2 (MSA 2017a)
- *Controlling Cross Connections,* MSC-RD-FM-10361, Rev 6/Chg 1 (MSA 2017b)

Implementation:

- *P&ID - BOF Domestic (Potable) Water System Distribution*, 24590-BOF-M6-DOW-00001001 (BNI 2018d)
- *P&ID - BOF Domestic (Potable) Water System Storage and Pumps*, 24590-BOF-M6-DOW-00002001 (BNI 2017a)
- *P&ID - BOF Process Service Water System Supply Tank and Feed Pumps*, 24590-BOF-M6-PSW-00001001 (BNI 2017b)
- *Cooling Tower & Support Building Mechanical Sections*, 24590-CM-HC1-MECM-00001-27-28 (BNI 2005)
- *Potable Water Air Gap Approval for Tank DOW-TK-00001*, CCN 293005 (BNI 2017c)
- *Potable Water and Raw Water Air Gap Approval for the BOF Cooling Tower*, CCN 293006 (BNI 2017d)
- *Potable Water Air Gap Approval for Tank PSW-TK-00003*, CCN 297809 (BNI 2017e)
- *MSA Water Purveyor Approval - DOW Piping Modification Review*, CCN 305998 (BNI 2018b)

3.1.1.2 Design for all transmission pipelines and premise isolation backflow prevention measures shall conform to WAC Chapter 246-290, American Water Works Association (AWWA) standards, Uniform Plumbing Code (UPC), and Washington State Department of Health (WDOH) guidelines, as applicable to the scope of each.

Requirement Basis: The air gap at the BOF cooling tower, the air gaps at tanks DOW-TK-00001 and PSW-TK-00003, and the backflow preventers (DOW-BFP-00001 and DOW-BFP-00002) at the 4-inch temporary construction water feed all currently receive a direct potable water feed from the DOE 200W water distribution system. The Water Purveyor maintains jurisdictional control of the piping between the DOE/WTP interconnection points up to, and including, the air gaps/backflow preventers to protect the DOE 200W potable water system from potential back-contamination from WTP. These piping runs are defined as the "transmission pipelines" for the purposes of ICD 02. Code applicability for the transmission piping and the premise isolation backflow prevention measures is flowed down through the *Cross-Connection Control Program for the Hanford Water Systems* (MSA 2017a, Section 4.2 and Section 6.0, Element 3). These same codes are identified and flowed down through the WTP *Code of Record* (BNI 2017g).

Configuration Control Document(s):

Requirement Source (s):

- *Cross-Connection Control Program for the Hanford Water Systems* WSU-PRO-CP-60404, Rev 2/Chg 2 (MSA 2017a)
- *Controlling Cross Connections,* MSC-RD-FM-10361, Rev 6/Chg 1 (MSA 2017b)
- *Engineering, Procurement, and Construction (EPC) Code of Record*, 24590-WTP-COR-MGT-15-00001, *(BNI 2017g)*

Implementation:

- *P&ID – BOF Domestic (Potable) Water System Distribution*, 24590-BOF-M6-DOW-00001001 (BNI 2018d)
- *P&ID – BOF Domestic (Potable) Water System Storage and Pumps,* 24590-BOF-M6-DOW-00002001 (BNI 2017a)
- *P&ID – BOF Process Service Water System Supply Tank and Feed Pumps*, 24590-BOF-M6-PSW-00001001 (BNI 2017b)
- *P&ID – BOF Plant Cooling Water System Cooling Tower Flow Channel*, 24590-BOF-M6-PCW-00003001 (BNI 2018k)
- *Piping Material Classes General Description and Summary*, 24590-WTP-3PS-P000-T0001 (BNI 2008a)
- *Piping Material Classification – Pipe Class H00A*, 24590-WTP-3PB-P000-TH00A (BNI 2018f)
- *Piping Material Classification – Pipe Class PG0A*, 24590-WTP-3PB-P000-TPG0A, (BNI 2009)
- *Engineering Specification for Piping Material Classification Pipe Class G12A*, 24590-WTP-3PB-P000-TG12A (BNI 2018a)

3.1.1.3 During DFLAW operations, the WTP Contractor shall provide a method approved by the Water Purveyor to isolate portions of the WTP DOW supply loop to provide cross-connection control between the operating areas of the WTP and the construction areas of the WTP.

Requirement Basis: During DFLAW operations, potable water to the LAW Facility, effluent management facility, LAB, and BOF are fed from the permanent 12-inch pipeline at the southern site boundary. Potable water for continued construction activities at the PT Facility, HLW Facility, and the wet chemical storage facility are planned to be fed by the 4-inch temporary pipeline at the northern WTP site boundary. Both pipelines (12-inch permanent pipeline and 4-inch temporary pipeline) have existing ties into the DOW supply loop. Therefore, an approved method of cross-connection control between the operating and construction areas of WTP is needed during DFLAW operations to prevent comingling and potential back-contamination of potable water from operating nuclear facilities [i.e., severe health cross-connection hazards that are protected via approved air gaps per WAC 246-290-490(4)] to the non-nuclear, temporary construction water feed from the DOE 200W distribution system [that is protected via backflow prevention assemblies only].

Configuration Control Document(s):

Requirement Source(s):

- *DOW Water System Open Issues: DFLAW Isolation, UPC Administrative Authority, and Disinfection Records*, CCN 270574 (BNI 2015c)

Implementation:

- *P&ID – BOF Domestic (Potable) Water System Distribution*, 24590-BOF-M6-DOW-00001001 (BNI 2018d)
- *DOW Isolation Approval for DFLAW*, CCN 276071 (BNI 2015d)

3.1.2 TOC Technical Requirements

No technical requirements have been identified for the TOC.

3.1.3 MSC Technical Requirements

3.1.3.1 MSC shall provide capacity to supply the WTP with the following peak potable water quantities:

a) 200 gpm for WTP construction activities from the 4-inch temporary potable water pipeline at the northern WTP site boundary.

b) 950 gpm for WTP operations from the 12-inch permanent potable water pipeline at the southern WTP site boundary.

Requirement Basis: WTP calculation (BNI 2010) establishes that a potable water supply of 950 gpm will meet WTP potable water needs (when coupled with sufficient raw water for BOF cooling tower needs). HNF-10761, "Letter Report 200 Area Potable Water System Network Analysis in Support of the Waste Treatment Plant" (BNI 2018c) establishes that a total flowrate of 200 gpm is available for WTP use for construction activities.

Configuration Control Documents:

Requirement Source(s):
- *BOF Potable Water Supply and Distribution*, 24590-BOF-M6C-DOW-00006 (BNI 2010)
- *Letter Report (HNF-10761), 200 Area Potable Water System Network Analysis in Support of the Waste Treatment Plant*, CCN 299585 (BNI 2018c)

Implementation:
- *Hanford Site Water System Master Plan,* HNF-5828, Section 1.4.5.6 (MSA 2016b)

3.1.3.2 MSC shall provide potable water to the WTP between a minimum residual pressure of 66 psig and maximum pressure of 125 psig at the DOE/WTP interconnection points.

Requirement Basis: At a maximum WTP operational use of 950 gpm (with a conservatism factor of ~10% added in for total of 1050 gpm), the residual pressure at the interconnection point (Node 4B) was modeled by Fluor Federal Services in 2003 to be 66 psig (BNI 2003b).

As WTP operational demand volume decreases down from 950 gpm, the residual pressure increases. WTP design documents have been based on receiving a maximum delivery pressure of 125 psig (reference BNI 2016g and BNI 2016i for pipeline 24590-BOF-PP-DOW-WV-20238-PGOA-12-01).

WTP calculations (BNI 2015e and BNI 2016h) have determined the WTP pressure control valves and restricting orifices will meet design expectations at the stated range of minimum and maximum pressures (66 psig minimum, 125 psig maximum) without experiencing choked flow or cavitation.

Configuration Control Documents:

Requirement Source(s):

- *Domestic Water Normal and Design Pressure/Temperature Calculations*, 24590-BOF-M6C-DOW-00001 (BNI 2016g)
- *DOW System Orifice Sizing*, 24590-BOF-M6C-DOW-00002 (BNI 2016h)
- *BOF Potable Water Supply and Distribution*, 24590-BOF-M6C-DOW-00006 (BNI 2010)
- *Domestic Water Orifice Sizing for DOW-RO-00003*, 24590-BOF-M6C-DOW-00003 (BNI 2015e)
- *MS Line List for 24590-BOF-M6-DOW-00001001*, 24590-BOF-M6WX-DOW-00001001 *(BNI 2016i)*

Implementation:

- *Hanford Site Water System Master Plan*, HNF-5828, Section 1.4.5.6 (MSA 2016b)

3.2 Activity Level Requirements

Activity level requirements are facility and functional requirements that require incorporation into the work planning process. These include repetitive use requirements that are typically implemented in an operating technical procedure or preventative maintenance work package. They may also include task specific requirements that must be complied with when completing a specific scope of work, such as a repair or replacement of a component. These are typically performed within a maintenance work control document.

3.2.1 WTP Contractor Activity Level Requirements

For the WTP Contractor, activity level requirements are managed in accordance with *Activity Level Flow Down of Requirements Applicable to Commissioning Phase Activities*, 24590-WTP-GPP-RAOP-OP-0003 (BNI 2018g).

3.2.2 TOC Activity Level Requirements

No activity level requirements have been identified for the TOC.

3.3 Programmatic Requirements

Programmatic requirements include those specified through the contract; federal, state, and local laws and regulations; DOE directives; and negotiated agreements such as memorandums of agreement, commitments and permits.

3.3.1 WTP Contractor Programmatic Requirements

For the WTP Contractor, programmatic requirements are managed per *Requirements Management*, 24590-WTP-GPP-RARM-RM-00001 (BNI 2018h).

3.3.1.1 Submit design documentation for all transmission piping and premise isolation backflow prevention measures, including temporary changes, to the Water Purveyor for review and approval before the release of designs for construction or modification.

Requirement Basis: All WTP transmission piping receiving a direct potable water feed from the DOE 200W potable water system, along with all associated air gaps and/or backflow prevention assemblies used for premise isolation, are under Water Purveyor jurisdictional control for compliance with the WAC. The Water Purveyor maintains this jurisdictional control of the transmission piping and air gaps for protection of the DOE 200W potable water system from potential back-contamination from WTP. The basis/source of this requirement for Water Purveyor review/approval is the WAC for *Cross Connection Control* (WAC 246-290-490) and the MSC *Cross-Connection Control Program for the Hanford Water Systems* (MSA 2017a).

Configuration Control Documents:

Requirement Source(s):

- WAC 246-290-490, *Cross-Connection Control* (WAC 246-290)
- *Cross-Connection Control Program for the Hanford Water Systems*, WSU-MP-CP-60404, Rev. 2/Chg. 2 (MSA 2017a)

Implementation:

- *Potable Water Air Gap Approval for Tank DOW-TK-00001*, CCN 293005 (BNI 2017c)
- *Potable Water Air Gap Approval for Tank PSW-TK-00003*, CCN 297809 (BNI 2017e)
- *Potable Water and Raw Water Air Gap Approval for the BOF Cooling Tower*, CCN 293006 (BNI 2017d)
- *Potable Water Backflow Prevention Design Review,* CCN 023726 (BNI 2001a)
- *Water Purveyor Backflow Prevention Review,* CCN 026476 (BNI 2001b)

3.3.1.2 Prior to potable water piping being placed in service, or after any modifications or repairs, perform required flushing, disinfection, and bacterial testing to ensure proper sanitization using procedure(s) that conform to standards published by the AWWA, or other industry standards acceptable to the WDOH. The bacterial tests will be analyzed by a laboratory certified by the state, and test results shall be provided to the Water Purveyor.

Requirement Basis: WAC 246-290 establishes requirements for proper disinfection of potable drinking water systems. Transmission piping along with all associated air gaps and/or backflow prevention assemblies used for premise isolation are under Water Purveyor jurisdictional control for compliance with the WAC.

Configuration Control Document(s):

Requirement Sources(s):

- WAC 246-290, *Group A Public Water System* (WAC 246-290)
- *Disinfecting Water Mains* (AWWA C651)

Implementation:

- *Engineering Specification for Flushing and Cleaning Requirements for the Startup of Quality and Commercial Fluid Systems in All Facilities*, 24590-WTP-3PS-G000-T0018 (BNI 2016j)

3.3.1.3 Conduct backflow preventer assembly inspections and tests on 24590-BOF-DOW-BFP-00001 and -00002. All testing is to be conducted in compliance with the Water Purveyor's *Cross-Connection Control Program* (MSA 2017a) as stated below:

- Obtain and maintain certification of backflow assembly testers per WAC regulation.
- Submit a copy of the current backflow assembly tester certification validation card to the Water Purveyor.
- Test backflow prevention assemblies in accordance with Water Purveyor approved testing and maintenance instructions.
- Ensure the completeness and accuracy of the backflow prevention assembly test reports.
- Upon completion of testing transmit test reports to the Water Purveyor.
- Remove from service, if backflow prevention assembly fails an operability test.
- Notify the Water Purveyor when an assembly is removed from service.
- Ensure out of service backflow assemblies may be readily identified by visual observation (e.g., sign, out of service tag).
- Immediately report any suspected backflow incidents to the Water Purveyor.

Both backflow preventer assemblies are to be inspected and tested:

- At the time of installation.
- Annually (+/- 10 days) after installation (minimum frequency) or more frequently.
- After a backflow incident.
- After an assembly is repaired, replaced, reinstalled, or relocated.
- After upstream mechanical isolation, causing loss of pressure to the assembly.

Requirement Basis: The two backflow preventers separate the DOE 4-inch supply line for potable water from the WTP site. These backflow preventers are under the jurisdictional control of the Water Purveyor. The requirements for annual testing are defined in Cross-Connection Control Program for the Hanford Water Systems (MSA 2017a) which tailors the WAC *Cross-Connection Control* (WAC 246-290-490) to the Hanford site.

Configuration Control Document(s):

Requirement Source(s):

- WAC 246-290-490, *Cross-Connection Control* (WAC 246-290)
- *Cross-Connection Control Program for the Hanford Water Systems*, WSU-MP-CP-60404, Rev. 2/Chg. 2 *(MSA 2017a)*

Implementation:

- The implementing mechanism(s) shall be issued by the WTP. The current implementation status can be obtained from the WTP Design Authority RAM as identified in *Designation of Requirement Area Managers and Subject Matter Experts* (BNI 2018i).

3.3.1.4 Provide annual updates on the estimate for potable water usage for construction, startup, DFLAW operations, and full WTP operations. The average annual and peak flow demand

forecast, non-binding estimate for the next 10 years, and will be provided by February 25 every year.

Requirement Basis: The *Hanford Site Water System Master Plan* (MSA 2016b) provides the roadmap to optimize the Water Utilities infrastructure capability to serve the Hanford Site needs. This master plan includes a 10-year forecast of future water demands by all water system users.

Configuration Control Document(s):

Requirement Source(s):

- *Hanford Site Water System Master Plan,* HNF-5828, Rev. 5, Sections 1.4.5 and 2.1.1.2 (MSA 2016b)

Implementation:

- The implementing mechanism(s) shall be issued by the WTP. The current implementation status can be obtained from the WTP Design Authority RAM as identified in *Designation of Requirement Area Managers and Subject Matter Experts* (BNI 2018i)
- *Previous updates are provided below:*
  - *Informal Engineering Study – Forecast of the WTP Potable and Raw Water Annual Usage During DFLAW and Full WTP Operations (BNI 2016c)*
  - *WTP 2017 Raw and Potable Water Usage 10-Year Forecast (BNI 2017i)*
  - *WTP 2018 Raw and Potable Water Usage 10-Year Forecast (BNI 2018e)*

3.3.1.5 WTP drawings associated with the transmission piping shall include a note to indicate that the drawings are subject to approval by the Water Purveyor. The note shall include wording similar to: "any modifications or changes made to the length of pipe from the site interface to the air gaps must be approved by the Water Purveyor".

Requirement Basis: This note readily identifies the WTP transmission piping drawings within the WTP boundary that are under the jurisdiction of the Water Purveyor.

Configuration Control Document(s):

Requirement Source(s):

- This drawing note has been determined to be a mutually agreed upon requirement for the transmission piping drawings.

Implementation:

- The procedural requirements for the procedure are tracked using the *WTP Requirements Management Program (i.e. DOORS),* no further action required for this.

- All Potable water P&IDs for DFLAW include the required note.:
  - *WTP 2017 P&ID - BOF Process Service Water System Supply Tank and Feed Pumps (BNI 2017b)*
  - *WTP 2017 P&ID – BOF Domestic (Potable) Water System Storage and Pumps* (*BNI 2017a)*
  - *WTP 2018 P&ID - BOF Domestic (Potable) Water System Distribution (BNI 2018d)*

3.3.1.6 The Filter Plant Operator and the shift manager shall be called in the event of any upset conditions that impact the DOE 200W potable water system.

- Filter Plant Operator (509) 373-2748
- Shift Manager (509) 373-5824 during normal working hours OR
- (509) 376-2900 during off shift hours and request Emergency Operations Center (EOC) to provide number for on call manager/BED OR request EOC to make the contact.

Requirement Basis: The Water Purveyor has been granted the authority to operate the DOE 200W potable water system and must be kept informed of actions at WTP that may impact the operation of this water system.

Configuration Control Document(s):

Requirement Source(s):
- WAC 246-290-420(9), *Reliability and Emergency Response* (WAC 246-290)

Implementation:
- The implementing mechanism(s) shall be issued by the WTP. The current implementation status can be obtained from the WTCC Plant Management RAM as identified in *Designation of Requirement Area Managers and Subject Matter Experts* (BNI 2018i)

3.3.1.7 The Water Purveyor shall be contacted to review, approve and coordinate any planned maintenance actions on the transmission piping within the WTP boundary.

Requirement Basis: The Water Purveyor has been granted the authority to operate the DOE 200W potable water system and must be kept informed of actions at WTP that may impact the operation of this water system.

Configuration Control Document(s):

Requirement Source(s):
- WAC 246-290-415, *Operations and Maintenance* (WAC 246-290)

Implementation:
- The implementing mechanism(s) shall be issued by the WTP. The current implementation status can be obtained from the WTP Design Authority RAM as identified in *Designation of Requirement Area Managers and Subject Matter Experts* (BNI 2018i).

3.3.2 TOC Programmatic Requirements

No programmatic requirements have been identified for the TOC.

3.3.3 MSC Programmatic Requirements

3.3.3.1 Conduct bacteriological sampling and disinfection byproduct monitoring at WTP. The location and frequency is defined in technical procedures Bacteriological Sampling (MSA 2017c) and Disinfectant Byproduct Monitoring (MSA 2018b). The location and frequency of these sampling and monitoring operations are subject to change to align with WTP staffing

levels and work locations. Coordinate with the WTP Contractor regarding site access and support.

Requirement Basis: The Water Purveyor is responsible for bacteriological sampling and disinfection byproduct monitoring in the DOE 200W potable water system.

Configuration Control Document(s):

Requirement Source(s):
- WAC 246-290, *Group A Public Water System* (WAC 246-290)
- *Comprehensive DBP Rule Stage II Disinfectant Byproduct Monitoring Plan,* WSU-MP-CP-60400, Rev 0/Chg 5 (MSA 2018a).

Implementation:
- *Bacteriological Sampling,* WSU-PRO-CP-60376 (MSA 2017c)
- *Disinfectant Byproduct Monitoring*, WSU-PRO-CP-60524 (MSA 2018b)

3.3.3.2 Conduct periodic surveys of the transmission piping within the WTP boundary for cross-connection hazards. Coordinate with the WTP Contractor regarding site access and support.

Requirement Basis: The Water Purveyor has jurisdictional control over the transmission piping within the WTP boundary and is required by the WAC to periodically survey for cross-connection hazards.

Configuration Control Document(s):

Requirement Source(s):
- WAC 246-290, *Group A Public Water System* (WAC 246-290)
- *Controlling Cross Connections*, MSC-RD-FM-10361 (MSA 2017d)

Implementation:
- *Facility Cross-Connection Control Inspection,* WSU-PRO-CP-60372 (MSA 2016d)

3.3.3.3 The WTP Contractor (Shift Duty Manager (509) 420-3597) shall be called in the event of:

- Any upset conditions that impact potable water supply to WTP
- Any planned interruptions to the potable water supply to WTP

Requirement Basis: Prompt communication regarding impacts to the potable water supply to WTP is needed to mitigate restrictions to or loss of service.

Configuration Control Document(s):

Requirement Source(s):
- None

Implementation:
- The implementing mechanism(s) shall be issued by the MSC. The current implementation status can be obtained from the One System RAM as identified in *Designation of Requirement Area Managers and Subject Matter Experts* (BNI 2018i)

4 Requisite Interface Items

Some interfaces may have additional actions to be performed to establish a complete interface. Any of these actions that do not fall into the above requirements categories are listed as requisite interface items. These are typically single actions to be performed prior to commissioning. A requisite interface item is considered completed when objective evidence is provided to verify the action was performed. The One System Requirements Area Manager will utilize the requirements management tool to track requisite interface items. The requisite interface items are excluded from the WTP Requirements Management Program.

4.1 WTP Contractor Requisite Interface Items

4.1.1 For WTP baseline operations with all facilities operating after construction is completed at the HLW Facility and PT Facility, the WTP Contractor will remove construction isolation points from the WTP DOW supply loop to reconnect all portions of the loop to the 12-inch permanent potable water feed at the southern WTP boundary as shown on *P&ID - BOF Domestic (Potable) Water System Distribution* (BNI 2018d, notes 7, 12, and 14). The WTP temporary connection to the DOE 4-inch temporary construction water pipeline at the northern WTP boundary will be cut and capped and removed from service by the WTP Contractor. Upon completion, notify MSC Water Utilities that DOE 4-inch pipeline is no longer needed by WTP and may be decommissioned as determined by MSC.

4.1.2 After cutting and capping the WTP temporary connection to the DOE 4-inch pipeline, the WTP Contractor will provide MSC with as-built drawings of all modifications made to the DOE 4-inch pipeline within the WTP site boundary for recovery of affected Hanford drawings (see "Transfer of Drawing Responsibility" note on *Civil Key Plan General Notes* [FFS 2002b]).

4.1.3 Transmit a copy of all design media, vendor data, test reports, and installation records related to backflow prevention on the transmission lines to the Water Purveyor. All data is to be transmitted prior to the start of cold commissioning.

4.2 TOC Requisite Interface Items

No requisite interface items have been identified for the TOC.

4.3 MSC Requisite Interface Items

4.3.1 The new Central Plateau Water Treatment Facility (CPWTF), if required for water demand, is scheduled to be constructed and in service before the forecasted water demand date for DFLAW operations. The CPWTF project schedule is dependent on factors (i.e. Congressional project funding approval) that may be outside of the MSC contractors control.

4.3.2 MSC will remove any "Transfer of Drawing Responsibility" markings from any affected Hanford drawings upon final receipt of WTP as-built drawings of the 4-inch DOE pipeline

4.3.3 within the WTP site boundary (see paragraph 4.1.2 and *Civil Key Plan General Notes* [FFS 2002a]).

5 References

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Appendix A - ICD 02 Issues and Open Items

NOTE: This appendix lists open ICD issues, ICD issues that have been closed since the last revision, and new ICD open items. New open items are added to each ICD revision with a tracking number or schedule activity to track their completion outside the ICD. Open items are removed from the ICD in the next revision following their introduction.

Issue/Action/ Open Item No.	Description	Tracking No	Responsible Org.	Responsible Actionee	Originator	Status/ Due Date	Support Information / Basis for Closure	Comments
This ICD has no open issues. No new open items have been identified.								

Appendix B - Interface Control Drawing Mark-up (Draft)

24590-WTP-B2-C12T-00001

SCHEDULE - INTERFACE CONTROL POINTS

NODE	ICD	DESCRIPTION	COORDINATES NORTH	COORDINATES EAST	PIPE CENTER ELEVATION UNO
1A	19	SN-700 HLW BACKUP WASTE FEED	(N135847.28) N4138.0	(E576114.83) E9736.9	(203.0) 666.0
1B	19	SN-701 DEDICATED LAW WASTE FEED	(N135846.67) N4136.0	(E576114.84) E9737.0	(203.0) 666.0
2	19	SN-637 HLW PRIMARY WASTE FEED	(N135847.89) N4140.0	(E576114.83) E9736.9	(203.0) 666.0
3A	01	RAW WATER BACKFLOW PREVENTER			
3T		RAW WATER-TEMPORARY CONSTRUCTION			
4A 4B 4C 4D 4E	02	PSW-TK-00003 AIR GAP DOW-TK-00001 AIR GAP BOF COOLING TOWER AIR GAP DOW-V-12191 2" POTABLE LINE TO T-23A POTABLE WATER - TEMP CONSTRUCTION			
5A	12	PLANT ROAD, NORTH ENTRANCE (ELEVATIONS SHOWN ARE TOP OF FINAL ROAD AT ℄)	(N136125.00) N5049.2	(E576550.00) E11164.8	(202.65) 664.9
5B			(N136125.00) N5049.2	(E576376.22) E10594.62	(202.97) 665.9
5C			(N136125.00) N5049.2	(E576215.26) E10065.5	(203.39) 667.3
5D			(N136066.60) N4857.6	(E576376.22) E10594.62	(204.67) 671.5
5E			(N136072.81) N4877.97	(E576209.17) E10046.49	(203.39) 667.3
5T		PLANT ROAD, TEMPORARY CONSTRUCTION	(N136125.00) N5049.2	(E576215.26) E9935.1	(203.39) 667.6
6A	12	PLANT ROAD, EAST/SOUTH ENTRANCE (ELEVATIONS SHOWN ARE TOP OF FINAL ROAD AT ℄)	(N135964.57) N4522.8	(E576600.00) E11328.9	(204.10) 669.6
6B			(N135657.06) N3513.8	(E576600.00) E11328.9	(205.92) 675.6
6C			(N135591.47) N3298.6	(E576600.00) E11328.9	(206.19) 676.5
6D			(N135539.84) N3129.2	(E576578.96) E11259.9	(206.44) 677.3
6E			(N135497.03) N2988.7	(E576518.69) E11062.1	(206.74) 678.3
6T		PLANT ROAD, TEMPORARY CONSTRUCTION	(N135456.83) N2856.8	(E576462.19) E108761.7	(207.15) 679.6
7A	11	13.8kv - NORTH DUCT BANK INTERFACE	(N135826.52) N4069.85	(E576547.72) E11157.36	(204.37) 670.5
7B		13.8kv - SOUTH DUCT BANK INTERFACE	(N135823.48) N4059.85	(E576547.72) E11157.36	(204.37) 670.5
8A	06	RADIOACTIVE, DANGEROUS LIQUID EFFLUENT DN100 IN DN200 ENCASEMENT	(N136094.44) N4948.9	(E576188.73) E9979.4	(201.65) 661.6
8B		DN80 IN DN150 ENCASEMENT (BACK UP)	(N136094.30) N4948.5	(E576187.74) E9976.2	(201.57) 661.3
9	05	NONRADIOACTIVE, NONDANGEROUS LIQUID EFFLUENT	(N136094.16) N4948.0	(E576189.88) E9983.2	(201.71) 661.8
10		NOT USED			
11A 11B	01	RAW WATER BACKFLOW PREVENTER BOF COOLING TOWER AIR GAP			
11T	01	RAW WATER - TEMPORARY CONSTRUCTION			
12	11	CONSTRUCTION POWER	(N135974.30) N4554.7	(E576106.00) E9708.0	ON POLE
13	30	TREATED LOW-ACTIVITY WASTE FEED FROM LAWPS	(N136038.95) N4766.87	(E576114.43) E9735.63	(202.43) 664.14
14	31	DFLAW CONDITIONED LIQUID EFFLUENT RETURN TO TF DST	(N136038.34) N4764.87	(E576114.43) E9735.63	(202.43) 664.14
15	03	RADIOACTIVE SECONDARY SOLID MIXED WASTE PICK-UP LOCATIONS.		SEE NOTE 6	
16	14	IHLW CANNISTER PICK-UP LOCATION.		SEE NOTE 6	
17	15	ILAW CONTAINER PICK-UP LOCATION.		SEE NOTE 6	
18	05/06	TELECOMMUNICATIONS	(N135974.80) N4556.5	(E576075.15) E9606.8	ON POLE

EXISTING GROUNDWATER MONITORING WELLS		
WELL NO.	NORTHING	EASTING
299-E25-25	(N135984.41) 4587.91	(E576588.89) 11292.44
299-E25-30	(N135590.23) 3294.52	(E576208.44) 10044.10
299-E25-32	(N136044.56) 4785.28	(E576382.38) 10614.83
299-E25-39	(N135837.27) 4105.11	(E576581.88) 11269.44
299-E25-44	(N135656.94) 3513.41	(E576110.13 9721.52

HOLD NOTES:

1. HOLD PENDING INCORPORATION IN PRIMARY DESIGN DOCUMENTS.
2. HOLD PENDING FENCE DEVELOPMENT IN EMF AREA.

REVISION NOTES:

3. ADDED NODES 13 & 14, LEGEND, HOLD NOTES, ENTRIES IN REFERENCE DRAWINGS NOTE 10 AND EXISTING MONITORING WELLS. REVISED TITLE BLOCK & NOTE 6 AS NOTED AND UPDATED BACKGROUND.

NOTES

1. THIS DRAWING DEPICTS THE PHYSICAL LOCATION OF THE INTERFACE CONTROL POINTS. NODE POINTS IDENTIFY THE INTERFACE POINT BETWEEN RPP-WTP PROJECT AND DOE / DOE CONTRACTORS.
2. LOCATIONS OF INTERFACE CONTROL POINTS AND GROUNDWATER MONITORING WELLS ARE IDENTIFIED IN TWO COORDINATE SYSTEMS. WASTE TREATMENT PLANT COORDINATES IN U.S UNIT, FEET, AND WASHINGTON STATE COORDINATES IN METRIC UNIT, METERS. COORDINATES IN METERS ARE SHOWN IN PARENTHESIS.
3. ALL INTERFACE BETWEEN RIVER PROTECTION PROJECT WASTE TREATMENT PLANT AND OTHER HANFORD CONTRACTORS SHALL BE BASED ON THE WASHINGTON STATE COORDINATE SYSTEM, SOUTH ZONE, WCS83S/91 FOR HORIZONTAL DATUM AND NAVD88 FOR VERTICAL DATUM.
4. SITE FACILITIES LAYOUT IS BASED ON DRAWING 24590-BOF-P1-50-00001, RPP-WTP PLOT PLAN AND 24590-BOF-C2-C12T-00002, RPP-WTP SITE GENERAL ARRANGEMENT PLAN.
5. ** DENOTES TOP OF PIPE ELEVATION.
6. RADIOACTIVE SECONDARY SOLID MIXED WASTES. THE IHLW CANISTER AND ILAW CONTAINER PICKUP LOCATIONS ARE NOT IDENTIFIED BY COORDINATES.
7. TEMPORARY AND PERMANENT LAND PARCELS ASSIGNED TO RPP-WTP ARE IDENTIFIED ON FIGURE 1 OF ICD-9 (INTERFACE CONTROL DOCUMENT FOR LAND FOR SITING, 24590-WTP-ICD-MG-01-009).
8. NODES 1A, 1B, 2, 8A, AND 8B RELATE TO Q SYSTEMS.
9. THE WTP COORDINATES AND ELEVATIONS SHOWN IN "SCHEDULE-INTERFACE CONTROL POINTS" ARE FOR REFERENCE ONLY. EXACT LOCATION SHALL BE VERIFIED BY SURVEYING PRIOR TO USE AS INPUT TO WTP DESIGN. IF INTERFACE FEATURE IS NOT CONSTRUCTED, REFER TO DOE/DOE CONTRACTORS REFERENCE DRAWING FOR LOCATION.
10. MINOR CHANGES DUE TO WTP DESIGN EVOLUTION OF SITE FACILITIES INCLUDING NEW DFLAW FACILITIES THAT DO NOT AFFECT INTERFACE CONTROL POINTS ARE NOT IDENTIFIED AS PART OF CURRENT REVISION OF THIS DRAWING.

NODE	REFERENCE DRAWINGS	
	DOE/DOE CONTRACTORS	RPP-WTP PROJECT
1	H-14-104365 SH 1, REV 1 H-14-104895 SH 1, REV 0	24590-BOF-CS-80-00063
2	H-14-104365 SH 1, REV 1 H-14-104895 SH 1, REV 0	24590-BOF-CS-80-00063
3	H-2-829692 SH 3, REV 1 H-2-829691 SH 3, REV 3	24590-BOF-C2-C12T-00013 24590-BOF-C2-C12T-00034 24590-WTP-FSK-CON-T-02-002
4	H-2-829692 SH 3, REV 1 H-2-829691 SH 3, REV 3	24590-BOF-C2-C12T-00013 24590-BOF-C2-C12T-00033 24590-WTP-FSK-CON-T-02-002
5	H-2-829681 SH 5, REV 1	24590-BOF-CS-C12T-00001
6	H-2-829681 SH3 REV 1& SH 4 REV 1	24590-BOF-CS-C12T-00001
7	H-2-829806 SH1 REV 0	24590-BOF-CO-50-00005
8	H-2-830094 SH 1, REV 1	TBD
9	H-2-830094 SH1, REV 1	TBD
10	N/A	N/A
11	H-2-829691 SH 2, REV 1	24590-BOF-C2-C12T-00031 24590-BOF-C2-C12T-00034 24590-WTP-FSK-CON-T-02-002
12	H-2-829718 SH 1, REV 1	24590-WTP-FSK-CON-T-01-035
13	N/A	N/A
14	N/A	N/A
15	N/A	N/A
16	N/A	N/A
17	N/A	N/A
18	N/A	N/A

Checked — By: W. Curt Thomas - wdthomas — Org Name: CSA — Dated: Jul 11, 2018

Originator — By: Mark D Pyles - mdpyles — Org Name: Bechtel — Dated: Jul 11, 2018

CM — QUALITY DESIGNATOR

REV	DESCRIPTION	ORG	CHKD	RVWD	APVD	DATE
4	REVISED NODES 7A & 7B LOCATIONS			R	R	7/11/18
3	SEE REVISION NOTE 3	WCT	MDS	DT	TSK	1/28/16
2	REVISED SCHEDULE, PLAN & ADDED NORTH ARROW	DP	KLM	SG	JRB	6/26/13
0	ISSUED FOR USE	LAG	AW		SVR	11/15/02

REVISION HISTORY

ISSUED BY RPP-WTP PDC — ISSUE STAMP

PROJECT No.	24590	
SITE	HANFORD	
AREA	200E	
BUILDING No.	NA	
	BY	DATE
ORIGINATOR	L.A. GADDIS	11/15/02
CHECKER	A. WONG	11/15/02
APPROVER	S.V. RAMESH	11/15/02
REVIEWER		

CONTENT APPLICABLE TO ALARA? ☐ YES ☒ NO
ADR NO. N.A. REV:

BECHTEL

RIVER PROTECTION PROJECT
WASTE TREATMENT PLANT
2435 STEVENS CENTER PLACE
RICHLAND, WA 99354

CONTRACT No: DE-AC27-01RV14136

INTERFACE CONTROL DRAWING
DRAFT

SCALE: 1"=200'-0" | 24590-WTP-B2-C12T-00001 | REV 4

"D" SIZE - 34x22
COMPUTER GENERATED - MANUAL DESIGN CHANGES NOT PERMITTED

7/11/2018 10:23:33 AM

PLOTTED BY:mdpyles c:\work\mdpyles\dms02374\wtpb2c12t00001.dgn

FORM D_SDN.DGN 02/2009