January 23, 2020

WRPS-2000271

Mr. Bob Wilkinson, President and General Manager Mission Support Alliance, LLC P. O. Box 650 Richland, Washington 99352

Dear Mr. Wilkinson:

INTERFACE CONTROL DOCUMENT NUMBER RPP-50655, REVISION 3, BETWEEN WASHINGTON RIVER PROTECTION SOLUTIONS LLC AND MISSION SUPPORT ALLIANCE, LLC FOR THE TANK FARMS LOCAL AREA NETWORK

Please find the enclosed subject Interface Control Document (ICD), Tank Farms Local Area Network (TFLAN), RPP-50655, Revision 3. This ICD provides the requirements for interfacing the TFLAN system between Washington River Protection Solutions LLC and Mission Support Alliance, LLC.

If you have any questions, please contact me at 376-2574, or your staff may contact Mr. J. S. Van Meighem at 373-7333.

Sineerely.

John R. Eschenberg

President and Project Manager

ZMS:ACP

Enclosure:

ICD, RPP-50655, Revision. 3, between Washington River Protection Solutions

LLC and Mission Support Alliance, LLC for the TFLAN (14 Pages)

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DOCUMENT RELEASE AND CHANGE FORM

Prepared For the U.S. Department of Energy, Assistant Secretary for Environmental Management By Washington River Protection Solutions, LLC., PO Box 850, Richland, WA 99352 Contractor For U.S. Department of Energy, Office of River Protection, under Contract DE-AC27-08RV14800

N/A-2

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1. Doc No: RPP-50655 Rev. 03

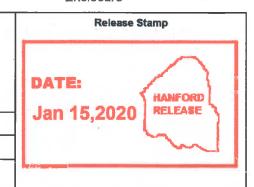
2. Title:

Interface Control Document TFLAN - ICD

3. Project Number: ⊠N/A 4. Design Verification Required:

□Yes ⊠No

5. USQ Number: ⊠ N/A 6. PrHA Number Rev. ⊠ N/A



Clearance Review Restriction Type: public

7. Approvais

Title	Name	Signature	Date
Checker	Warren, Chuck	Webb, Torry for Warren, Chuck per telecon	01/14/2020
Clearance Review	. Harrison, Sarah E	Harrison, Sarah E	01/15/2020
Document Control Approval	Manville, Kira	Manville, Kira	01/14/2020
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		telecon	
USQ Evaluator	Griebel, Scott	Griebel, Scott	01/14/2020

8. Description of Change and Justification

This revision updates (as of January 2019) the Interface Control Document (ICD) that specifies the agreement for interfacing the Tank Farms Local Area Network (TFLAN) system between Washington River Protection Solutions (WRPS) and Mission Support Alliance (MSA), using U.S. Department of Energy infrastructure managed by MSA.

Originally, only a wired system, TFLAN is subject to ongoing upgrades as wireless connectivity is added at various locations in support of different functions, now including addition of safety instrumented systems. Under the current tier one contracting arrangements for the Hanford site, the TFLAN physical network falls under both WRPS and MSA ownership and management. Maintenance and the good working order of the TFLAN is crucial to WRPS as it works to achieve production targets necessary to support operations schedules in readiness for Hanford Tank Waste Treatment and Immobilization Plant (WTP) operations.

9. TBDs or Holds

⊠N/A

10. Related Structures, Systems, and Components

a. Related Building/Facilities	□N/A	b. Related Systems	□N/A	c. Related Equipment ID Nos. (EIN)	⊠N/A
219-S		241-TMAC			
241-AN		242A-TMAC			
241-AN-271					
241-AP-271		- "			
241-AW					
241-AW-271					
241-AZ-156					
241-AZ-271					
241-AZ-702		ļ.:		ls:	
241-AZ-801A		1		1	
252-S					
2704-HV					
272-AW					
274-AW					
2750-E					
MO-268					

11. Impacted Documents – Engineering

Title

⊠N/A

Į					
ı	12	impacted	Documents	(Outside	SPF)

N/A

13. Related Documents

Document Number

□N/A

Document Number	Rev.	Title
H-14-042660 SH 001	04	INSTM NETWORK DIAGRAM TANK FARM MCS
H-14-042660 SH 002	04	INSTM NETWORK DIAGRAM TANK FARM MCS
H-14-042660 SH 003	03	INSTM NETWORK DIAGRAM TANK FARM MCS
H-14-042660 SH 005	00	INSTM NETWORK DIAGRAM TANK FARM MCS
H-14-042660 SH 006	01	INSTM NETWORK DIAGRAM TANK FARM MCS

DOCUM	ENT F	RELEASE AND CHANGE FORM	Doc No: RPP-50655 Rev. 03	
13. Related Documents			□N/A	
Document Number	Rev.	Title		
H-14-042660 SH 007	00	INSTM NETWORK DIAGRAM TANK FARM MCS		
H-14-042660 SH 008	01	INSTM NETWORK DIAGRAM TANK FARM MCS		
H-14-042660 SH 009	01	INSTM NETWORK DIAGRAM TANK FARM MCS		
H-14-042660 SH 010	01	INSTM NETWORK DIAGRAM TANK FARM MCS		
H-14-042660 SH 011	02	INSTM NETWORK DIAGRAM TANK FARM MCS		
14. Distribution				
Name	70	Organization		
Heimberger, Darrell T		INSTRUMENT	& CNTRL ENGINEERING	
Schatz, Zak M		INTERFACE,R	IISK,FACILITIES MGMT	
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RPP-50655 Revision 03

Interface Control Document TFLAN-ICD

Prepared by

Washington River Protection Solutions, LLC

Date Published January 2020



Prepared for the U.S. Department of Energy Office of River Protection

Contract No. DE-AC27-08RV14800

INTERFACE CONTROL DOCUMENT NUMBER TOC-ICD-MSC-00016, Rev. 3

between

WASHINGTON RIVER PROTECTION SOLUTIONS, LLC.

And

Mission Support Alliance, LLC

for

Tank Farms Local Area Network (TFLAN)

Mission Support Alliance Approvals:

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MSA, Information Technology	

J.H. Lacher, Director Date

MSA, Network and Computing

MSA, Network and Computing Services

Engineering

D.L. Sours, Director Date
MSA, Interface Management

T.S. Eckman, Vice President MSA, Information Management

Washington River Protection Solutions Approvals:

Washington River Protection Solutions Approvals:

M.Y. Aurah

WRPS, Process & Control Systems

Engineering

D. Heimberger, Manager

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Engineering Instrument and Control

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K.A. Downing, Manager WRPS, Project Contract

Management

W/12/19

S, Project Contract

K.J. Matteson, Manager

WRPS, Chief Information Officer

11-7-19

Date

1.0 SCOPE

1.1 System Purpose

This Interface Control Document (ICD) specifies the agreement for interfacing the Tank Farms Local Area Network (TFLAN) between Washington River Protection Solutions (WRPS) and Mission Support Alliance (MSA), using U.S. Department of Energy infrastructure (managed by MSA).

1.1 System Overview

The TFLAN supports Structures, Systems, or Components (SSC) utilized by the Tank Operations Contractor (TOC) to operate the Tank Farms and Waste Treatment facilities. These networks are part of the Engineering Technical Baseline for Vital Safety or Mission Critical systems belonging to the TOC and support systems relied upon by the Documented Safety Analysis (DSA) to provide information, defense-in-depth, or safety monitoring and control. Because TFLAN is relied upon by the TOC contractor to meet nuclear safety and technical baseline criteria, it must be tightly managed to ensures continuity of Tank Farm and Waste Treatment System Operations and ensure engineering configuration management is maintained throughout the life cycle of the system.

1.2 Background

Originally, only a wired system, TFLAN is subject to ongoing upgrades as wireless connectivity is added at various locations in support of different functions, now including addition of safety instrumented systems. Under the current tier one contracting arrangements for the Hanford site, the TFLAN physical network falls under both WRPS and MSA ownership and management. Maintenance and the good working order of the TFLAN is crucial to WRPS as it works to achieve production targets necessary to support operations schedules in readiness for Hanford Tank Waste Treatment and Immobilization Plant (WTP) operations. Further, the monitoring of safety systems and environmental equipment continues to add demand to the data transfers already handled by the network, such that the requirements of the TFLAN are increasing annually.

1.3 Reference to Memorandum of Agreement and Hanford Site Services and Interface Requirements (J.3 Matrix) Items

All work is performed within the bounds of the agreements established in MOA-00001, Memorandum of Agreement for the Performance and Payment of Services between MSA contract DE-AC06-09R114728 and WRPS contract DE-AC27-08RV14800. Details for the performance of work within the bounds of this document can be found in the Hanford Site Services and Interface Requirements Section J.3, #65 Network Services.

2.0 ROLES and RESPONSIBILITIES

WRPS Responsibilities:

- Design Authority for TFLAN, excepting components and functions under MSA jurisdiction.
- Advance notification and review opportunity to MSA of planned maintenance/ modification activity with potential to impact HLAN.
- Performs configuration management and change control for TFLAN and connected systems in order to maintain them within the WRPS Nuclear Safety Basis.
- Utilizes MSA selected site standard computer and network hardware and software unless
 project requirements cannot be met. Justification for selection on non-standard
 equipment will be provided in the Acquisition Data Processing form during the
 procurement process.
- Implements cyber security controls flowed down from MSA, within the bounds of the WRPS contract, including those tailored for Industrial Control Systems (ICS) per NIST SP800-82. When controls are tailored, WRPS and MSA will agree to the implementation of the control.
- Reports cyber security incidents or concerns to the MSA Cyber Team and work with them to resolve issues.
- Performs maintenance of TFLAN components within WRPS facilities.
- Notification to MSA of need for access or support to TFLAN portions routed through MSA facilities.
- Notification to MSA of TFLAN failures to do with MSA infrastructure when identified.
- Advance notification to MSA of planned maintenance/modification activity with potential to impact TFLAN that could impact MSA infrastructure.
- When anticipating that TFLAN changes may impact the Hanford Local Area Network (HLAN) network, facilitate a pre-job walk-down prior to modifying the TFLAN, between MSA, WRPS Process & Control System Engineering, and the WRPS organization responsible for executing the modification.
- WRPS will have a representative in attendance for the Production Readiness Review Board (PRRB) meetings, and will present TFLAN changes that may impact the HLAN network. (Note: If necessary, MSA IT Engineering will present on WRPS's behalf.)
- Provide Capital Planning and Investment Control/Technology Business Management reporting information.

MSA Responsibilities:

- Establishes the ICS Accreditation Boundary and obtains the Authorization to Operate for ICS systems, including TFLAN.
- Provides subject matter expertise for Information Technology (IT) hardware and software and makes recommendation for site standard equipment.
- Provides cyber security program direction and cyber security controls derived from NIST SP800-53.
- Provides cyber security reporting to the DOE and outside agencies.
- Maintenance of TFLAN infrastructure between Tank Farm facilities while ensuring compliance with MSA requirements.
- Manage and coordinate Hanford Site wireless frequencies.
- Preventing unauthorized access to TFLAN from the HLAN.
- Advance notification and review opportunity to WRPS of planned maintenance/ modification activity with potential to impact TFLAN.
- Notification to WRPS of need for access or support to TFLAN portions routed through WRPS facilities.
- Notification to WRPS of infrastructure and wireless failures that could affect communications between HLAN and TFLAN when identified.
- Support pre-job walk-downs requested by WRPS in support of WRPS TFLAN modifications.

3.0 INTERFACE INFORMATION

3.1 Physical Interfaces

TFLAN interface points are nominally at the termination of special circuit cables (MSA owned) to network hardware/switches (WRPS owned). These will be depicted on documents owned by both WRPS and MSA.

TFLAN interface points between WRPS and MSA are located in the following facilities. Contact points are identified in section 3.3:

FACILITY NAME	CONTROLLING ORGANIZATION	CONTACT POINT
219S	WRPS	SHIFT OFFICE and P&CS
241AN	WRPS	SHIFT OFFICE and P&CS
241AN271	WRPS	SHIFT OFFICE and P&CS
241AP271	WRPS	SHIFT OFFICE and P&CS
241AW	WRPS	SHIFT OFFICE and P&CS
241AW271	WRPS	SHIFT OFFICE and P&CS
241AY801	WRPS	SHIFT OFFICE and P&CS
241AZ156	WRPS	SHIFT OFFICE and P&CS
241AZ271	WRPS	SHIFT OFFICE and P&CS
241AZ702	WRPS	SHIFT OFFICE and P&CS
241AZ801A	WRPS	SHIFT OFFICE and P&CS
242A	WRPS	SHIFT OFFICE and P&CS
2506E2	MSA/WRPS	SHIFT OFFICE and P&CS&NOC

FACILITY NAME	CONTROLLING ORGANIZATION	CONTACT POINT
252S	WRPS	SHIFT OFFICE and P&CS
2620FERMI	WRPS	SHIFT OFFICE and P&CS
2704HV	WRPS	SHIFT OFFICE and P&CS
272AW	WRPS	SHIFT OFFICE and P&CS
274AW	WRPS	SHIFT OFFICE and P&CS
2750E	WRPS	SHIFT OFFICE and P&CS
TFLAN Wireless	WRPS	WRPS: SHIFT OFFICE and P&CS
Access Points		
MO-193	WRPS	SHIFT OFFICE and P&CS
MO-268	WRPS	SHIFT OFFICE and P&CS
MO-290	MSA	NOC
MO-979	WRPS	SHIFT OFFICE and P&CS
HLAN Wireless	MSA	NOC
Network		
Infrastructure		

MSA will configure and maintain a redundant MSA firewall appliance between TFLAN and HLAN. The purpose of the firewall is to allow TFLAN process data to be passed to the HLAN for long term storage. The redundant firewall will prevent HLAN user direct access to the TFLAN network or TFLAN process values. In general, WRPS maintains the configurable components (switches), converter components, and copper wiring and fiber-optic cabling portions of the TFLAN network within the local confines of the TFLAN backboard, and/or TFLAN cabinet. MSA will maintain the fiber optic portion of the network associated with the East/West trunk and those portions between the trunk ends and Instrument Buildings or Telecom rooms.

WRPS drawing set H-14-042660, 'Tank Farm Control and Server Network Diagram', defines the connectivity of the TFLAN at and between locations in 200W and 200E. Communications circuits routed through MSA equipment are identified on WRPS drawings by Special Circuit #'s which are labeled as 509-XXXX or 510-XXXX, where XXXX is a unique circuit number. WRPS diagrams show, at each interface location:

- equipment/component EIN
- termination identifier(s)
- interface point to MSA cable and associated Special Circuit #

Cables and field termination points will be labeled in the field. All WRPS cables will be tagged at the interface point to warn personnel to notify Tank Farms Shift Manager at 373-2689 before disconnecting.

MSA documents TFLAN logic and all associated Special Circuit drawings which are used by MSA to depict TFLAN cables and components within MSA facilities. Special circuits documents as provided by section 6.0 reference 6.

RPP-50655 Rev.03

TFLAN Interface Management, RPP-50655, Rev. 3

3.2 Administrative Interfaces

3.2.1 Permit Requirements, (If applicable)

Not applicable

3.2.2 Documentation Requirements

MOA between WRPS and MSA – MOA-00001 Section 5.0 – Work Authorization Section 7.0 – Change Management

3.2.3 Authorization Basis Requirements

Not applicable

3.2.4 Integrated Safety Management Requirements

Define Hazards – Potential to interrupt TFLAN integrity as it supports ongoing WRPS operations.

Identify Hazards – Disconnected cables or compromised equipment causes service interruption to TFLAN.

Hazard Controls – Notify WRPS so that work schedule may be adjusted or operations stopped until work completed.

Perform Work - Perform work in accordance with work instructions.

Feedback – Test network integrity after completion of work to ensure signal communications are restored. Obtain WRPS feedback that no process impact occurred and record in the work closeout process.

3.3 Interface Control

3.3.1 Access Control

For access control to each party's facilities:

- TFLAN activities requested by WRPS within MSA controlled facilities will be processed through a request to the Network Operations Center (NOC) at 376-2902.
 See section 3.1 for a complete list of MSA facilities.
- Access to WRPS facilities will be coordinated through the WRPS Central Shift Office at 373-2689 and P&CS Engineering system engineer. See section 3.1 for a complete list of WRPS facilities.
- The point of contact for MSA IT Engineering is the design authority for the INFRA-TELECOM, INFRA-CAMPUS, INFRA-OSP and/or INFRA-SC system. Complete listing of the design authorities can be found at (contact MSA Engineering).

- The point of contact for WRPS Production Operations is Process & Control System Engineering – Process Systems & Engineering Support Manager and can be found at (contact WRPS Process and Control System Engineering (P&CSE).
- Facility access requests should be made as early as possible to ensure appropriate resource scheduling can be met.
- Emergency requests should be identified as such, so that proper priority classification can be assigned.
- Each Party will use the applicable work release process of the facility in which work will be conducted.

3.3.2 TFLAN Wireless Access Points

At the Tank Farm Boundaries, wireless access points have been set up to collect signals from instrumentation and control system components within the Farm. Because of their importance to maintaining compliant nuclear operations, these devices will be configured, managed, and maintained by WRPS. Examples of these include units by Emerson and Prosoft which accumulate Tank temperatures or safety system indications.

When the TFLAN wireless access point utilize Wi-Fi frequencies, WRPS and MSA will coordinate efforts and utilize separate wireless channels from HLAN and other wireless network traffic where practical and technically feasible. Frequency management is the responsibility of MSA, and the provision of separate channels for WRPS safety, control and monitoring system wireless network traffic will take priority over the provision of 5 GHz HLAN access in these farm.

3.3.3 Wireless Infrastructure

MSA will provide the capability for site wide wireless infrastructure over the 2.1 GHz licensed wireless spectrum. This infrastructure can be used for systems which serve Tank Farm Operations, Engineering, and Maintenance. An example is the system of reader boards, annunciators, and speakers which convey important information to workers of the Farm status. The 2.1 GHz infrastructure may also be used for TFLAN applications in remote locations where other wireless access points are not available.

3.3.4 HLAN Wireless Infrastructure

WRPS may utilize the MSA provided HLAN Wi-Fi when this meets Project requirements. When used, WRPS will collaborate with MSA to ensure the use of the system will not impact general user wireless system performance.

3.3.5 Administrative Controls

- WRPS Process & Control System Engineering (P&CSE) and MSA are to engage in regular meetings to discuss and resolve WRPS safety, control and monitoring system wireless network issues in the tank farms.
 - a. These meetings should take place at least monthly, with more frequent meetings held during initial deployment and major changes to WRPS safety, control and monitoring system wireless network clients.

- b. These meetings shall include discussion of any new requests for Tank Farm wireless frequency use received by the MSA frequency coordinator and agreement between WRPS P&CSE and MSA whether these requests should be granted.
- c. These meetings shall discuss any planned changes to wireless access point hardware / major firmware updates and any testing by MSA & WRPS P&CSE to confirm that WRPS safety, control and monitoring system wireless network clients will be operable after the modification.
- d. These meetings will also include discussion of the use of new technology / frequencies for future wireless infrastructure upgrades.
- 2. The MSA Network Operations Center is to notify WRPS Central Shift Office and WRPS P&CSE of any unavailability of MSA owned TFLAN special circuit infrastructure.
- 3. MSA to perform on site analysis of wireless use in the tank farms as requested by WRPS, and to notify WRPS P&CSE of any unauthorized wireless frequency use detected. MSA will use portable wireless network detection/analysis tools operated from outside the DST farm fence lines to detect unauthorized wireless frequency use at the time of the test.
- 4. WRPS P&CSE does not expect to be notified of minor HLAN network modifications where there is no expectation of a disruption to TFLAN.
- 5. MSA will schedule minor and major HLAN modification and updates where there is a possible disruption in the TFLAN to HLAN interface and or Special Circuits utilized by WRPS. WRPS P&CSE will have a representative in attendance (either in person or on conference call) for PRRB meetings.
- 6. The WRPS Central Shift Office and WRPS P&CSE PRRB representative will be notified of adhoc minor and major HLAN modification and updates where there is a possible disruption in the TFLAN to HLAN interface or Special Circuits utilized by WRPS prior to performing the work. WRPS Central Shift Office and P&CSE have the authority to delay these updates if a critical activity is being performed (e.g., a waste transfer is underway or due to start).
- 7. MSA shall maintain sufficient spare parts on hand to restore TFLAN to HLAN interface equipment from failure.
- 8. MSA shall evaluate any potential impacts on TFLAN wireless network traffic from other site contractors with these contractors and WRPS P&CSE to resolve these impacts by means such as controlling which frequencies each contractor may access.

3.4 Acceptance Criteria

Following any TFLAN changes WRPS shall test network integrity after completion of work to ensure signal strength is restored, permitting use of the TFLAN for operations support to resume.

3.5 Closeout Criteria

The completed work package used to perform the work which impacted the TFLAN shall be copied and transmitted to the other party.

3.6 Quality Assurance (QA)

The Requesting Contractor shall have the right to inspect and test all direct-funded services, at all places and times. Inspections and tests will not unduly delay the work, and the costs for related efforts are reimbursable by the Requesting Contractor.

3.7 Assumptions

- Neither party may change the others documentation.
- The interface point, as defined on both sets of documentation, shall have the same identifying notation, based on Special Circuit #'s.
- In the event of TFLAN failure, WRPS will work to identify cause and will notify MSA
 engineering for maintenance support if failure is determined to be within MSA
 jurisdiction.

3.8 Schedule

This ICD is provided to cover unscheduled system access and maintenance activities and provides the framework for notification of such work to each party affected, per MOA-00001.

4.0 CONFIGURATION MANAGEMENT

WRPS and MSA shall maintain updates to the documents listed in Section 6.0 References in accordance with their respective configuration management procedures for engineering document change control. Both parties shall coordinate with each other where changes are made which impact the other, for example, by inclusion of each other in the review/approval portion of the Engineering Change Notice form.

4.1 Summary Table

This table is populated with the drawings/sketches developed by WRPS and MSA for the facilities identified in section 3.1.

Configuration Defining Documents Table

Org. A	Document	Org. B	Document Title/No.
Responsibility	Title/No.	Responsibility	
WRPS	H-14-042660	MSA	Refer to Section 6.0 reference 6.

4.2 Interface Change Control

Draft or update the ICD in accordance with Interface Management procedure, TFC-BSM-CP_CPR-C-17, using Attachment C as a format guide.

Release the approved ICD as an engineering document in accordance with TFC-ENG-DESIGN-C-25, Technical Document Control procedure.

5.0 ISSUES

N/A

6.0 REFERENCES

- 1) MSC CONTRACT NO. DE-AC06-09RL14728
- 2) WRPS CONTRACT NO. DE-AC27-08RV14800
- 3) MOA-00001, MOA between WRPS and MSA
- 4) TFC-BSM-CP_CPR-C-17, Interface Management procedure
- 5) TFC-ENG-DESIGN-C-25, Technical Document Control procedure
- 6) MSA TFLAN LOGIC Drawings which identifies TFLAN Special Circuit numbers
- 7) HNF-60542 Rev 00 -- UNLICENSED WI-FI- USAGE
- 8) H-14-042660, WRPS, Tank Farm Control and Server Network Diagram
- 9) HNF-52725, Hanford Accreditation Boundary System Security Plan.