Markings Removed

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	36
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.002
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	40	RHTF	Tanks 1-6

Repair Description	Tank sample piping open to the atmosphere. If the isolation valves were bumped open, this could lead to fuel spill. Provide threaded caps on tank sample piping downstream of isolation valves.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 650
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Threaded caps on tank sample piping (b) (3) (A) nstalled.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	38
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.004
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	40	RHTF	Tanks 2, 3, 4, 6, 15 & 16

Repair Description	The DBB valves are equipped with a (b) (3) (A) The end of the valves is not secured with a pipe plug. Provide threaded plug on ball valve drain. Tank 2 – (b) (3) (A) DBB; Tank 3 – (b) (3) (A) DBBs; Tank 4 – (b) (3) (A) DBBs; Tank 6 – (b) (3) (A) DBB; Tank 15 – (b) (3) (A) DBB; Tank 16 – (b) (3) (A) DBB	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 650
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Threaded plug on ball valve drain installed.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	52
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.039
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	20 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	43	UGPH	Various

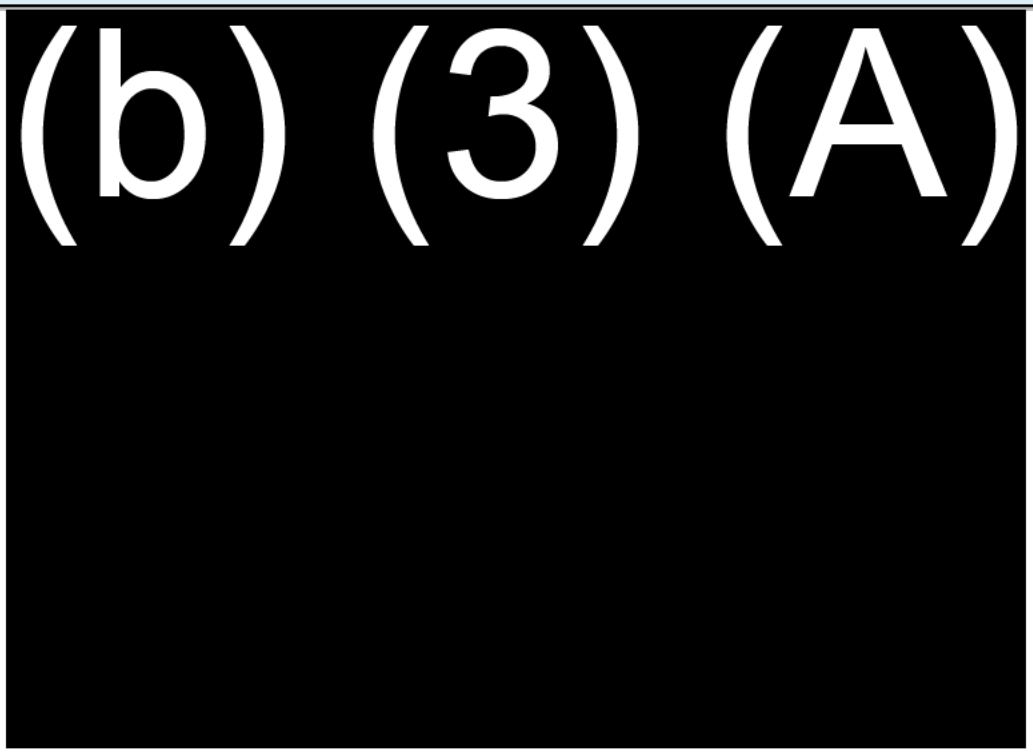
Repair Description	It was noted that several of the pressure transducers are past due for calibration. (Calibration due date of 10/23/18). Perform calibration of all temperature and pressure devices in the UGPH.	Source Contract Reference	SP4702-21-F-0013
Description of Contractor QC Method(s) Used	Use of written Inspection Test Procedure and applicable calibration instruments.	Contractor QC Records Reviewed	Inspection form.
Description of QA Validation and Observations	Calibration completion was checked by SGH during NOV 22 site visit. Independently checked by JTF-RH/QV team 06 MAR 23. Final acceptance by government. Date: 21 SEP 2022		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments
Calibration completed by (b) (4)

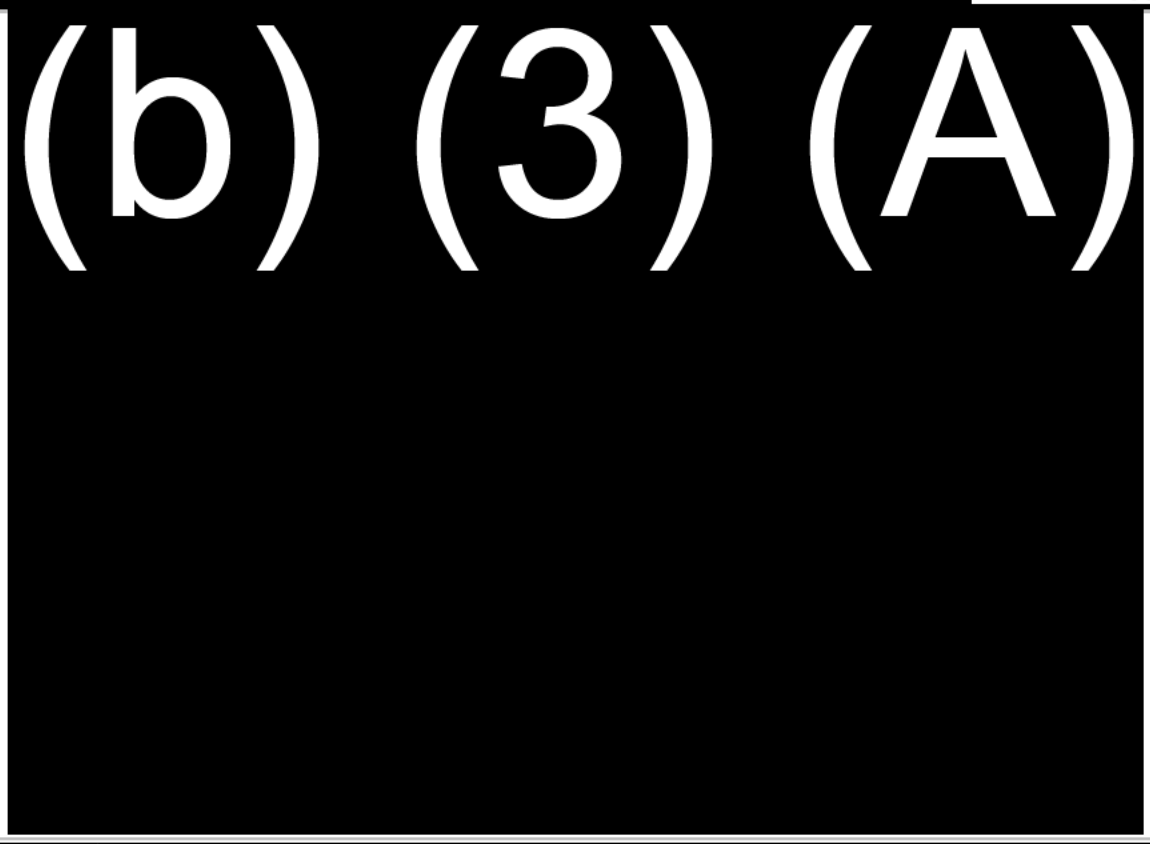
CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	20 MAR 2023



(b) (3) (A)

ue 9/21/2023



(b) (3) (A)

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:**	NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual		
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS	
	Model Number:	7MF4033-1E10-1NC7-Z	
	Serial Number (if applicable):	IX-F318-9039432	
	Tag Number:	(b) (3) (A)	
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.		

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6) _____ **Date: *(DDMMMYYYY):*** 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039434
	Tag Number:	(b) (6)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6) _____ **Date: *(DDMMMYYYY):*** 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1EA10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039436
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	(b) (3) (A)
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6) _____ **Date:** ***(DDMMMYYYY):*** 21-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1EA10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039438
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	(b) (3) (A)
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6) _____ **Date:** ***(DDMMMYYYY):*** 21-Sep-2022

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	80
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.003
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	47	RHTF	Tanks 7, 8, 9, 10, 11, 12, 16 &20

Repair Description	Tank sample piping (b) (3) (A) are open to the atmosphere. If the isolation valves were to be bumped or inadvertently forced open, this could lead to an accidental fuel spill. Provide threaded caps on tank sample piping (b) (3) (A)	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 650
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Threaded caps on tank sample piping downstream of isolation valves installed.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	81
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.005
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	47	RHTF	Tank 16

Repair Description	HPV on Tank 16 jet fuel piping (b) (3) (A) (b) (3) (A) is missing a threaded plug. Some fuel was noted inside the valve body. Provide threaded plug on high point vent.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 650
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Threaded plug on HPV, Tank 16 jet fuel piping (b) (3) (A) installed.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	82
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.006
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	47	RHTF	Tanks 7-10

Repair Description	The DBB valves are equipped with a drain valve in lieu of a plug. The end of the valves is not secured with a pipe plug. Install plugs. Tank 7 – (b) (3) (A) DBBs; Tank 8 – (b) (3) (A) DBB; Tank 9 – (b) (3) (A) DBB; Tank 10 – (b) (3) (A) DBB	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 650
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

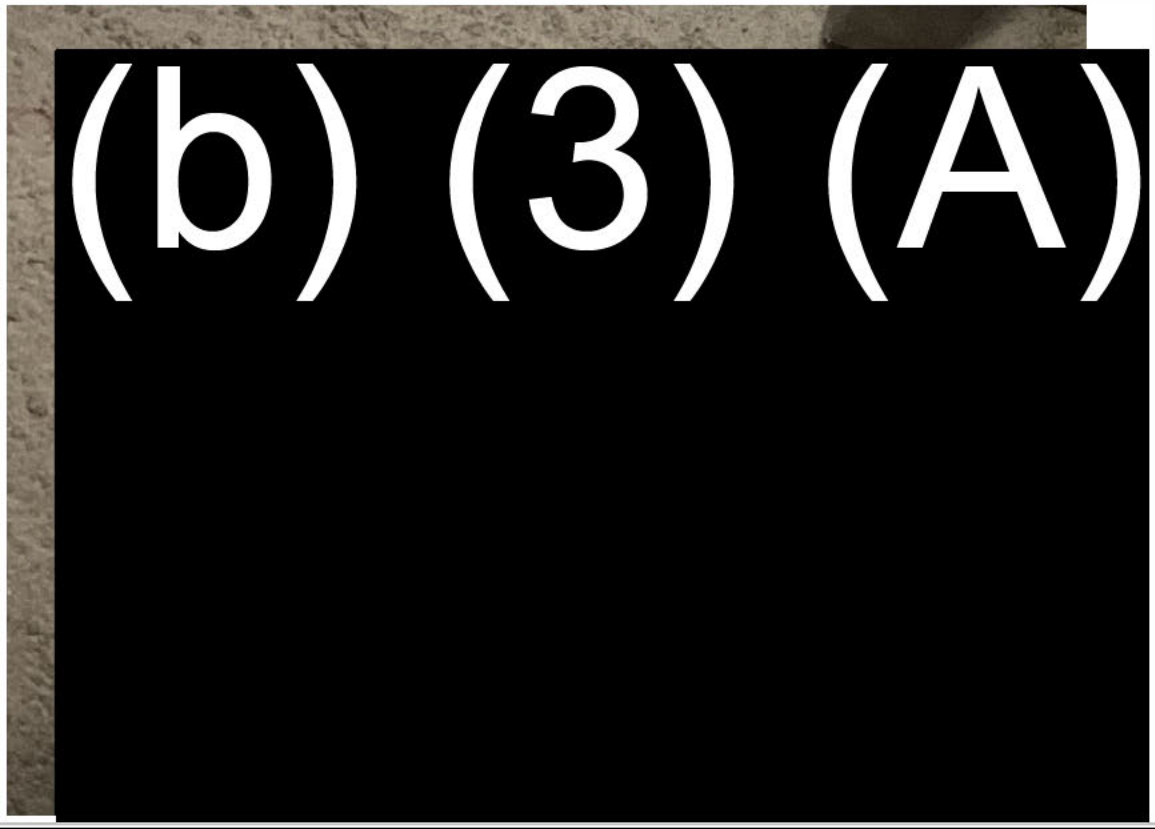
Comments

Threaded plug on DBB valve installed.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)



QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	083
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.014
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	48	Harbor Tunnel	(b) (3) (A)

Repair Description	One indication was observed approximately (b) (3) (A) inches from setup on the (b) (3) (A) JP-5 pipeline. Remove pipe wrap and inspect the pipeline at these locations.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

Naval Facilities Engineering Systems Command
Engineering and Expeditionary Warfare Center
1000 23rd Avenue
Port Hueneme, CA 93043

Red Hill Bulk Fuel Storage Facility
Pipeline Repairs for Defuel
08 Mar 2023

Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment

Ref: (a) API Standard 570 *Piping Inspection Code: In-service Inspection, Rating, Repair, and Alteration of Piping Systems*, 4th Ed, Feb 2016

(b) API Recommended Practice 1183 *Assessment and Management of Pipeline Dents*, 1st Ed, Errata 1, Jan 2021

(c) API 579-1/ASME FFS-1 *Fitness for Service*, Dec 2021

(d) NAVFAC EXWC HAR 2022-2301, 19 Oct 2022

Encl: (1) FFS New Repair Actionable Summary, 08Mar2023

(2) Comprehensive Repair List Table, 08Mar2023

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

F-24 and JP-5 pipelines and pipe stands were also screened for concerns of mechanical and structural integrity using principles of API 570.

Enclosure (1) details FFS assessment results. Enclosure (2) provided details on RMMR-recommended actions.

Assessment Assumptions

1. Service conditions of gravity transfer defuel
2. Assessment limits: Red Hill and the Underground Pumphouse
3. Indications cleared at lowest of Level 2 or Level 3 FFS
4. Temporary repairs acceptable for service conditions
5. Recommendations based on information known as of the date of this document. Should conditions change or further information become available, these recommendations are subject to change.

FFS Assessment Sources of Indications

Source	Year	Title
EEI	2017	Pipeline Inline Inspection
EEI	2019	Update to FFS, (b) (3) (A) Pipelines
NDAA	2022	Fuel Transfer System Inspection Report
EEI	2022	Pipeline API Integrity Screening Survey

ID	Source	Product	Source ID Cross Ref	SGH Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
[redacted]															
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ID	Source	Product	Source ID Cross Ref	SGH Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
[redacted]															
[redacted]	[redacted]		[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		
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[redacted]	[redacted]			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]

ID	Source	Product	Source ID Cross Ref	SGH Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
[redacted]															

[redacted]

ID	Source	Product	Source ID Cross Ref	SGH Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
(b) (3) (A), (b) (5)															

ID	Source	Product	Source ID Cross Ref	SGH Cross Ref	Geographic Area	Loc Reference	Description	Urgency/Priority	Repair	Repair Rec	Rationale	Contract Disposition	Under Contract	Repair Comp	RAC
(b) (3) (A), (b) (5)															
[redacted]															

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	89
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.047
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	20 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	52	UGPH	Various

Repair Description	It was noted that several of the pressure transducers are past due for calibration. (Calibration due date of 10/23/18). Perform calibration of all temperature and pressure devices in the UGPH.	Source Contract Reference	SP4702-21-F-0013
Description of Contractor QC Method(s) Used	Use of written Inspection Test Procedure and applicable calibration instruments.	Contractor QC Records Reviewed	Inspection form.
Description of QA Validation and Observations	Calibration completion was checked by SGH during NOV 22 site visit. Independently checked by JTF-RH/QV team 06 MAR 23. Final acceptance by government. Date: 21 SEP 2022		

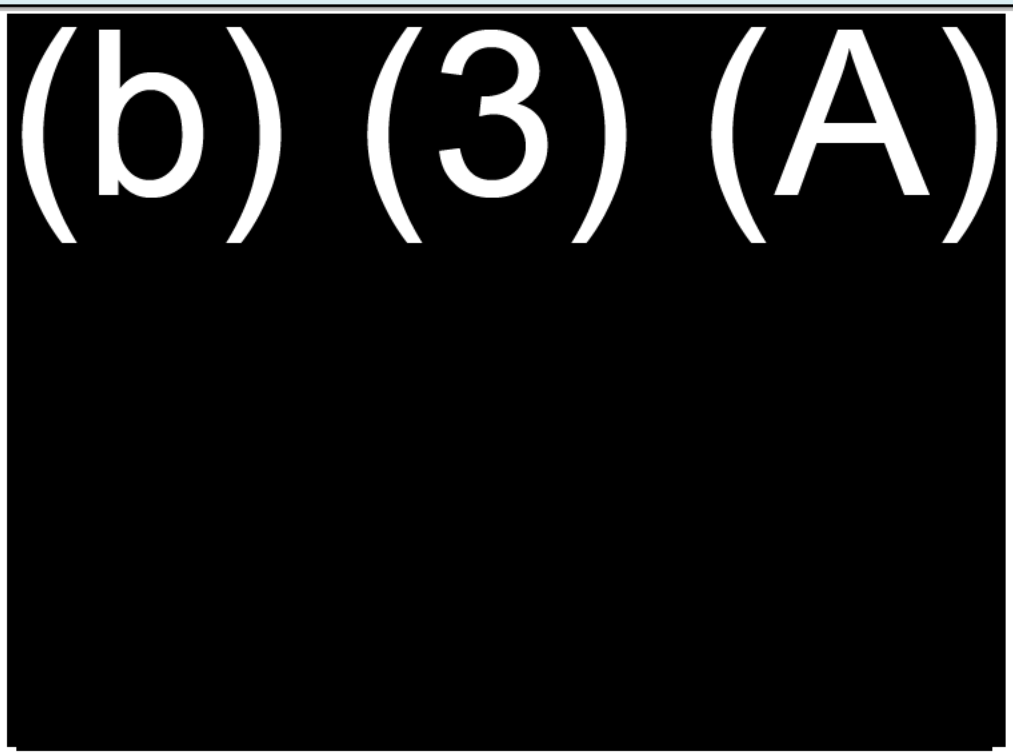
Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Calibration completed by (b) (4)

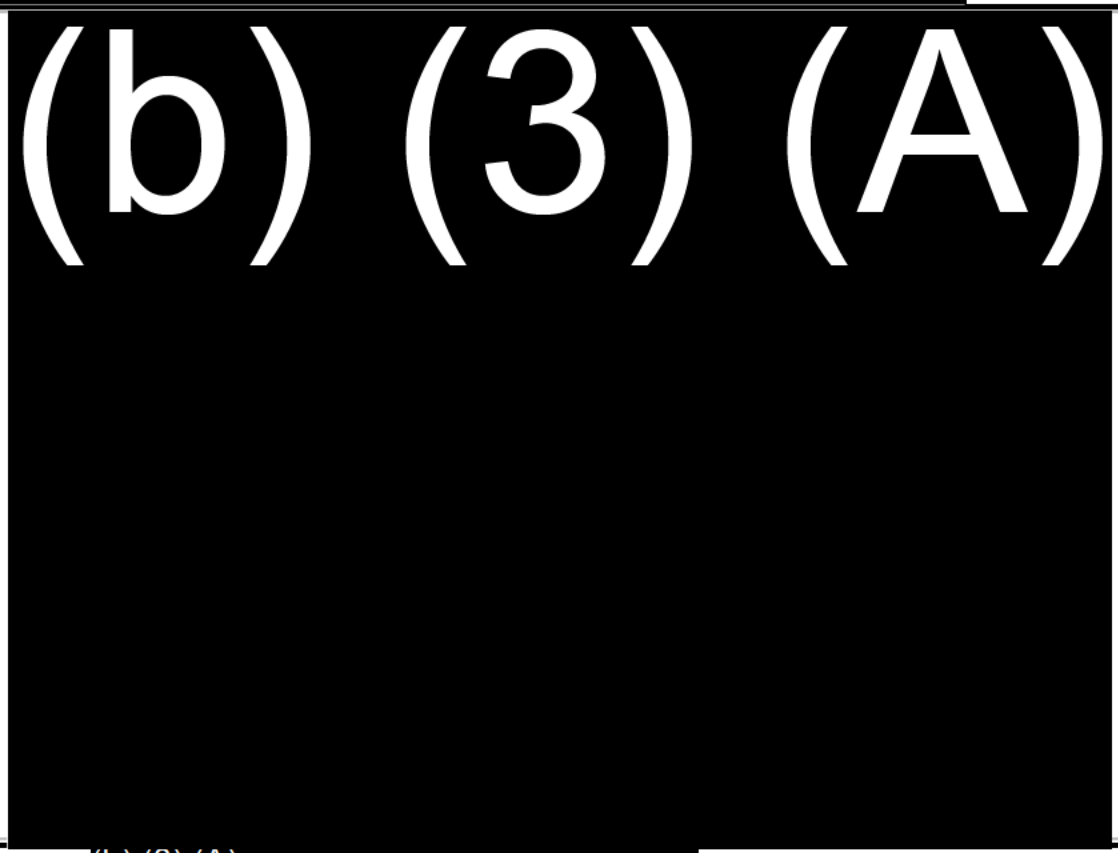
CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	20 MAR 2023



(b) (3) (A)

n Due 9/21/2023



(b) (3) (A)

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039428
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A)
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6) _____ **Date: *(DDMMMYYYY):*** 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039429
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A)
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039431
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A)
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1EA10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039435
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	(b) (3) (A)
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)
Maintenance Technician: (b) (6)	**Date: *(DDMMMYYYY):*** 21-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:**	NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual		
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS	
	Model Number:	7MF4033-1EA10-1NC7-Z	
	Serial Number (if applicable):	IX-F318-9039437	
	Tag Number:	(b) (3) (A)	
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.		

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center
ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	(b) (3) (A)
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 21-Sep-2022

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	097
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.077
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	52	Harbor Tunnel	(b) (3) (A)

Repair Description	(b) (3) (A), (b) (5)	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A

Description of QA Validation and Observations

JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment

Final acceptance by government. Date: 08 MAR 2023

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	104
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.076
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	20 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	62	UGPH	Various

Repair Description	It was noted that several of the pressure transducers are past due for calibration. (Calibration due date of 10/23/18). Perform calibration of all temperature and pressure devices in the UGPH.	Source Contract Reference	SP4702-21-F-0013
Description of Contractor QC Method(s) Used	Use of written Inspection Test Procedure and applicable calibration instruments.	Contractor QC Records Reviewed	Inspection form.
Description of QA Validation and Observations	Calibration completion was checked by SGH during NOV 22 site visit. Independently checked by JTF-RH/QV team 06 MAR 23. Final acceptance by government. Date: 21 SEP 2022		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

Calibration completed by (b) (3) (A)

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	20 MAR 2023

(b) (3) (A)

(b) (3) (A)

Due 9/21/2023

(b) (3) (A)

(b) (3) (A)

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039398
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
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	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
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Naval Information Warfare Center
ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039430
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
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	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
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Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1E10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039433
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
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Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 16-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1EA10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039399
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A)
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	(b) (3) (A)
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 21-Sep-2022

Naval Information Warfare Center ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Client: DLA		**Site:** NAVSUP FLC Pea
Test Equipment Required:	1. Hydraulic/Pneumatic Hand Pump 2. Fluke 725 Tester 3. Fluke 700P07 Pressure Module 4. Teflon tape 5. Slop Buckets 6. small screwdriver 7. hand tools 8. 3-way manifold 9. P&ID's 10. Manufacturer O&M Manual	
Device: Pressure Indicating Transmitter	**Manufacturer**	SIEMENS
	Model Number:	7MF4033-1EA10-1NC7-Z
	Serial Number (if applicable):	IX-F318-9039400
	Tag Number:	(b) (3) (A)
Objective:	Inspect PIT. Verify field calibration and re-calibrate if needed.	

Test Set-up:	2. Coordinate all testing with site Operations personnel.	
Procedure:		
1	**Trace** the conduit to and from the device to the nearest junction box or RIU/TIU/PCP (I.e., visible, w/in similar classification area, on associated equipment pad, etc.), and locate all associated conduit fittings. (I.e., EYSs, GUAs, couplings) If applicable, inspect MI cable for general condition, tightness, does not exceed bend radius, and has a drip/expansion loop. Ensure all unused conduit entries on the PIT have an explosion-proof plug installed. • **Document** any conduit, conduit fittings, and/or MI cable for damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
2	**Trace** all stainless steel process tubing from the PIT to the pipeline. Inspect all associated valves, couplings and fittings for fuel leaks. Check for proper infrastructural support of the tubing (tubing straps, supports) to ensure tubing is not sagging or unsupported. **Document** any stainless steel tubing, valves, and fittings damage or corrosion in the COMMENTS section of this Inspection Test Procedure Form—call in a CORRECTIVE ACTION TROUBLE TICKET for any necessary corrective actions.	☑
3	As applicable, **remove** the access cover/threaded plug of the conduit seal to verify the seal is filled with hardened sealing compound to the extent that all electrical conductors and conduit penetrations to and from the seal are encased: • ***If sealed**, document findings in COMMENTS section of this Inspection Test Procedure, and reinstall plug.* • ***If NOT sealed**, document findings in COMMENTS section of this Inspection Test*	☑

	Procedure, reinstall plug, and call in a CORRECTIVE ACTION TROUBLE TICKET for necessary corrective actions	
4	Verify barcode/AFHE device tag labeling are correct and intact.	☑
5	Visually inspect the PIT for corrosion and general condition. Make notes in the comments as to the condition of the PIT. Ensure the PIT LCD contrast is clear, legible, and is free of condensation or dust.	☑
6	Open electrical enclosure and inspect & tighten all electrical connections. Replace worn or damaged parts if required. Ensure all cables and wires are labeled correctly.	☑
7	Close PIT Isolation valve.	☑
8	If PIT is equipped with a manifold, skip to step 9. Otherwise carefully remove the plug in the tee located between the PIT and the isolation valve.	☑
9	Connect the test manifold to the tee using appropriate piping or tubing connections.	☑
10	Connect the hand pump and the Fluke 700P07 Pressure Module to the manifold.	☑
11	Connect the Fluke 700P07 Pressure Module to the Fluke 725 Calibrator.	☑
12	Start pumping the hand pump and stop pumping when pressure equals 0%, 50%, and 100% of the range. Record the pressure reading of the Fluke 725 and PIT local indicator below. • 0% Equivalent PSIG/Inch Hg. i.e. low end of equipment range. • 0% PIT Reading • 0% Calibrator Reading • 50% Equivalent PSIG/Inch Hg. i.e. mid-point of equipment range. • 50% PIT Reading • 50% Calibrator Reading • 100% Equivalent PSIG/Inch Hg. i.e. high end of equipment range • 100% PIT Reading • 100% Calibrator Reading	(b) (3) (A) [redacted]
13	Using the hand pump, pump the pressure to trigger the High and High-High alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
14	Using the hand pump, create a vacuum to trigger the Low and Low-Low alarms of the PIT. Coordinate with the control center to ensure all alarms, yellow and red frames around the PIT, and trending lines functioned correctly on the PIT Detail screen.	☑
15	Use the Calibration Check Forms to verify the deviation is within tolerance.	☑
16	Fill out and affix the new calibration/inspection tag/sticker to the appropriate device with the appropriate tag number, date completed, next due date, and technician's initials.	☑
17	Verify all alarms and PIT graphics are normalized and all PIT events and alarms were properly logged to the ARG.	☑

Naval Information Warfare Center
ATLANTIC

AFHE SYSTEM MAINTENANCE INSPECTION TEST PROCEDURES
Pressure Indicating Transmitter

Comments:	(b) (3) (A)
Acceptance Criteria: All steps checked above. Accept or Reject (Choose which applies.)	Accept
Signature:	(b) (6)

Maintenance Technician:

(b) (6)

Date: *(DDMMMYYYY):* 21-Sep-2022

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	122
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.046
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	68	RHTF	Main Sump

Repair Description	The (b) (3) (A) DBB on the sump pump discharge piping within (b) (3) (A) is missing a body cavity relief handle and does not have a plug. Provide handle and plug.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 650
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

(b) (3) (A)

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	125
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	FOR.055
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	21 FEB 2023
QV Engineer	(b) (6)	Phone (b) (6)	Email (b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
NDAA	69	(b) (3) (A)	(b) (3) (A)

Repair Description	Condition of (b) (3) (A) FOR pipeline is unknown. Per the 2021 CP Report, this section of (b) (3) (A) pipe had ineffective magnesium anodes. Perform borescope examination of the (b) (3) (A) segment to assess internal condition of the pipeline.	Source Contract Reference	Contract: N3943020D2242 Task Order: N3943022F4333
Description of Contractor QC Method(s) Used	Engineering report standard of care.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	Inspection report reviewed by Prime Contract engineer. NAVFAC EXWC reviewed and concurred with findings. Final acceptance by government. Date: 17 FEB 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

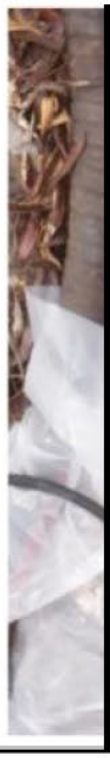
Comments

(b) (4) was retained by NAVFAC EXWC to perform an internal inspection of an (b) (3) (A) of FOR Piping using borescope technology at Joint Base Pearl Harbor Hickam (JBPHH).

None of the anomalies identified were significant enough for the piping to be removed from service, and calculations show adequate service life and pressure capacity for continued used well past the expected Defuel Operation completion date.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	21 FEB 2023



(b) (3) (A)

(b) (3) (A)

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	145
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.001
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals at concrete wall penetrations for (b) (3) (A) ing. Replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	146
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.002
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seals d replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals (F-24 (bottom); JP-5 (center); F-76 (top))

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	147
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.003
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals d replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	148
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.004
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

(b) (3) (A)

Repaired pipe seals (JP-5 (left); F-76 (right))

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	149
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.00x
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals at concrete wall penetrations for (b) (3) (A) piping. Replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	150
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.006
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	151
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.007
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals nd replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals ((b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	152
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	JP5.HP.008
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A), (b) (6)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	153
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.001
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals at concrete wall penetrations for (b) (3) (A) ing. Replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	154
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.002
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	155
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.003
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	156
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.004
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals ((b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	157
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.005
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	Trench Cover B0

Repair Description	(b) (3) (A) failed boot seals at concrete wall penetrations for (b) (3) (A) ing. Replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	158
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.006
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone (b) (6)	Email (b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	2	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	159
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.007
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	160
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.HP.008
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) failed boot seals and no mechanically adjustable astomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Typical seals before repair

(b) (3) (A), (b) (6)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	161
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.001
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) failed boot seals at concrete wall penetrations for (b) (3) (A) ing. Replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	162
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.002
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone (b) (6)	Email (b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seals and replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Typical seals before repair

(b) (3) (A)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	163
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.003
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) failed boot seals and no mechanically adjustab astomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seal d replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
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Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	164
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.004
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone (b) (6)	Email (b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seals d replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	165
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.005
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals at concrete wall penetrations for (b) (3) (A) ing. Replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
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Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

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	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	166
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.006
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seal nd replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
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Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

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CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	167
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.007
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023

QV Engineer	(b) (6)	Phone	(b) (6)	Email	(b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable stomeric seals at concrete wall penetration for (b) (3) (A) iping. Provide mechanically adjustable elastomeric seal d replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
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Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel

(b) (3) (A)

Repaired pipe seals	(b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	168
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F76.HP.008
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	29 MAR 2023
QV Engineer	(b) (6)	Phone (b) (6)	Email (b) (6)

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
UGPH	3	(b) (3) (A)	(b) (3) (A)

Repair Description	(b) (3) (A) failed boot seals and no mechanically adjustable elastomeric seals at concrete wall penetration for (b) (3) (A) piping. Provide mechanically adjustable elastomeric seal d replace boot seals.	Source Contract Reference	47QSHA18D000Y W912DY21F0025 Service Order 647
Description of Contractor QC Method(s) Used	Methods outlined in detail in QCP.	Contractor QC Records Reviewed	QCP and Daily Reports.
Description of QA Validation and Observations	Methods outlined in QASP. Final acceptance by government. Date: 20 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	See Page 2.	◉	Yes	○	No

Comments

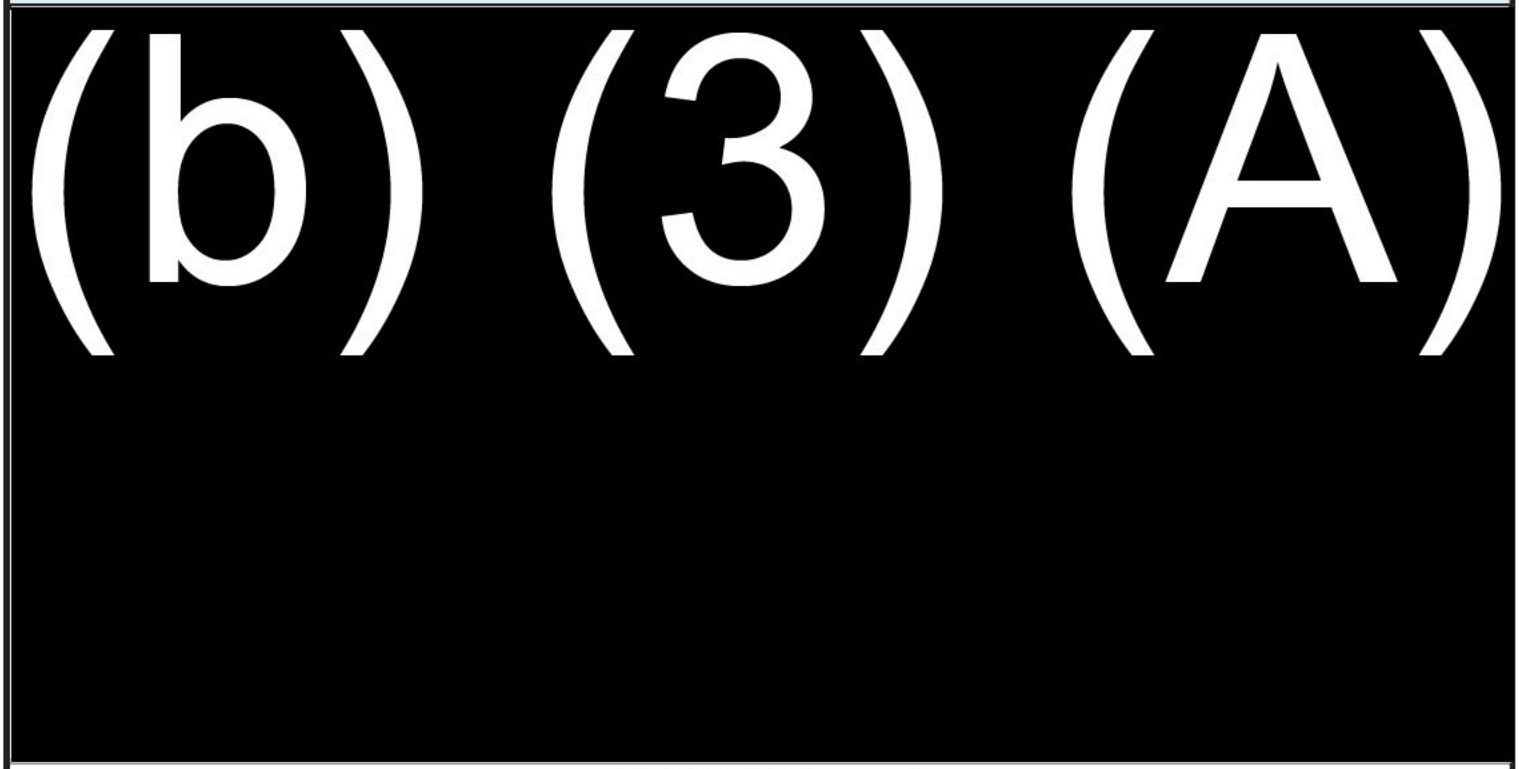
EXWC approved the use of flexible sealant in place of mechanically adjustable elastomeric seals in cases where there is not sufficient room to place mechanical seals. USACE QA and ET were on site to verify that the mechanical seals could not be installed due to piping not being centered in casings.

CERTIFICATION

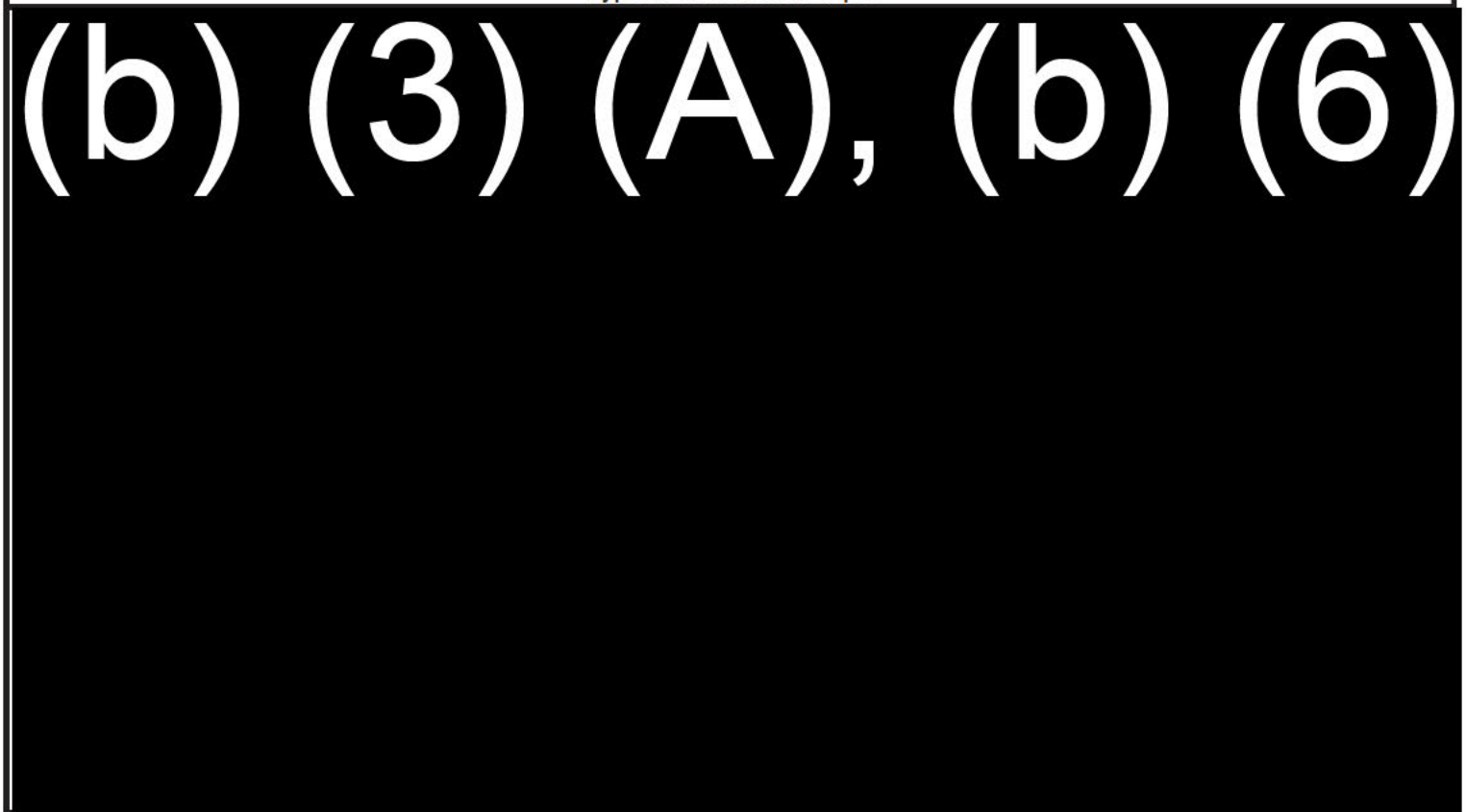
I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	29 MAR 2023

QUALITY ASSURANCE VALIDATION REPORT

Red Hill Bulk Fuel Storage Facility Defuel



Typical seals before repair



Repaired pipe seals (b) (3) (A)

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	170
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.02
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	73	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) (A) remove coating and inspect. Fitness for service (FFS) assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	171
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.03
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	73	Tank Gallery	(b) (3) (A)

Repair Description	Remove (b) (3) (A) of coating and inspect. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	172
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.04
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	173
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.05
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	174
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.06
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	175
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.07
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	176
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.08
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	177
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.09
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	178
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.10
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Compl			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	179
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.11
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	180
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.12
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	181
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.13
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	EXWC	(b) (3) (A)	(b) (3) (A)

Repair Description	Dent on long seam. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	185
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.17
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAA, 72	Tank Gallery	(b) (3) (A)

Repair Description	(b) (3) patch plate on (b) (3) (A) ee, Tanks (b) (3) (A) FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023

QUALITY VALIDATION (QV) REPORT

Red Hill Bulk Fuel Storage Facility Defuel

Validation Firm	HDR Environmental, Operations and Construction, Inc.	Repair No.	186
Address	9781 S. Meridian Blvd., Suite 400, Englewood, CO 80112	Repair ID	F24.A22.18
Contract No.	FA890315D0007, D.O. FA8903-19-F-0027	Report Date	28 MAR 2023
QV Engineer	(b) (6)	Phone	(b) (6)
Email	(b) (6)		

VALIDATION

Source	PDF Page No.	Facility Geographic Area	Location Reference
EXWC	NDAA, 44	Harbor Tunnel	(b) (3) (A)

Repair Description	Two areas of pitting under the pipe wrap. FFS assessment and repair if necessary.	Source Contract Reference	N3943020D2225 TO N3943021F4207
Description of Contractor QC Method(s) Used	N/A - no work provided.	Contractor QC Records Reviewed	N/A
Description of QA Validation and Observations	JTF-RH reviewed and approved EXWC - Comprehensive Repair List Recommendations Update: Pipeline Fitness for Service Assessment Final acceptance by government. Date: 08 MAR 2023		

Rework Needed				Photo Record Attached	Repair Work Validated as Complete			
○	Yes	◉	No	N/A	◉	Yes	○	No

Comments

Localized Fitness for Service (FFS) assessments were conducted at specific indications on Red Hill F-24 and JP-5 transfer pipelines. Selection of indications was limited to mechanical integrity principles under assumed service conditions, and leveraged previous integrity management work.

FFS performed, no repair required for defuel.

Reference: EXWC - Comprehensive Repair List Recommendations / Pipeline Fitness for Service Assessment

CERTIFICATION

I hereby certify that repair work validated in this report was personally substantiated and this report is true.	QV ENGINEER SIGNATURE	(b) (6)
	DATE	28 MAR 2023