VISUAL INSPECTION OF FSV ISFSI COOLING INLETS AND OUTLETS/TORNADO CLAMP VERIFICATION	Identifier: TPR-5593 Revision*: 18 Page: **1** of 13

INTEC	Technical Procedure	For Additional Info: http://EDMS	Effective Date: 05/22/14

Manual: : INTEC FSV3 **USE TYPE 2** Change Number: 341775

*The current revision can be verified on EDMS.

1. INTRODUCTION

1.1 Purpose

Periodic visual inspection of the Fort St. Vrain (FSV) Independent Spent Fuel Storage Installation (ISFSI) cooling inlet and outlet screens to ensure proper cooling of the fuel and visual verification of the tornado clamp indicating lights ensures operation of the tornado restraint clamps.

1.2 Scope and Applicability

The FSV ISFSI Building must be visually inspected at least once every seven days to ensure that the inlet and outlet screens are not obstructed. The visual inspection is required by FSV ISFSI Technical Specification (TS) Surveillance Requirement (SR) 3.1.1.1. This procedure specifies the actions necessary to visually inspect the cooling inlet and outlet screens. (SR 3.1.1.1)

The Red and Orange lamps on the FSV ISFSI crane control pendant indicate, among other things, that the tornado restraint clamps on the crane bridge rails and trolley, respectively, are provided with hydraulic pressure and are set, when the crane is not in use. This inspection is performed weekly as required by FSV ISFSI SAR 9.2.4, Table 9.2-1.

The FSV ISFSI crane control pendant has been removed; therefore the red and orange lamps no longer exist. Steps calling for visual inspection of the lamps and reporting results have been marked "N/A." Information regarding inspection of the lamps has been retained in the procedure to ensure institutional knowledge is not lost if the pendant is placed on the FSV ISFSI crane in the future.

2. PRECAUTIONS AND LIMITATIONS

2.1 Personnel must follow the applicable hazard mitigations detailed in Appendix C, "Procedure Hazard Analysis."

2.2 Any deficiency, hazard, or abnormal condition noted during the performance of this inspection procedure must be entered in Appendix A and reported verbally to the FSV ISFSI Manager or Emergency Coordinator (EC).

2.3 The FSV ISFSI Manager or EC must be notified immediately if blockage of the inlet or outlet flow areas equals or exceeds 95%. The blockage must be cleared within 24 hours [limiting condition of operation (LCO) 3.1.1.B].

2.4 The FSV ISFSI Manager or EC must be notified as soon as possible if blockage of the inlet or outlet flow areas exceeds 50%. The blockage must be cleared within 7 days [limiting condition of operation (LCO) 3.1.1 A].

2.5 If either the Red or Orange lamp on the crane control pendant is not illuminated, the FSV ISFSI Manager or EC should be notified as soon as possible, and repairs initiated. As the pendant has been removed, this step is "N/A."

3. PREREQUISITES

3.1 Planning and Coordination

3.1.1 FSV ISFSI Manager: As a minimum, ensure the following personnel are available:

A. Certified Fuel Handler (CFH) or EC.

3.1.2 Ensure periodic work area oversight by supervision (a prejob briefing is not required).

3.1.3 Ensure this procedure is the most current revision.

3.1.4 Ensure training requirements of Appendix C have been met.

3.2 Performance Documents

A. Form 434.14, "Pre-Job Briefing Checklist" (if used)

B. Form 434.15, "Pre-Job Briefing Attendance Record" (if used)

C. Form 433.24, "Post-Job Checklist" (if used)

D. Form 441.49, "ICP Radiation Work Permit" (if used).

Init/Date

3.3 Special Tools, Equipment, Parts, and Supplies

3.3.1 CFH: Ensure the following is available:

Material and Equipment List			
Item	**Description**	**Remarks**	**Quantity**
1	Binoculars or telescope		1

3.4 Approvals and Notifications

3.4.1 FSV ISFSI Manager: Verify prerequisites completed.

3.4.1.1 Log the inspection procedure in the FSV Daily Operations Log and release it to commence work.

4. INSTRUCTIONS

NOTE: *Sections 4.1, 4.2, and 4.3 may be performed in any order.*

4.1 Perform outlet screen inspection (SR 3.1.1).

NOTE 1: *The degree of blockage is determined by the CFH based on visual inspection of the screen. The degree of blockage is estimated based on the percentage of the total area of the screen which is blocked.*

NOTE 2: *The outlet screens are located at the top of the building and can best be observed from a distance using binoculars or telescope.*

NOTE 3: *Unless designated in front of step, a CFH or EC is person performing steps.*

4.1.1 Visually inspect the outlet screens for blockage and indicate finding on Appendix B, "Inspection Results."

4.2 Perform inlet screen inspection (SR 3.1.1.1).

NOTE 1: *The degree of blockage is determined by the CFH based on visual inspection of the screen. The degree of blockage is estimated based on the percentage of the total area of the screen which is blocked.*

NOTE 2: *The inlet screens are located at grade level on the north, south, and east sides of the building.*

4.2.1 Visually inspect the inlet screens for blockage and indicate finding on Appendix B.

4.3 Perform crane tornado clamp verification.

NOTE 1: *A failure of either lamp on the FSV ISFSI control pendant does not require any Technical Specification action, impose any limit to operation, or require entering a grace period of any LCO.*

NOTE 2: *The control pendant has been removed and the lamps no longer exist. Therefore this step is "N/A."*

4.3.1 WHEN the FSV ISFSI Crane is NOT in use,
THEN visually inspect the crane control pendant lamps (which indicate that the tornado restraint clamps are set) (SAR 9.2.4, Table 9.2-1) and indicate finding on Appendix B.

4.4 Perform post performance activities.

4.4.1 Perform procedure closeout per Step 4 of Appendix B.

5. RECORDS

Completed copy of Appendix A (if used) and Appendix B of this procedure.

Form 433.24, "Post-Job Review Checklist" (if used)

Form 434.14, "Pre-Job Briefing Checklist" (if used)

Form 434.15, "Pre-Job Briefing Attendance Record" (if used)

Form 441.49, "ICP Radiation Work Permit" (if used)

NOTE: *MCP-557, "Records Management," the INL Records Schedule Matrix, and associated record types list(s) provide current information on the storage, turnover, and retention requirements for these records.*

6. REFERENCES

Safety Analysis Report for the Fort St. Vrain Independent Spent Fuel Storage Installation

FSV ISFSI Technical Specification 3.1/Surveillance Requirement 3.1.1.1

GEC Specification 362 F 0152 Maintenance, Inspection, and Monitoring Requirements

Dwg. No. 1537-2636, WAZEE Crane

Dwg. No. 1539-2638, WAZEE Crane

7. APPENDIXES

Appendix A, Procedure Discrepancies

Appendix B, Inspection Results

Appendix C, Procedure Hazard Analysis

Appendix D, Procedure Basis

Appendix A

Procedure Discrepancies

Step No. from Above	Condition	Corrective Action Required/Taken

Appendix B

Inspection results

1. Inlet Screen blockage observed: Yes ____ No _____(check one) Date _____

1.1 IF blockage exists,
THEN do the following:

1.1.1 Note location, type, and degree of blockage below. (SR 3.1.1.1)

Location: _____

_____

Type: _____

_____

Degree: _____%

1.1.2 IF any blockage of outlet screens is noted,
THEN do the following:

1.1.2.1 Notify the FSV ISFSI Manager immediately.

1.1.2.2 Log date and time.

_____ / _____
Date Time

1.1.3 IF the blockage (degree) equals or exceeds 95%,
THEN initiate actions to remove any blockage from outlet screens, as directed by the ISFSI Manager, within 24 hours. (LCO 3.1.1 B)

1.1.4 IF the blockage (degree) equals or exceeds 50%,
THEN initiate actions to remove any blockage from outlet screens, as directed by the ISFSI Manager, within 7 days. (LCO 3.1.1 A)

2. Outlet Screen blockage observed: Yes ____ No _____ (check one) Date _____

2.1 IF blockage exists,
THEN do the following:

2.1.1 Note location, type, and degree of blockage below. (SR 3.1.1.1)

Location: _____

_____

Type: _____

_____

Degree: _____%

2.1.2 IF any blockage of outlet screens is noted,
THEN do the following:

2.1.2.1 Notify the FSV ISFSI Manager immediately.

2.1.2.2 Log date and time.

_____ / _____
Date Time

2.1.3 IF the blockage (degree) equals or exceeds 95%,
THEN initiate actions to remove any blockage from outlet screens, as directed by the ISFSI Manager, within 24 hours. (LCO 3.1.1 B)

2.1.4 IF the blockage (degree) equals or exceeds 50%,
THEN initiate actions to remove any blockage from outlet screens, as directed by the ISFSI Manager, within 7 days. (LCO 3.1.1 A)

3. WHEN the FSV ISFSI Crane is NOT in use,
THEN visually inspect the crane control pendant lamps (which indicate that the tornado restraint clamps are set) (SAR 9.2.4, Table 9.2-1).

Red lamp illuminated: Yes __N/A___ No ___N/A__
(Bridge clamps)

Orange lamp illuminated: Yes __N/A___ No ___N/A__
(Trolley clamps)

3.1 IF either the red or orange lamp is NOT illuminated,
THEN initiate work performance documents as necessary and notify the FSV ISFSI Manager.

FSV ISFSI Manager notified: N/A (Date) / N/A (Time)

4. Perform post performance activities.

4.1 FSO: Do the following:

4.1.1 Review the results of the inspection maintenance.

4.1.2 Request all personnel signing or initialing steps in this procedure to complete the information in the table below:

Printed Name	S Number	Job Function	Initials	Signature

4.1.1.3 Generate necessary deficiency recording documents and work performance documents to track and correct any deficiencies.

Facility Safety Officer: _____ (Signature) _____ (Date)

4.1.1.4 FSV ISFSI Manager: Verify procedure is completed.

FSV ISFSI Manager: _____ _____
Signature Date

4.1.1.5 Document completion of inspection procedure on FSV Daily Operations Log.

Appendix C

Procedure Hazard Analysis

Highly Hazardous Activity? ☐ Yes ☒ No	**HPSC No.:** TPR-5593

Disciplines (SMEs) involved in hazard analysis: (Checking the box indicates discipline is/was involved in the hazard analysis for the procedure.)

	Discipline		Discipline		Discipline
☒	Industrial Safety	☐	RCT/RAD Eng.	☐	Engineering
☐	Industrial Hygiene	☐	Env. Protection	☒	Operations
☐	Fire Protection	☒	Quality Assurance	☐	Other:

Required Job Training/Required Personal Protective Equipment

Training	PPE
Certified Fuel Handler or Emergency Coordinator	Substantial footwear

Sequence Of Basic Job Steps	Potential Hazards	Hazard Control/PPE
1. General to all procedure	1a. Uneven surfaces	1a. Personnel must wear substantial footwear
	1b. Slip/trip/fall	1b. Personnel must wear substantial footwear

Appendix D

Procedure Basis

Procedure Review Table							
Review Discipline	Rev.	DFC Intent[b] Change	DFC Nonintent[c] Change	Review Discipline	Rev.	DFC Intent[b] Change	DFC Nonintent[c] Change
Operations Management	X[a]	X	X	Industrial Safety	X	X	X
Qualified Operator	X	X	X	Engineering			
Radiological Engineering				Industrial Hygiene			
Environmental							
Quality	X	X	*	Other			

a. X = review required.
b. Reviews for intent DFCs require the same discipline reviews required for a revision.
c. Reviews for nonintent DFCs can be performed with only Operations management and a qualified operator's review and then implemented for immediate use. However, the remaining discipline reviews, as indicated by an asterisk (*), must be obtained within two (2) weeks. See MCP-2985, "Chapter XVI – Operations Procedures," for definitions of intent and nonintent changes.

Step	Basis	Source	Citation
Entire procedure	Documents will be established and implemented to describe the planning and execution of inspections	*Safety Analysis Report for the Fort St. Vrain Independent Spent Fuel Storage Installation*, Section IX, Conduct of Operations	Part 9.4.1
1.2, Appendix B	Satisfy Technical Specification Requirements	FSV ISFSI Technical Specification Surveillance Requirement 3.1.1.1	
2.1	Personnel must follow the applicable hazard mitigations detailed in Appendix A.	Procedure hazard analysis	
3.1.4	Ensure training requirements of Appendix A have been met.	Procedure hazard analysis	

Step	Basis	Source	Citation
Appendix B	When the FSV ISFSI Crane is not in use, the crane control pendant must be checked to ensure that the lamps indicate that the tornado restraint clamps are set. Note that since the control pendant has been removed, this action is "N/A."	SAR 9.2.4	Table 9.2-1