



U.S. Department of Energy

~~Office of River Protection~~

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

APR 04 2007

07-TED-007

Mr. M. S. Spears, President
and Chief Executive Officer
CH2M HILL Hanford Group, Inc.
2440 Stevens Center Place
Richland, Washington 99354

Dear Mr. Spears:

CONTRACT NO. DE-AC27-99RL14047 – SURVEILLANCE REPORT S-07-AMTF-TANKFARM-001, C FARM ELECTRICAL SYSTEMS SUREVEILLANCE

Reference: Assessment Report A-07-AMTF-TANKFARM-001, "Tank Farm Contractor (TFC) Tank 241-C-108 Retrieval Operations Leak Detection System, Master Pump Shut Down System (MPSS) and Electrical System Assessment," 07-TED-005, dated February 12, 2007.

This letter transmits the results of the U.S. Department of Energy (DOE), Office of River Protection (ORP) Surveillance of the C Farm electrical systems. The surveillance was performed in conjunction with the referenced Tank 241-C-108 Retrieval Operations Leak Detection System, MPSS and Electrical System Assessment.

Electrical issues were found during the assessment that were outside the scope of the assessment, however, the issues were significant enough to warrant a surveillance report. The assessment team found three unused extension cords connected to a portable power panel, a power distribution panel with three unused cable openings not plugged on the bottom side, and a cable strung above a doorway and over a ventilation pipe at the C91 building where the rain lip edge had slightly worn into the insulation. All of the electrical issues were corrected on the spot or by the next day. These issues resulted in two Findings and one Observation.

The first Finding indicates the TFC is not adequately implementing and verifying compliance with DOE O 414.1C that requires the TFC to "identify, control and correct items, services, and processes that do not meet established requirements." This Finding is based on non compliance with the National Electrical Code (NEC) and the Occupational Safety and Health Act (OSHA) Standards for General Industry 29 Code of Federal Regulation 1910, Subpart S for temporary wiring in C Farm during the walk down and a document review of Problem Evaluation Reports (PER) and System Health Reports. The TFC previously documented problems with temporary cords in three PERs and in the System Health Reports within the last year. Reoccurrence of these issues indicates that the TFC does not have an effective program to manage temporary electrical cords as required by NEC and OSHA.

Mr. M. S. Spears
07-TED-007

-2-

APR 04 2007

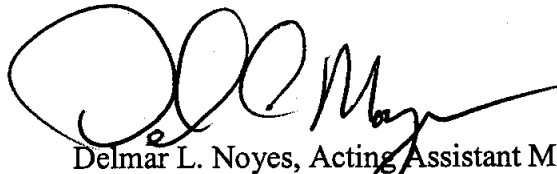
The second Finding identifies a power distribution panel that did not meet NEC and OSHA requirements where three unused cable openings were not plugged on the bottom side. This Finding appears to be an isolated case since other panels did have the proper hole plugs in place.

The Observation indicates the TFC implementing procedure for electrical safety does not address adequately the control of temporary electrical cords, such as when temporary cords are to be removed. Implementation of effective control of temporary electrical cords specifying when employees are required to remove unused temporary wiring, including extension cords may reduce the number of temporary wiring occurrences.

ORP requests CH2M HILL Hanford Group, Inc., (CH2M HILL) to prepare and submit to ORP for review a Corrective Action Plan by May 30, 2007. The Corrective Action Plan should address how CH2M HILL will control temporary cords consistent with the NEC and OSHA requirements.

If you have any questions, please contact me, or your staff may contact Russell Harwood, Tank Farms Engineering Division, (509) 376-2348.

Sincerely,



Delmar L. Noyes, Acting Assistant Manager
for Tank Farms Project

TED:RGH

Attachment

cc w/attach:
R. Cantwell, CH2M HILL
C. DeFigh-Price, CH2M HILL
R. S. Popielarczyk, CH2M HILL
C. R. Ungerecht, PAC
CH2M HILL Correspondence

DOE-ORP Surveillance Report

Division: Tank Farms Engineering Division (TED)

Surveillant: Russ Harwood, TED **Surveillance Number:** S-07-AMTF-TANKFARM-001

Date: December 12, 2006

Contractor: CH2M HILL Hanford Group, Inc. (CH2M HILL)

Location/Facility: 200 Area/C Tank Farm

Title: C Farm Electrical Surveillance

Scope of Surveillance:

The objective of this surveillance is to verify the C Tank Farm complies with the National Electrical Code (NEC), Occupational Safety and Health Act (OSHA) Standards for General Industry 29 CFR 1910, Subpart S (Electrical) and OSHA Standards for the Construction Industry 29 CFR 1926, Subpart K (Electrical).

Summary of Results:

An assessment of the 241-C-108 leak detection system (A-07-AMTF-TANKFARM-001) was performed in December 2006. Electrical issues were found during the assessment that were outside the scope of the assessment. The issues were significant enough to warrant a surveillance report. The inspection group found three unused extension cords connected to a portable power panel. The electricians had removed the extension cords from the portable power panel and bundled them along with others cords on the ground. An electrical cable was strung above the doorway and over a ventilation pipe at the C91 building. The rain lip edge had slightly worn into the insulation. All of the electrical issues were corrected on the spot or by the next day. Panel CO6B-WT-PNL-101 had three unused cable openings not plugged on the bottom side. Other panels examined all had plugs in place.

Two Findings and one Observation are documented. Finding F-1 addresses the reoccurring issue of temporary cords left in place after they are no longer being used. Finding F-2 is an isolated case of an electrical panel that did not have the unused openings sealed. Observation O-1 addresses the lack of guidance in the Tank Farm Contractor (TFC) electrical safety procedure for removal of temporary cords when they are no longer being used.

Surveillance Summary:

Discussion of Results

The TFC staff interviewed indicated that leaving unused extension cords is an ongoing issue and even when the cords are picked up the problem soon reappears. There have been three Problem Evaluation Reports (PERs) written in the last year addressing unused extension cords in C Farm with two PERs coming from the U. S. Department of Energy, Office of River Protection (ORP) staff observations (PER-2005-4221 and PER-2006-0659) and one PER from a TFC electrician (PER-2006-1251). The PERs are part of the System Health Reports that were presented to the TFC management. Attachment A shows the photographs to support the Findings listed below.

Issues:

Finding F-1

The TFC is not adequately implementing and verifying compliance with DOE O 414.1C, Quality Assurance, Section 3.c(2) that requires the TFC to "identify, control and correct items, services, and processes that do not meet established requirements." This Finding is based on non compliance with the requirements of the NEC and the OSHA Standards for General Industry, 29 CFR 1910, Subpart S for temporary wiring. The TFC previously documented similar issues with unused temporary cords in three PERs and in the System Health Reports within the last year. Reoccurrence of these issues indicates the TFC does not have an adequate process in place to ensure compliance with the NEC and OSHA requirements pertaining to temporary cords.

Finding F-1A:

Three unused extension cords were connected to a portable power panel still in service. Electricians removed the extension cords from the portable power panel and bundled them along with others cords on the ground.

Requirement Cited:

NEC, 2005 Edition, Article 590.3(D) states that temporary wiring shall be removed immediately upon completion of construction or purpose for which the wiring was installed.

Finding F-1B:

A cable was strung above the doorway and over a ventilation pipe at the C91 building. The rain lip edge had slightly worn into the insulation.

Requirement Cited:

NEC, 2005 Edition, Article 590.4(H) states flexible cords and cables shall be protected from accidental damage. Sharp corners and projections shall be avoided. OSHA Standards for General Industry, 29 CFR 1910, Subpart S, 2004, paragraph 1910.305(a)(2)(iii)(G) states flexible cords and cables shall be protected from accidental damage. Sharp corners and projections shall be avoided.

Finding F-2

Panel CO6B-WT-PNL-101 did not meet NEC and OSHA requirements where three unused cable openings were not plugged on the bottom side.

Requirement Cited:

NEC, 2005 Edition, Article 110.12(A) states unused cable openings in housings shall be effectively closed to afford protection equivalent to the wall of the equipment. OSHA Standards for General Industry, 29 CFR 1910, Subpart S, 2004, paragraph 1910.305(b)(1) states that unused openings in cabinets shall be effectively closed.

Observation O-1

CH2M HILL Implementing Procedure, Electrical Safety, TFC-ESHQ-S-STD-03, REV B-6, does not address when temporary cords are to be removed such as upon completion of construction or purpose for which the wiring was installed as required by the NEC. Implementation of effective controls to remove unused temporary wiring, including extension cords, may reduce the number of temporary wiring occurrences.

Document Reviews

The following documents were reviewed:

System Health Report for Retrieval/Closure Electrical Systems, First Quarter 2006, RPP-RPT-25714, Rev. 4

System Health Report for Retrieval/Closure Electrical Systems, Second Quarter 2006, RPP-RPT-25714, Rev. 5

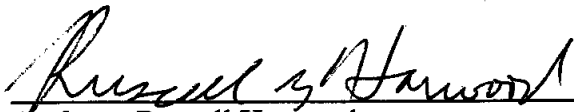
System Health Report for Retrieval/Closure Electrical Systems, Third Quarter 2006, RPP-RPT-25714, Rev. 6

Problem Evaluation Requests: PER-2005-4221, PER-2006-1251, PER-2006-0659, CH2M-PER-2006-1696, PER-2006-0818

Electrical Safety, CH2M HILL Hanford Group, TFC-ESHQ-S-STD-03, Rev. B-6, January 3, 2007

Personnel/ Positions Interviewed:

Electricians (2)
C-100 Retrieval Project Manager
Closure Maintenance Manager

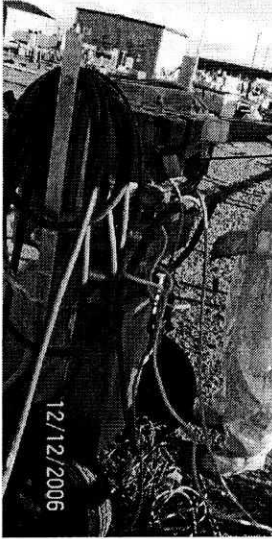


Author: Russell Harwood
Tank Farms Electrical Program Manager

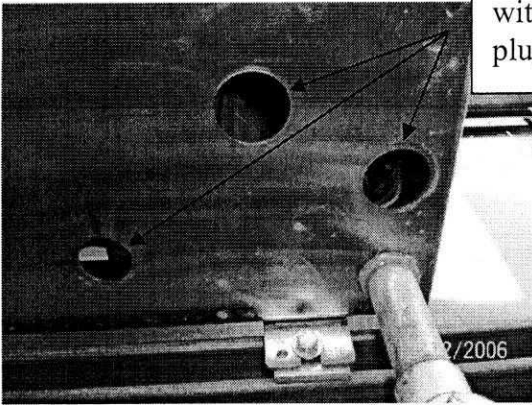
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Date:

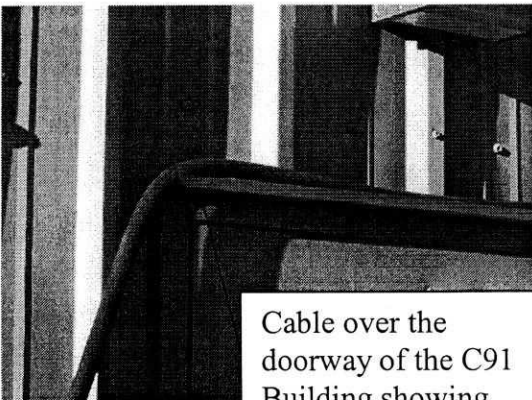
ATTACHMENT A



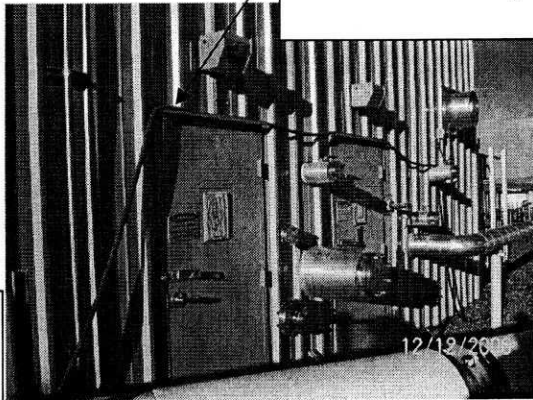
Three unused extension cords left plugged into the portable power panel.



Panel CO6B-WT-PNL-101 with unused openings not plugged.



Cable over the doorway of the C91 Building showing wear from the rain lip edge.



C91 Building with the stretched cable over the doorway.

Task# ORP-TED-2007-0006

E-STARSM Report
 Task Detail Report
 04/04/2007 1006

TASK INFORMATION			
Task#	ORP-TED-2007-0006		
Subject	Concur - 07-TED-007; Surveillance Report S-07-AMTF-TANKFARM-001, C Farm Electrical Systems Surveillance		
Parent Task#		Status	CLOSED
Reference		Due	
Originator	Mendoza, Stella	Priority	High
Originator Phone	(509) 373-9112	Category	None
Origination Date	02/20/2007 1138	Generic1	
Remote Task#		Generic2	
Deliverable	None	Generic3	
Class	None	View Permissions	Normal
Instructions	bcc: TED OFF FILE TED RDG FILE MGR RDG FILE S. Mendoza, TF C. Reid, AMD D. Bryson, TED W. Scott, TED M. Brown, TOD R. Yasek, TOD R. Harwood, TED B. Harp, TF D. Noyes, TPD B. Taylor, ESQ P. Carrier, ESQ RECORD NOTE: Resending this through concurrence, changes were made to the letter and attachment.		
ROUTING LISTS			
1	Route List		Inactive
	<ul style="list-style-type: none"> ● Harwood, Russell G - Review - Cancelled - 04/04/2007 1006 <i>Instructions:</i> ● Scott, Walter B - Review - Cancelled - 04/04/2007 1006 <i>Instructions:</i> ● Schepens, Roy J - Review - Withdrawn - 03/28/2007 0852 <i>Instructions:</i> ● Smith, Zack - Approve - Withdrawn - 03/28/2007 0852 <i>Instructions:</i> ● Noyes, Delmar L - Approve - Cancelled - 04/04/2007 1006 <i>Instructions:</i> 		
ATTACHMENTS			
Attachments	1. 07-TED-007 spears rgh revised.doc		
COLLABORATION			
COMMENTS			

RECEIVED

APR 04 2007

DOE-ORP/ORPCC

Task# ORP-TED-2007-0006

No Comments

TASK DUE DATE HISTORY

No Due Date History

SUB TASK HISTORY

No Subtasks

-- end of report --

Task# ORP-TED-2007-0006

E-STARS™ Report
Task Detail Report
03/28/2007 0853

TASK INFORMATION

Task#	ORP-TED-2007-0006		
Subject	Concur - 07-TED-007; Surveillance Report S-07-AMTF-TANKFARM-001, C Farm Electrical Systems Surveillance		
Parent Task#		Status	Open
Reference		Due	
Originator	Mendoza, Stella	Priority	High
Originator Phone	(509) 373-9112	Category	None
Origination Date	02/20/2007 1138	Generic1	
Remote Task#		Generic2	
Deliverable	None	Generic3	
Class	None	View Permissions	Normal
Instructions	bcc: TED OFF FILE TED RDG FILE MGR RDG FILE S. Mendoza, TF C. Reid, AMD D. Bryson, TED W. Scott, TED M. Brown, TOD R. Yasek, TOD R. Harwood, TED B. Harp, TF D. Noyes, TPD B. Taylor, ESQ P. Carier, ESQ RECORD NOTE: Resending this through concurrence, changes were made to the letter and attachment.		

ROUTING LISTS

1	Route List	Active
	<ul style="list-style-type: none"> ● Harwood, Russell G - Review - Awaiting Response <i>Instructions:</i> <i>Kim Harwood 3/28/07</i> ● Scott, Walter B - Review - Awaiting Response <i>Instructions:</i> <i>WBS 3/28/07</i> ● Schenep, Roy J - Review - Withdrawn - 03/28/2007 0852 <i>Instructions:</i> ● Smith, Zack - Approve - Withdrawn - 03/28/2007 0852 <i>Instructions:</i> ● Noyes, Delmar L - Approve - Awaiting Response <i>Instructions:</i> 	

ATTACHMENTS

Attachments *DLW 3/28/07*
1. 07-TED-007 spears rgh revised.doc

COLLABORATION

Task# ORP-TED-2007-0006**COMMENTS***No Comments***TASK DUE DATE HISTORY***No Due Date History***SUB TASK HISTORY***No Subtasks**-- end of report --*