

January 2008 Electrical Safety Occurrences

There were 17 electrical safety occurrences for January 2008:

- 7 resulted in shocks to workers (there were no electrical shocks in December 2007)
- 5 involved lockout/tagout
- 6 involved electrical workers and 11 involved non-electrical workers
- 6 involved subcontractors

January showed a large increase in the number of electrical safety events, the most since April 2007.

In compiling the monthly totals, the search initially looked for occurrence discovery dates in this month (excluding Significance Category R reports), and for the following ORPS "HQ keywords":

01K – Lockout/Tagout Electrical, 01M - Inadequate Job Planning (Electrical),

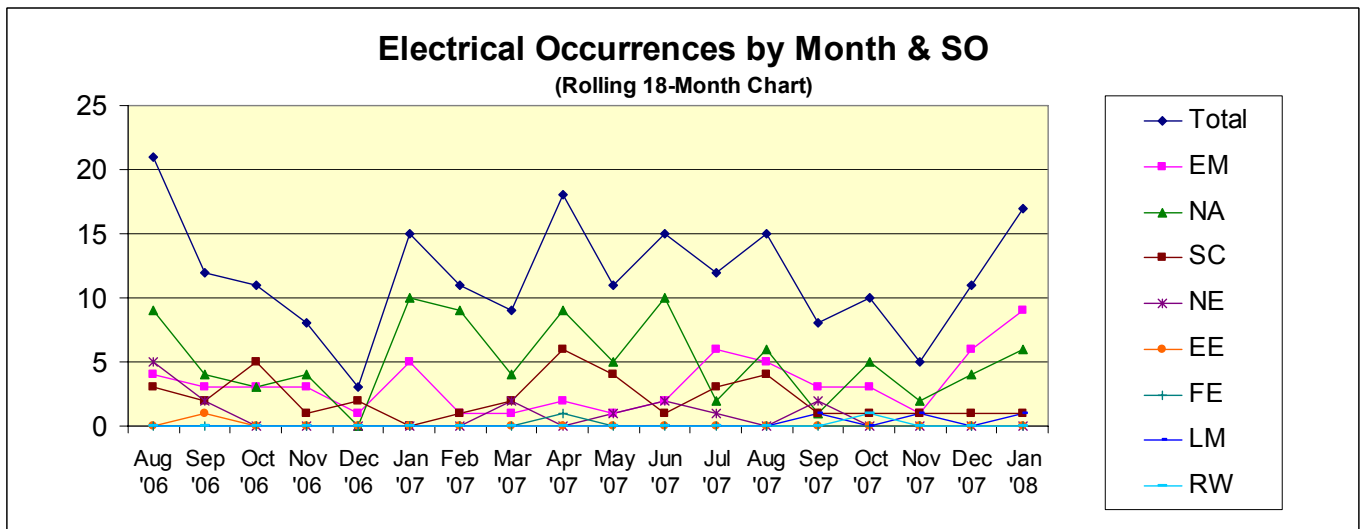
08A – Electrical Shock, 08J – Near Miss (Electrical), 12C – Electrical Safety

The initial search yielded 17 occurrences and a review of these determined that none needed to be culled out.

Below is the current summary of 2008 electrical safety occurrences:

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
Jan-08	17	7	0	0
2008 total	17 (avg. 17.0/month)	7	0	0
2007 total	140 (avg. 11.7/month)	25	2	0
2006 total	166 (avg. 13.8/month)	26	3	0
2005 total	165 (avg. 13.8/month)	39	5	0
2004 total	149 (avg. 12.4/month)	25	3	1

The average rate of electrical safety occurrences in 2008 is now 17 per month, which is more than the average rate of 11.7 per month experienced in 2007.



Electrical Safety Occurrences – January 2008

No	Report Number	Subject/Title	EW ⁽¹⁾	N-EW ⁽²⁾	SUB ⁽³⁾	SHOCK	BURN	ARCF ⁽⁴⁾	LOTO ⁽⁵⁾	EXCAV ⁽⁶⁾	CUT/D ⁽⁷⁾	VEH ⁽⁸⁾
1	EM---LSS-SPRU-2008-0001	Near Miss Un-authorized Work	X		X							
2	EM-ID--CWI-LANDLORD-2008-0001	Improper Work Control Results in an Electrical Near-Miss	X		X				X			
3	EM-ORO--BJC-K25ENVRES-2008-0002	Near Miss - Electrical Equipment Fault		X								
4	EM-RL--PHMC-WESF-2008-0001	Discovery of Previously Unknown Hazardous Energy Source		X		X						
5	EM-RL--WCH-ERDF-2008-0001	Mild Electrical Shock From Weld Oven Cord		X	X	X						
6	EM-RP--BNRP-RPPWTP-2008-0002	Scissor Lift Movement Causes Electrical Cord Damage		X								
7	EM-RP--BNRP-RPPWTP-2008-0003	Power Tool Cord severed during Scissor Lift movement		X								
8	EM-RP--CHG-TANKFARM-2008-0001	Energized Wire Found in MCC-1 at 242A After Installation of Electrical Jumper	X		X				X			
9	EM-SR--WSRC-WVIT-2008-0002	221-S Lab Computer Electrical Shock		X		X						
10	LM---STOL-UTII-2008-0001	Failure to apply work control process (LO/TO)	X		X				X			
11	NA--LASO-LANL-ACCCOMPLEX-2008-0001	Improper Lock-out Tag-out		X					X			
12	NA--LASO-LANL-NUCSAFGRDS-2008-0002	Worker Receives Minor Electrical Shock from Exposed Conductors on Lamp Power Cord		X		X						
13	NA--LASO-LANL-TA55-2008-0002	Movement of Energized Equipment Leads to Short and Tripped Breaker		X								
14	NA--LSO-LLNL-LLNL-2008-0001	Building 174 Electrical Shocks		X		X						

No	Report Number	Subject/Title	EW ⁽¹⁾	N-EW ⁽²⁾	SUB ⁽³⁾	SHOCK	BURN	ARCF ⁽⁴⁾	LOTO ⁽⁵⁾	EXCAV ⁽⁶⁾	CUT/D ⁽⁷⁾	VEH ⁽⁸⁾
15	NA--LSO-LLNL-LLNL-2008-0004	Electrical Shock at Building 151 During Main Electrical Service Equipment Replacement Project	X		X	X						
16	NA--SS-SNL-NMFAC-2008-0002	Custodial Worker Receives Electrical Shock while Plugging in a Battery Charger in Bldg. 880		X		X						
17	SC--PNSO-PNNL-PNNLBOPER-2008-0001	Lock & Tag Procedural Noncompliance (at the 336 Building)	X						X			
	TOTAL		6	11	6	7			5			

Key

(1)EW = electrical worker, (2)N-EW = non-electrical worker, (3)SUB = subcontractor, (4)ARCF = significant arc flash, (5)LOTO = lockout/tagout, (6)EXCAV = excavation, (7)CUT/D = cutting or drilling, (8)VEH = vehicle event

ORPS Operating Experience Report

ORPS contains 53633 OR(s) with 56951 occurrences(s) as of 3/5/2008 7:39:57 AM
 Query selected 17 OR(s) with 17 occurrences(s) as of 3/5/2008 2:06:37 PM

Download this report in Microsoft Word format. 

1)Report Number:	EM---LSS-SPRU-2008-0001 After 2003 Redesign																	
Secretarial Office:	Environmental Management																	
Lab/Site/Org:	Separations Process Research Unit																	
Facility Name:	Separations Process Research Unit																	
Subject/Title:	Near Miss Un-authorized Work																	
Date/Time Discovered:	01/02/2008 09:00 (PTZ)																	
Date/Time Categorized:	01/03/2008 10:00 (PTZ)																	
Report Type:	Notification/Final																	
Report Dates:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%;">Notification</td> <td style="width: 20%;">01/04/2008</td> <td style="width: 40%;">15:30 (ETZ)</td> </tr> <tr> <td>Initial Update</td> <td>01/04/2008</td> <td>15:30 (ETZ)</td> </tr> <tr> <td>Latest Update</td> <td>01/04/2008</td> <td>15:30 (ETZ)</td> </tr> <tr> <td>Final</td> <td>01/04/2008</td> <td>15:30 (ETZ)</td> </tr> <tr> <td>Revision 1</td> <td>01/09/2008</td> <td>14:10 (ETZ)</td> </tr> </table>			Notification	01/04/2008	15:30 (ETZ)	Initial Update	01/04/2008	15:30 (ETZ)	Latest Update	01/04/2008	15:30 (ETZ)	Final	01/04/2008	15:30 (ETZ)	Revision 1	01/09/2008	14:10 (ETZ)
Notification	01/04/2008	15:30 (ETZ)																
Initial Update	01/04/2008	15:30 (ETZ)																
Latest Update	01/04/2008	15:30 (ETZ)																
Final	01/04/2008	15:30 (ETZ)																
Revision 1	01/09/2008	14:10 (ETZ)																
Significance Category:	4																	
Reporting Criteria:	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)																	
Cause Codes:	A4B3C11 - Management Problem; Work Organization & Planning LTA; Inadequate work package preparation A4B3C06 - Management Problem; Work Organization & Planning LTA; Planning not coordinated with inputs from walkdowns/task analysis A4B4C11 - Management Problem; Supervisory Methods LTA; Assignment did not consider worker's ingrained work patterns																	
ISM:	1) Define the Scope of Work 4) Perform Work Within Controls																	
Subcontractor Involved:	Yes C.R. Gray INC.																	
Occurrence Description:	On January 2nd at approximately 0900, a LATA-Sharp (LSRS) sub-contract electrician foreman was tasked to perform quarterly heat tape test on water lines located in the crawl space beneath office trailers SP-22 and SP-25. Prior to starting work, LSRS briefed the electrician foreman that no intrusive electrical work could be performed. Upon completion of the pre-job briefing																	

	<p>the electrician foreman performed the heat tape test beneath trailer SP-22 properly as briefed without using intrusive measures to perform the test. The electrician then proceeded to trailer SP-25 where snow removal would have been needed and he would have had to lie on the ground to gain access and test the heat tape. The electrician foreman made no attempt to access the crawl space of trailer SP-25 to perform the test (evidenced by a lack of disturbance in the snow). Instead, the electrician foreman deviated from the planned work and pre-job briefing and went inside trailer SP-25 and began removing screws from an energized electrical circuit breaker panel cover to perform the test. The LSRS safety representative and DOE personnel were present in the office at the time of the incident. The LSRS safety representative stopped the electrician foreman from removing the remaining screws, and the screws that had been removed were re-installed. Had the electrician foreman not been stopped he would have been exposed to energized electrical components. The incident was then reported to management; and DOE made the 30 minute notification to DOE EM. No injuries resulted from the incident.</p>		
Cause Description:			
Operating Conditions:	Snowy conditions outside, bitter cold, normal office conditions, inside		
Activity Category:	Facility/System/Equipment Testing		
Immediate Action(s):	Electrical work was suspended pending investigation and implementation of corrective actions		
FM Evaluation:			
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	SPRU DD&R of K-5 and H-1		
Plant Area:	Office Trailer		
System/Building/Equipment:	SP-25 trailer		
Facility Function:	Balance-of-Plant - Offices		
Corrective Action 01:	<table border="1"> <tr> <td>Target Completion Date:01/18/2008</td> <td>Actual Completion Date:</td> </tr> </table>	Target Completion Date: 01/18/2008	Actual Completion Date:
Target Completion Date: 01/18/2008	Actual Completion Date:		
	Review of LSRS work planning and work control process		
Lessons(s) Learned:	Work packages need to provide adequate detailed work instructions for the authorized scope of work.		
HQ Keywords:	<p>01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance</p> <p>01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)</p> <p>01T--Inadequate Conduct of Operations - Willful Violation</p>		

	08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 13E--Management Concerns - Facility Call Sheet 14E--Quality Assurance - Work Process Deficiency												
HQ Summary:	After completion of the pre-job briefing, an electrician, tasked to perform quarterly water line heat trace checks, began to remove the cover from the electrical panel located inside one of the offices. A safety representative and DOE personnel were present in the office at the time of the incident and the safety representative stopped the electrician from removing the panel. The panel screws were reinstalled, and electrical work was suspended pending investigation and implementation of corrective actions.												
Similar OR Report Number:													
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>SHELATO, RONALD E</td> </tr> <tr> <td>Phone</td> <td>(518) 395-2502</td> </tr> <tr> <td>Title</td> <td>SPRU ESH&Q MANAGER</td> </tr> </table>	Name	SHELATO, RONALD E	Phone	(518) 395-2502	Title	SPRU ESH&Q MANAGER						
Name	SHELATO, RONALD E												
Phone	(518) 395-2502												
Title	SPRU ESH&Q MANAGER												
Originator:	<table border="1"> <tr> <td>Name</td> <td>SHELATO, RONALD E</td> </tr> <tr> <td>Phone</td> <td>(518) 395-2502</td> </tr> <tr> <td>Title</td> <td>SPRU ESH&Q MANAGER</td> </tr> </table>	Name	SHELATO, RONALD E	Phone	(518) 395-2502	Title	SPRU ESH&Q MANAGER						
Name	SHELATO, RONALD E												
Phone	(518) 395-2502												
Title	SPRU ESH&Q MANAGER												
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA				
Date	Time	Person Notified	Organization										
NA	NA	NA	NA										
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/02/2008</td> <td>09:25 (PTZ)</td> <td>Dr. Wu</td> <td>DOE-EM</td> </tr> <tr> <td>01/03/2008</td> <td>09:00 (PTZ)</td> <td>William H. Hunt</td> <td>DOE-SPRU</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	01/02/2008	09:25 (PTZ)	Dr. Wu	DOE-EM	01/03/2008	09:00 (PTZ)	William H. Hunt	DOE-SPRU
Date	Time	Person Notified	Organization										
01/02/2008	09:25 (PTZ)	Dr. Wu	DOE-EM										
01/03/2008	09:00 (PTZ)	William H. Hunt	DOE-SPRU										
Authorized Classifier(AC):													

2)Report Number:	EM-ID--CWI-LANDLORD-2008-0001 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Idaho National Laboratory		
Facility Name:	ICP Landlord Activities		
Subject/Title:	Improper Work Control Results in an Electrical Near-Miss		
Date/Time Discovered:	01/14/2008 14:00 (MTZ)		
Date/Time Categorized:	01/14/2008 14:30 (MTZ)		
Report Type:	Final		
Report Dates:	Notification	01/16/2008	15:40 (ETZ)
	Initial Update	01/16/2008	17:35 (ETZ)
	Latest Update	02/27/2008	15:32 (ETZ)

	Final	03/03/2008	10:53 (ETZ)
Significance Category:	2		
Reporting Criteria:	<p>2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.</p> <p>10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 2 occurrence)</p>		
Cause Codes:	<p>A2B2C03 - Equipment/ material problem; Periodic/Corrective Maintenance LTA; Corrective Maintenance LTA</p> <p>A2B6C04 - Equipment/ material problem; Defective, Failed or Contaminated; End of life failure</p> <p>A5B3C02 - Communications Less Than Adequate (LTA); Written Communications Not Used; Not available or inconvenient for use</p> <p>A5B2C07 - Communications Less Than Adequate (LTA); Written Communication Content LTA; Facts wrong / requirements not correct</p> <p>A4B1C04 - Management Problem; Management Methods Less Than Adequate (LTA); Management follow-up or monitoring of activities did not identify problems</p> <p>A5B2C05 - Communications Less Than Adequate (LTA); Written Communication Content LTA; Ambiguous instructions / requirements</p>		
ISM:	<ol style="list-style-type: none"> 1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls 		
Subcontractor Involved:	<p>Yes</p> <p>Wheeler Electric Co</p>		
Occurrence Description:	<p>On January 10, 2008, subcontract electricians discovered an unexpected energized wire while changing fluorescent light fixture ballasts in the Technical Support Annex (TSA) building. Upon discovery, subcontractor electricians discontinued work. The Subcontractor Technical Representative (STR) was notified. The STR proceeded to the area and a step-back (work cessation) was performed.</p> <p>Event reconstruction is as follows.</p> <ol style="list-style-type: none"> 1.) At approximately 8 a.m., the subcontractor gave an undocumented pre-job briefing to its electricians; the interim-qualified STR was in attendance. 		

This undocumented pre-job brief was not in compliance with Program Requirements Document (PRD)-1501, "Work Control," which was applicable to the subcontract and requires subcontractor pre-job briefings to be documented.

The undocumented briefing discussed the scheduled work, but did not clearly define the work scope, the methods to perform the lock-out/tag-out (LO/TO) per PRD-2012, "Lockout/Tagout," the methods for performing zero-energy checks per PRD-2011, "Electrical Safety," or the required personal protective equipment (PPE) to perform the work. Worker training was not verified per PRD-1501, "Work Control."

Additionally, drawings showing the electrical configuration of the lighting fixtures were not provided or reviewed.

2.) At approximately 9 a.m., a subcontract electrician went to the applicable breaker panel to isolate a circuit in TSA prior to performing the required maintenance. The subcontractor electrician indicated the panel schedule was difficult to understand, and asked the laborer who was escorting the electrician if circuit drawings were available. None were provided.

Subcontractor electricians isolated the power by opening the needed breaker in the applicable breaker panel to determine the lighting block controlled by the circuit.

A lighting block is a group of light fixtures controlled by a single circuit. The electrician used visual indication to determine which fixtures were in the re-energized block. The subcontract electrician did not use the CWI or the subcontractor LO/TO procedure to isolate the breaker, and therefore, used no approved hazardous energy controls procedure during the task, though the subcontract requires the subcontractor to comply with PRD-2012, "Lockout/Tagout." The subcontractor stated (during the fact finding) they had isolated the breaker by placing an electrician to guard the breaker while he was in sight of another person, who was in sight of the electrician doing the actual work. The electrician also stated he had been trained on the LO/TO procedures for CWI, BEA, and his company, Wheeler Electric.

3.) Subcontractor electricians completed zero-energy verification on the first lighting fixture in the isolated circuit and found no energy. All lights were off (not illuminated) in the 12-fixture block. Zero energy was confirmed in the remaining fixtures of each block with a proximity tester. It was determined in the fact finding the subcontract electricians did not use the specified PPE for this job type while performing zero-energy checks.

4.) By approximately 3:30 p.m. on January 10, 2008, the electricians had completed work on approximately 30 fixtures on multiple circuits and

isolated the electrical power to another block of 12-lighting fixtures. The electricians completed zero-energy verification on the first fixture worked in the block, as performed on previous isolations. The electricians had completed repairs on two lighting fixtures and opened the third fixture to begin work. The electrician verified the proximity tester gave a valid indication by checking a wall outlet, and used the proximity tester to test a black lead within the fixture and verified zero energy. He then rechecked the proximity tester at the wall circuit. As the electricians commenced work in the lighting fixture, an electrical spark occurred from a wire that grounded to the lighting fixture.

5.) The electricians discontinued work. The STR was informed of the electrical spark that emitted from a fixture presumed to be isolated and de-energized. The STR initiated Step Back/Stop Work.

6.) The STR located the facility lighting drawings in the TSA mechanical room. The drawing showed the light fixture where the spark occurred was on a separate circuit - a night-light circuit. The electricians assumed the lighting fixture was part of the block they had just isolated, and believed the light fixture was de-energized because the bulbs were not illuminated.

7.) Further investigations revealed the light fixture ballast had failed. At the STR's request, the electricians isolated the source, removed the abandoned wire, completed repairs on that fixture, and returned it to service. No further work was completed this day.

Prior to October 1, 2007, Battelle Energy Alliance, LLC., (BEA) leased the TSA facility from its owner and used subcontractors to conduct maintenance activities. On October 1, 2007, CH2M-WG Idaho, LLC., (CWI) leased the facility and assumed the responsibility for maintenance activities within the facility. When CWI assumed the facility lease, the drawings associated with the TSA were not transferred to CWI's Electronic Document Management System (EDMS).

The formal (root) cause analysis and its investigation revealed two pre-existing physical conditions that set the stage for this event.

First, in the late 1980s, a modification was made to reduce the number of bulbs in each fixture from four bulbs to two. When this modification was made, electricians left a partially exposed energized wire (277 Volt) in the light fixture where the event occurred.

Second, the fixture where the event occurred was a night-light fixture. Night lights remain on twenty four hours per day, seven days per week, for personnel safety. These night lights are powered by a separate circuit from other lights in the immediate area. The ballasts in the fixture where the event

occurred had failed and the bulbs were not illuminated. When the electricians secured the breaker to the block of fixtures in the immediate area of the night light, they believed the night-light fixture was de-energized because the bulbs were not illuminated. A proximity tester was used on a de-energized wire left in the modified fixture; however, energy in the fixture was not detected. When the electrician began work, the exposed end of the energized wire contacted the fixture, resulting in the spark.

Due to the Facility Manager being on travel, as well as the applicable DOE-ID Facility Representative, and with the event occurring one-day prior to the weekend, notifications to the DOE-ID Fac. Rep., was delayed. With these professionals on travel, the subsequent fact-finding and event categorization were also delayed.

Cause Description:

Causal factors associated with this event are:

1. Cause Code A2B2C03, Corrective Maintenance LTA. Corrective maintenance was performed but failed to correct the originating problem. The equipment or component was reassembled improperly during corrective maintenance. Other problems were noted during maintenance activities that were not corrected. The actual job of performing a maintenance activity was complete, but was not performed correctly.

A wire had been cut and left in place without being terminated and capped during a modification to reduce bulb configuration in the fixture from four to two. This wire had remained energized in the fixture since the modification was made in the late 1980s. Corrective action no. 1 addresses this cause code.

2. Cause Code A2B6C04, End of life failure. The failure resulted from equipment or material having reached the end of its expected/normal service life. The failure was a result of the normal aging process for this component.

Ballasts in the night-light fixture failed, and the bulbs were not illuminated. This led electricians to believe the fixture had been de-energized along with the other fixtures in the block. Corrective action no. 2 addresses this cause code.

3. Cause Code A5B3C02, Not available or inconvenient for use. The written communication was not readily available. A copy of the written communication was not available in the designated file or rack. A "master copy" of the written communication was not available for reproductions. Use of the written communication was inconvenient because of working conditions (e.g., radiation areas, tight quarters, plastic suits).

Drawings showing the electrical configuration of the light fixtures were not used prior to starting this activity. Had the drawings been used, the

electricians could have determined the night-light fixture was powered from a different circuit breaker. Corrective action no. 3 addresses this cause code.

4. Cause Code A5B2C07, Facts Wrong/Requirements Not Correct. Specific information in the written communication was incorrect. The written communication contained outdated requirements. The written communication did not reflect the current status of equipment.

TSA Electrical Panel "ZZ" schedule labeled Breaker 35 as emergency lights rather than night lights. Had this circuit been labeled correctly, electricians may have been alerted to the presence of the separate breaker. Corrective action no. 4 addresses this cause code.

5. Cause Code A4B1C04, Management Follow-up or Monitoring of the Activities did not Identify Problem. Management's methods for monitoring the success of initiatives were ineffective in identifying shortcomings in the implementation.

The STR did not provide adequate oversight to ensure compliance with the subcontract and associated CWI Program Requirement Documents (PRDs). Corrective action no. 5 addresses this cause code.

6. Cause Code A4B1C04, Management Follow-up or Monitoring of the Activities did not Identify Problem. Management's methods for monitoring the success of initiatives were ineffective in identifying shortcomings in the implementation.

The STR qualification was not tracked in the Training Records and Information Network (TRAIN), and CWI management was not notified that the STRs qualification had lapsed. Therefore, CWI management neither verified the STR's training prior to granting him an interim qualification nor provided adequate follow-up on his progress toward STR qualification. Corrective action no. 6 addresses this cause code.

7. A5B2C05, Ambiguous Instructions/Requirements. The instructions in the written communication were unclear, uncertain, or interpretable in more than one way. Different procedures related to the same task contained different requirements. There were conflicting or inconsistent requirements stated in different steps of the same procedure. Requirements were stated in different units.

When the words addressing STR coverage were inserted into MCP-1186, "Service Acquisitions," they did not apply to work performed in TSA and TSB because CWI did not control work in these buildings. This led facility management to believe that STR coverage of CWI-subcontracted work within the Idaho Falls Facilities (IFF) was optional. Corrective action no. 7

	addresses this cause code.	
Operating Conditions:	Normal Maintenance Operations	
Activity Category:	Maintenance	
Immediate Action(s):	<ol style="list-style-type: none"> 1. All work under the subcontract was suspended. 2. Notifications to facility management made. 3. Event was documented in CWI's Safety Assessment Center (SAC) reporting system. 4. Facility management notified the applicable DOE-ID facility representative and their backup. 5. A fact finding meeting (critique) was held. 	
FM Evaluation:	<p>This event was the result of a breakdown in the configuration management of non-government owned commercial leased property management by the government contractor, failure of the subcontractor to perform prescribed procedures and/or processes, and less than adequate over-sight to identify these failures. Management has the responsibility to provide a safe work environment for its workers, including subcontract workers and continuing work activity in these facilities needs to take into consideration condition of leased facilities, better pre-job preparation and subcontractor over-sight.</p> <p>Due to the Facility Manager being on travel, as well as the applicable DOE-ID Facility Representative, and with the event occurring one-day prior to the weekend, notifications to the DOE-ID Fac. Rep., was delayed. With these professionals on travel, the subsequent fact-finding and event categorization were also delayed.</p>	
DOE Facility Representative Input:	<p>Based on the statement in the description of the occurrence about all work under this contract being suspended seems to be in conflict with the box checked NO regarding evaluation before returning to operation. If that becomes YES, the contractor needs to provide a facility manager evaluation as required by MCP-190.</p> <p>Entered by: Claycomb, Roger M 01/17/2008</p>	
DOE Program Manager Input:		
Further Evaluation is Required:	No	
Division or Project:	Facility Management, In Town Facilities	
Plant Area:	TSA -- Idaho Falls	
System/Building/Equipment:	Technical Support Annex (TSA) Building / Lighting	
Facility Function:	Balance-of-Plant - Offices	
Corrective Action 01:	Target Completion Date: 07/11/2008	Tracking ID: ICARE DR 103406, AI 54779
	Subcontractor electricians evaluate; open, verify, and if required place all fixture lighting wires in a safe condition. Evaluate and if required replace	

	night-light breaker. This corrective action addresses cause code A2B2C03.	
Corrective Action 02:	Target Completion Date: 04/21/2008	Tracking ID: ICARE DR 103406, AI 54780
	Repair night-light. Additional action to review night-light configuration and label Night-Lights This corrective action addresses cause code A2B6C04.	
Corrective Action 03:	Target Completion Date: 03/21/2008	Tracking ID: ICARE DR 103406, AI 54781
	STR to secure drawings and gain access to drawings on EDMS. Additional action to update electrical drawing "stick" files maintained in TSA. This corrective action addresses cause code A5B3C02.	
Corrective Action 04:	Target Completion Date: 03/21/2008	Tracking ID: ICARE DR 103406, AI 54782
	Review night-light configuration and correct labeling on panel schedule. This corrective action addresses cause code A5B2C07.	
Corrective Action 05:	Target Completion Date: 03/05/2008	Tracking ID: ICARE DR 103406, AI 54783
	Assign a Qualified STR to mentor and oversee the Interim Qualified STR's activities until the Interim Qualified STR for In-town is fully qualified; and Interim Qualified STR to complete qualification. This corrective action addresses cause code A4B1C04.	
Corrective Action 06:	Target Completion Date: 03/21/2008	Tracking ID: ICARE DR 103406, AI 54784
	Develop a notification method for Interim STR qualification expiration. This corrective action addresses cause code A4B1C04.	
Corrective Action 07:	Target Completion Date: 07/11/2008	Tracking ID: ICARE DR 103406, AI 54785
	Update MCP-1186, "Service Acquisitions" to reflect STR requirements for In-town CWI-managed Idaho Falls Facilities. This corrective action addresses cause code A5B2C05.	
Lessons(s) Learned:	There are three basic lessons learned. First, the condition of the TSA/TSB facilities was not well known or maintained by previous contractors. During transition of building management from one contractor to another, including BEA to CWI, less than adequate configuration management knowledge was transferred. Second, conflicting interpretation of procedure requirements and/or wording lead building management to less than adequate oversight of contractor activity. Third, STR training qualification requirements (not originally required for in-town facilities) were not well understood or followed. The tracking method for interim STR qualification was less than adequate and communication of qualification expiration was not accomplished.	

HQ Keywords:

01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control
 01F--Inadequate Conduct of Operations - Training Deficiency
 01G--Inadequate Conduct of Operations - Inadequate Procedure
 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)
 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
 01O--Inadequate Conduct of Operations - Inadequate Maintenance
 01R--Inadequate Conduct of Operations - Management issues
 05F--Mechanical/Structural - Corrosion/Material Degradation/EOL
 07E--Electrical Systems - Electrical Equipment Failure
 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance
 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical)
 11G--Other - Subcontractor
 12K--EH Categories - Near Miss (Could have been a serious injury or fatality)
 13A--Management Concerns - HQ Significant (High-lighted for Management attention)
 13E--Management Concerns - Facility Call Sheet
 14B--Quality Assurance - Training and Qualification Deficiency
 14D--Quality Assurance - Documents and Records Deficiency
 14E--Quality Assurance - Work Process Deficiency

HQ Summary:

Subcontract electricians were replacing light ballasts in the Technical Support building (TSA/TSB) when electrical sparks came from an unidentified energized wire in a fluorescent light fixture. The breaker was isolated and work continued. A later fact finding meeting revealed the energized wire was discovered after the zero energy check was performed, and the electrician was not wearing the appropriate personnel protective equipment (PPE) for the voltage encountered. The crew also failed to follow the specified lockout/tagout procedure during this work. All work under this subcontract has been suspended and a formal cause analysis commenced.

- Similar OR Report Number:**
1. EM-ID--CWI-RWMC-2005-0013
 2. EM-ID--CWI-LANDLORD-2005-0019
 3. EM-ID--CWI-LANDLORD-2006-0014
 4. EM-ID--CWI-INLPROGM-2005-0001

Facility Manager:

Name	F.J. Kocsis
Phone	(208) 526-4590
Title	Director, Information Management

Originator:

Name	Allred, Matthew D
Phone	(208) 526-6294

	Title	ORPS COORDINATOR		
HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
Other Notifications:	Date	Time	Person Notified	Organization
	01/15/2008	15:30 (MTZ)	R. Claycomb	DOE-ID
Authorized Classifier(AC):	LePage Hughie R		Date: 01/14/2008	

3)Report Number:	EM-ORO--BJC-K25ENVRES-2008-0002 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	East Tennessee Technology Park		
Facility Name:	ETTP Facility D&D/K-25/K-27 Project		
Subject/Title:	Near Miss - Electrical Equipment Fault		
Date/Time Discovered:	01/03/2008 11:30 (ETZ)		
Date/Time Categorized:	01/04/2008 11:30 (ETZ)		
Report Type:	Final		
Report Dates:	Notification	01/04/2008	16:03 (ETZ)
	Initial Update	01/30/2008	08:41 (ETZ)
	Latest Update	01/30/2008	08:41 (ETZ)
	Final	01/30/2008	08:41 (ETZ)
Significance Category:	3		
Reporting Criteria:	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
Cause Codes:	A2B6C05 - Equipment/ material problem; Defective, Failed or Contaminated; Electrical or instrument noise		
ISM:	2) Analyze the Hazards		
Subcontractor Involved:	No		
Occurrence Description:	While prepping the K-25 Building Vault 9 302-5 cold trap room for asbestos abatement, a laborer was installing a magnetic mount 110V light onto an abandoned metal panel. As the magnetic mount of the light contacted the metal panel, the laborer saw an electrical arc. No one received a shock or was injured. The work in this area was suspended immediately.		
Cause Description:	A2B6C05 - Equipment/Material Problem; Defective, Failed or Contaminated; Electrical		

	The ground in the disconnect box where the equipment was connected was faulty.
Operating Conditions:	Normal under Decontamination and Decommission
Activity Category:	Facility Decontamination/Decommissioning
Immediate Action(s):	Work in Vault 9 was immediately suspended and the electricians and electrical field engineer called to investigate. Based on initial findings of the investigation, all work utilizing the power packs was suspended.
FM Evaluation:	On 1/3/08 at approximately 11:30 a.m., a crew mobilizing in 302-5 vault for cold trap abatement started to power up temporary lights (portable light stand and magnetic light) which was feed from a temporary construction "power pack" (120V) located in the vault area. The portable light stand was powered up first and then the portable magnetic light was plugged in. When the Foreman placed (mounted) the portable magnetic light onto an old lighting panel cover (this lighting panel has no energy source), the magnetic base of the light arced when contact was made with the lighting panel and the Foreman threw the light on the floor. The Foreman then unplugged the light. All employees immediately left the area and reported the incident to their supervision. There was no injury associated with this incident. Electricians determined after testing of the equipment that the ground was faulty in the disconnect box where the equipment was connected.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	K-25/K-27 D&D
Plant Area:	Central
System/Building/Equipment:	K-25 Building
Facility Function:	Environmental Restoration Operations
Corrective Action 01:	Target Completion Date: 01/31/2008 Tracking ID: I0066929
	Inspect all building electrical disconnects of this type and repair as needed.
Corrective Action 02:	Target Completion Date: 01/31/2008 Tracking ID: I0066929
	Verify proper ground on all portable electrical distribution carts.
Lessons(s) Learned:	Proper grounding of portable electrical equipment is vital. When connecting equipment of this type, a proper ground must be verified before equipment is placed into service.
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12K--EH Categories - Near Miss (Could have been a serious injury or fatality)

	14L--Quality Assurance - No QA Deficiency			
HQ Summary:	While prepping the K-25 Building Vault 9 302-5 cold trap room for asbestos abatement, a laborer was installing a magnetic mount 110V light onto an abandoned metal panel. As the magnetic mount of the light contacted the metal panel, the laborer saw an electrical arc. No one received a shock or was injured. The work in this area was suspended immediately. All work utilizing the temporary construction power packs was suspended.			
Similar OR Report Number:	1. None			
Facility Manager:	Name	Kevin OHara		
	Phone	(865) 241-3602		
	Title	Facility Manager		
Originator:	Name	SMITH, MILDRED L		
	Phone	(865) 241-1703		
	Title	QUALITY ENGINEER		
HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
Other Notifications:	Date	Time	Person Notified	Organization
	01/04/2008	10:15 (ETZ)	Jim Pemberton	BJC-PSS
	01/04/2008	10:15 (ETZ)	Fred Fillers	BJC-QA
	01/04/2008	10:15 (ETZ)	Kelly Trice	BJC-MOP
	01/04/2008	10:15 (ETZ)	Jack Howard	DOE
	01/04/2008	10:15 (ETZ)	Dan Emch	DOE-FR
Authorized Classifier(AC):	Fred Fillers Date: 01/26/2008			

4)Report Number:	EM-RL--PHMC-WESF-2008-0001 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Hanford Site		
Facility Name:	Waste Encapsulation & Storage Fac.		
Subject/Title:	Discovery of Previously Unknown Hazardous Energy Source		
Date/Time Discovered:	01/08/2008 14:40 (PTZ)		
Date/Time Categorized:	01/08/2008 14:51 (PTZ)		
Report Type:	Update/Final		
Report Dates:	Notification	01/10/2008	18:15 (ETZ)
	Initial Update	02/21/2008	17:56 (ETZ)
	Latest Update	02/29/2008	19:19 (ETZ)
	Final		

Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	A1B2C06 - Design/Engineering Problem; Design output LTA; Drawing, specification or data error A1B4C03 - Design/Engineering Problem; Design Verification / Installation Verification LTA; Independent inspection of design/installation LTA A3B2C01 - Human Performance Less Than Adequate (LTA); Rule Based Error; Strong rule incorrectly chosen over other rules -->couplet - A4B1C03 - Management Problem; Management Methods Less Than Adequate (LTA); Management direction created insufficient awareness of the impact of actions on safety / reliability A4B5C04 - Management Problem; Change Management LTA; Risks / consequences associated with change not adequately reviewed / assessed
ISM:	2) Analyze the Hazards
Subcontractor Involved:	No
Occurrence Description:	<p>A pipefitter was using a tool to unplug a sump in the Waste Encapsulation and Storage Facility (WESF) pool cell. While withdrawing the tool from the drain, the pipefitter inadvertently contacted the uninsulated end of the trench drain liquid detector probe. The pipefitter felt a tingling sensation through his leather gloves. During the critique, it was found that facility drawings used to support the work package indicated the liquid detector as a 9.6 volt solid state component. The as-found condition of the probe identified an induction relay detector which could potentially energize to 300 volts (secondary). Actual measurements across the ends of the probe was 19 volts.</p> <p>Background</p> <p>In early December 2007, WESF Operations began receiving alarms from the floor trench drain. Response to the alarms indicated that there was insufficient physical evidence to account for the alarm condition. A work package was written on December 11, 2007 to troubleshoot the alarm.</p> <p>The sump collects liquid from the WESF pool cell floor drains and condensate. The sump is approximately 4 feet deep and is located below floor level. A liquid detection probe is staged inside the sump. Initial walkdown and inspection of the sump indicated that the drain might be plugged with debris, causing slow drainage of the sump. A pressure tool was chosen to attempt to flush the drain.</p> <p>During the walkdown on January 4, 2008, workers identified that the use of</p>

a wet-dry vacuum to remove accumulated water would allow better visibility. Radiological Control approval was obtained on January 7, 2008, to allow use of the vacuum.

On January 8, 2008, the workers completed a pre-job, then commenced work. Because of weather conditions, the sump had accumulated additional condensate. The sump cover, with the attached liquid detection probe, was placed to one side of the sump. Workers used the vacuum to reduce the liquid accumulation. It became clear it would be difficult to keep up with the inflow of liquid. The workers determined to use the pressure tool once to attempt to clear the drain.

The pipefitter put the pressure tool into the sump. The pressure tool consisted of a stainless steel tube capped with a rubber plunger fixture. The plunger section fit over the drain while pressurized water was directed at the obstruction. The workers were unable to tell if the obstruction had been cleared. While the pipefitter was removing the pressure tool from the sump, he apparently contacted the uninsulated end of the trench drain liquid detector probe. The pipefitter felt a tingling sensation through his leather gloves, which were wet. He reported the situation to the Person in Charge, who immediately de-energized the portable equipment.

The pipefitter was taken to First Aid. A team, consisting of an electrician, the Design Authority, and the Maintenance Manager, investigated the scene to determine potential causes. The electrician measured across the ends of the probe and found 19 volts. Facility drawings used to support the work package indicated the liquid detector as a 9.6 volt solid state component. The as-found condition of the probe identified an induction relay detector which could potentially energize to 300 volts (secondary). This type of detector had been replaced in several facility locations.

Cause Description:

The analysis was performed using Events and Causal Factor and Barrier Analysis techniques. A copy of the analysis report is maintained with Corrective Action Record File (CARF) 20080040.

Apparent Causes:

A1B2C06, Drawing, Specification, or Data Error

The drawing did not reflect current configuration of the equipment in the field. A second drawing was available for reference, but arrangement of information on this drawing was unclear and could lead a person to an incorrect assumption. Although the drawings were not used in this particular case, the existing weaknesses helped to create the perception that the pump trench sump liquid detector was a low voltage system.

To address this causal factor, WESF removed power from the pump trench

sump liquid detector, LDK-S-1 (Action 1). WESF verified that all pool cell leak detectors are low voltage solid state unit (Action 2). WESF will replace the relays for LDK-S-1 and LDK-S-2 and close work package 2C-00-00047 and the associated documents Engineering Change Notice (ECN) 656672 and HNF-FMP-07-36094-R0 (Action 3).

A3B2C01, Rule Based Error, Strong Rule Chosen Over Other Rules

Facility personnel had determined, based upon plant knowledge, that the leak detector was a low voltage system (less than 50 volts). HNF-PRO-081, Lockout/Tagout, does not apply to systems under 50 volts. The determination that HNF-PRO-081 did not apply was accompanied with an almost automatic decision that power did not need to be removed from the leak detector. Even though conditions may exist where HNF-PRO-081 would not apply, other aspects/hazards should be considered and possibly have power removed as a good management practice. This cause is coupled with A4B1C03, Management Direction Created Insufficient Awareness of the Impact of Actions on Safety/Reliability under Root Causes.

To address this causal factor, WESF will submit a lessons learned to the Fluor Hanford (FH) Lessons Learned coordinator about the event to include the following; maintaining configuration control, potential for drawings of older facilities to have errors, maintain a questioning attitude, and potential hazards associated with low voltage (less than 50 volts) systems (Action 8).

A4B5C04, Risk/Consequences Associated With Change Not Adequately Reviewed/Assessed

There were many opportunities where a questioning attitude could have triggered additional review or analysis that might have prevented the event from occurring, particularly when changing conditions were present. Recognition of the following error precursors could have stopped the activity for additional review:

- * Scope Creep: the scope of the work package changed from a troubleshoot activity to unplugging the drain.
- * Assumptions: personnel believed that the drain was plugged and causing the spurious alarms, because previous experience indicated this would be the cause.
- * Changed Condition: the level of the water in the sump had increased dramatically to the point of overflowing between the time of the walkdown and the day the work was performed.
- * Changed Condition: When enough water had been removed the fitter could see water pouring into the sump from the condensate drain line. Fitter felt that he could not keep up with the water coming in.

* New Task: the pipefitter had never performed this activity at this location.
* Individual Capabilities: the pipefitter had mentioned that he was not feeling very well to his supervisor and other workers. It was later determined he had a high fever.

To address this causal factor, WESF will submit a lessons learned to the FH Lessons Learned Coordinator about the event to include the following; maintaining configuration control, potential for drawings of older facilities to have errors, maintain a questioning attitude, and potential hazards associated with low voltage (less than 50 volts) systems (Action 8). Liquid Processing and Capsule Storage (LPCS) Management will present the lessons learned to all LPCS personnel in a forum format to receive feedback about similar conditions that might exist (Action 9).

Root Causes

A1B4C03, Independent inspection of design/installation Less Than Adequate (LTA)

Investigation of the event discovered numerous cases where configuration control was not adequate. One of the changes in ECN 627828, documented in 1996, was to account for LDK-S12-2 because it had been replaced sometime in the past. In 2002, while documenting changes made to the radiation monitoring instrumentation, it was discovered that other instrumentation did not match the drawings. A full as-built of the instrumentation in the pool cell area was subsequently performed. HNF-FMP-01-8928 was written to document all of the changes found. The verification of this Facility Modification Package (FMP) was less than adequate because it did not identify that relay LDK-S-1 was an induction relay rather than a solid state relay as the FMP showed.

Actions taken for configuration control during the actual work activity followed established procedures and requirements. No problems were identified.

The errors identified occurred at least six or more years prior to this event. Significant changes have been made to strengthen the configuration control process used now. A stronger focus has been placed on maintaining the drawings at facilities. Changes that have been implemented include the canceling of drawings for equipment no longer present, upgrade of some drawings to support or essential, as-building of drawing, and actively working to incorporate drawing changes in a timely manner. However, experience has shown that a higher degree of vigilance may be needed for as-built and configuration drawings for older buildings.

To address this causal factor, WESF will review all affected drawings for the

liquid/leak detectors in the WESF pool cell area to ensure that they match the field conditions (Action 4). WESF will perform a review of all LPCS facilities for locations where induction relay leak/liquid detectors might be in use, and verify that induction relays are adequately described in drawings and that the relays are appropriately marked (Action 5). WESF will prepare a Just in Time Report (JIT) for transmittal to the FH projects describing the event and include actions to review facilities for similar situations involving induction relay leak/liquid detectors and submit findings to FH Safety (Action 6). FH Safety will perform an Extent of Condition (EOC) review based upon feedback from the facilities responding to the JIT (Action 7).

A4B1C03, Management Direction Created Insufficient Awareness of the Impact of Actions on Safety/Reliability (best fit code).

Facility personnel had determined, based upon plant knowledge, that the leak detector was a low voltage system (less than 50 volts) Even though conditions may exist where HNF-PRO-081 does not apply, other aspect/hazards should be considered and possibly have power removed as a good management practice.

To address this causal factor, WESF will submit a lessons learned to the FH Lessons Learned coordinator about the event to include the following; maintaining configuration control, potential for drawings of older facilities to have errors, maintain a questioning attitude, and potential hazards associated with low voltage (less than 50 volts) systems (Action 8).

Operating Conditions:	Maintenance
Activity Category:	Maintenance
Immediate Action(s):	<ol style="list-style-type: none"> 1. Portable equipment was de-energized and workers exited the area. 2. The worker was sent to First Aid and released with no injuries. 3. Investigation was initiated into the configuration of the probe, which identified the discrepancy between the drawing and the as-found condition.
FM Evaluation:	<p>Update 2/21/2008</p> <p>Investigation and initial causal analysis have been completed for this report. Actions have been taken to address the unsafe condition and determine extent of condition within the facility. Resources necessary to finalize the report have not been available due to competing Project-level priorities. In order to allow time for the completion of the report and appropriate reviews, the final submittal date for this occurrence will be extended to February 29, 2008.</p> <p>Update 2/29/2008</p> <p>The induction relay that was in place was sized to allow a maximum current of 15 milliamps to the probe legs. The smallest amount of current that can cause physical harm is recognized as 40 to 60 milliamps. The sizing</p>

	<p>mitigated the risk of injury to the individual.</p> <p>A search of the Occurrence Reporting and Processing database found sixty-six events in the last three years related to configuration control issues and drawings that did not reflect field conditions. Review of these reports did not identify lessons learned or corrective actions applicable to the WESF event; therefore, specific reports are not listed. However, WESF has had two previous events in the last two years where facility configuration resulted in a potential shock hazard. EM-RL--PHMC-WESF-2006-0002 discusses the discovery of a shared neutral during electrical work. This event, coupled with other events throughout Fluor Hanford, resulted in a training presentation to electricians and field work supervisors on the potential hazard and mitigation techniques. EM-RL--PHMC-WESF-2007-0001 describes a similar incident where a shared neutral was identified, but facility drawings did not reflect the field configuration and potential power source. Good work practices by electricians avoided personnel injury in both events.</p> <p>As discussed in this report, LPCS will heighten facility personnel awareness to these conditions, and support FH in a broader scope look to determine if additional actions are required at the FH level (reference Actions 6, 7, 8, and 9).</p>		
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	Waste Stabilization and Disposition		
Plant Area:	200 East		
System/Building/Equipment:	225 B		
Facility Function:	Nuclear Waste Operations/Disposal		
Corrective Action 01:	<table border="1"> <tr> <td>Target Completion Date:01/09/2008</td> <td>Tracking ID:CARF 20080040</td> </tr> </table> <p>Remove power from the pump trench sump liquid detector, LDK-S-1</p> <p>Responsible Manager: Foster</p>	Target Completion Date: 01/09/2008	Tracking ID: CARF 20080040
Target Completion Date: 01/09/2008	Tracking ID: CARF 20080040		
Corrective Action 02:	<table border="1"> <tr> <td>Target Completion Date:01/22/2008</td> <td>Tracking ID:CARF 20080040</td> </tr> </table> <p>Verify that all pool cell leak detectors are low voltage solid state unit</p> <p>Responsible Manager: Foster</p>	Target Completion Date: 01/22/2008	Tracking ID: CARF 20080040
Target Completion Date: 01/22/2008	Tracking ID: CARF 20080040		

Corrective Action 03:	<table border="1"> <tr> <td data-bbox="526 201 1019 247">Target Completion Date:03/20/2008</td> <td data-bbox="1024 201 1500 247">Tracking ID:CARF 20080040</td> </tr> </table>	Target Completion Date: 03/20/2008	Tracking ID: CARF 20080040
Target Completion Date: 03/20/2008	Tracking ID: CARF 20080040		
	<p>Replace the relays for LDK-S-1 and LDK-S-2 and close work package 2C-00-00047 and the associated documents ECN 656672 and HNF-FMP-07-36094-R0</p> <p>Responsible Manager: Pennock</p>		
Corrective Action 04:	<table border="1"> <tr> <td data-bbox="526 497 1019 543">Target Completion Date:04/20/2008</td> <td data-bbox="1024 497 1500 543">Tracking ID:CARF 20080040</td> </tr> </table>	Target Completion Date: 04/20/2008	Tracking ID: CARF 20080040
Target Completion Date: 04/20/2008	Tracking ID: CARF 20080040		
	<p>Review all affected drawings for the liquid/leak detectors in the WESF pool cell area to ensure that they match the field conditions.</p> <p>Responsible Manager: Pennock</p>		
Corrective Action 05:	<table border="1"> <tr> <td data-bbox="526 751 1019 798">Target Completion Date:06/12/2008</td> <td data-bbox="1024 751 1500 798">Tracking ID:CARF 20080040</td> </tr> </table>	Target Completion Date: 06/12/2008	Tracking ID: CARF 20080040
Target Completion Date: 06/12/2008	Tracking ID: CARF 20080040		
	<p>Perform a review of all LPCS facilities for locations where induction relay leak/liquid detectors might be in use. Verify that induction relays are adequately described in drawings and that the relays are appropriately marked.</p> <p>Responsible Manager: Pennock</p>		
Corrective Action 06:	<table border="1"> <tr> <td data-bbox="526 1079 1019 1125">Target Completion Date:03/14/2008</td> <td data-bbox="1024 1079 1500 1125">Tracking ID:CARF 20080040</td> </tr> </table>	Target Completion Date: 03/14/2008	Tracking ID: CARF 20080040
Target Completion Date: 03/14/2008	Tracking ID: CARF 20080040		
	<p>Prepare a JIT for transmittal to the FH projects describing the event and include actions to review facilities for similar situations involving induction relay leak/liquid detectors and submit findings to FH Safety.</p> <p>Responsible Manager: Flyckt</p>		
Corrective Action 07:	<table border="1"> <tr> <td data-bbox="526 1369 1019 1415">Target Completion Date:08/04/2008</td> <td data-bbox="1024 1369 1500 1415">Tracking ID:CARF 20080040</td> </tr> </table>	Target Completion Date: 08/04/2008	Tracking ID: CARF 20080040
Target Completion Date: 08/04/2008	Tracking ID: CARF 20080040		
	<p>Perform an EOC review based upon feedback from the facilities responding to the JIT.</p> <p>Responsible Manager: Wiatrak</p>		
Corrective Action 08:	<table border="1"> <tr> <td data-bbox="526 1623 1019 1669">Target Completion Date:04/24/2008</td> <td data-bbox="1024 1623 1500 1669">Tracking ID:CARF 20080040</td> </tr> </table>	Target Completion Date: 04/24/2008	Tracking ID: CARF 20080040
Target Completion Date: 04/24/2008	Tracking ID: CARF 20080040		
	<p>Submit a lessons learned to the FH Lessons Learned coordinator about the event to include the following; maintaining configuration control, potential for drawings of older facilities to have errors, maintain a questioning attitude, and potential hazards associated with low voltage (<50 volts) systems.</p>		

	Responsible Manager: Flyckt				
Corrective Action 09:	Target Completion Date: 06/05/2008 Tracking ID: CARF 20080040				
	Present the lessons learned to all LPCS personnel in a forum format to receive feedback about similar conditions that might exist. Document attendance and results of the meetings. Responsible Manager: Flyckt				
Corrective Action 10:	Target Completion Date: 03/01/2009 Tracking ID: CARF 20080040				
	Perform an effectiveness review. Responsible Manager: Burrow				
Lessons(s) Learned:	This event contained several instances where the expected conditions changed. Each of these instances represented an opportunity for personnel to question whether the job should continue, or whether additional review was appropriate. Assumptions influenced the decision-making process in these instances. The highest potential for human error occurs when something in a work process changes. Recognition of these changes as set-up factors is the first step to mitigating potential hazards.				
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency				
HQ Summary:	While using a tool to unplug a sump in the WESF pool cell, a pipefitter inadvertently contacted a liquid detector probe and felt a tingling sensation through his leather gloves. He was sent to First Aid and released with no injuries. Portable equipment was de-energized and workers exited the area. Subsequently, it was determined that, while facility drawings used to support the work package indicated the liquid detector as a 9.6 volt solid state component, an induction relay detector was present which could potentially energize to 300 volts. The measured potential across the ends of the probe was 19 volts.				
Similar OR Report Number:	1. EM-RL--PHMC-WESF-2006-0002 2. EM-RL--PHMC-WESF-2007-0001				
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>Flyckt, Donald L</td> </tr> <tr> <td>Phone</td> <td>(509) 372-3142</td> </tr> </table>	Name	Flyckt, Donald L	Phone	(509) 372-3142
Name	Flyckt, Donald L				
Phone	(509) 372-3142				

	Title	Facility Manager		
Originator:	Name	POOLE, M ELIZABETH		
	Phone	(509) 373-0522		
	Title			
HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
Other Notifications:	Date	Time	Person Notified	Organization
	01/08/2008	14:40 (PTZ)	DL Flyckt	LPCS
	01/08/2008	14:52 (PTZ)	CH Gunion	DOE RL
	01/08/2008	15:47 (PTZ)	M Boyce	FH ONC
Authorized Classifier(AC):				

5)Report Number:	EM-RL--WCH-ERDF-2008-0001 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Hanford Site		
Facility Name:	Env.Restoration Disposal Facility		
Subject/Title:	Mild Electrical Shock From Weld Oven Cord		
Date/Time Discovered:	01/15/2008 15:45 (PTZ)		
Date/Time Categorized:	01/15/2008 17:30 (PTZ)		
Report Type:	Final		
Report Dates:	Notification	01/22/2008	13:22 (ETZ)
	Initial Update	02/28/2008	18:46 (ETZ)
	Latest Update	02/28/2008	18:46 (ETZ)
	Final	02/28/2008	18:46 (ETZ)
Significance Category:	3		
Reporting Criteria:	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
Cause Codes:	A2B3C02 - Equipment/ material problem; Inspection/ testing LTA; Inspection/ testing LTA A3B2C02 - Human Performance Less Than Adequate (LTA); Rule Based Error; Signs to stop were ignored and step performed incorrectly -->couplet - A4B1C03 - Management Problem; Management Methods Less Than Adequate (LTA); Management direction created insufficient awareness		

	<p>of the impact of actions on safety / reliability -->couplet - A4B1C01 - Management Problem; Management Methods Less Than Adequate (LTA); Management policy guidance / expectations not well-defined, understood or enforced A6B2C02 - Training deficiency; Training Methods Less Than Adequate (LTA); Testing LTA</p>
ISM:	2) Analyze the Hazards
Subcontractor Involved:	Yes E-2, Subcontractor to C. M. Stoller, Inc.
Occurrence Description:	<p>In order to support welding repairs on the waste shipping containers at Environmental Restoration Disposal Facility (ERDF), a maintenance employee ordered a used welding rod oven from the Fluor Hanford equipment maintenance shop. On January 14, 2008, the 115 pound, metal bodied, welding rod oven (Phoenix brand, Model 300, Bench and Floor oven) was delivered to the ERDF maintenance Conex. The maintenance Conex has been set up with electricity to accommodate various maintenance support operations. The maintenance employee decided to warm up the welding rod oven in preparation for upcoming welding work.</p> <p>The maintenance employee did not conduct a pre-operational inspection of the oven nor did he test the ground fault circuit indicator (GFCI) on the outlet before attempting to use it. The maintenance employee plugged the oven into the first GFCI protected electrical outlet; he left the area and returned a short time later. Upon his return he noticed the oven was not operating and the GFCI had tripped. Because he did not test the GFCI before he used it, he did not know if the GFCI was tripped prior to him plugging the oven in. The maintenance employee reset the GFCI for the first time and plugged the oven into the same outlet a second time. He then left the area again and returned approximately ten minutes later and discovered the GFCI had tripped.</p> <p>He then moved the oven to a second building and plugged the oven into a second GFCI outlet. The second outlet tripped immediately. The maintenance employee then contacted Fluor Hanford equipment maintenance shop about the status of the welding rod oven. The Fluor employees reported the oven had been functioning properly prior to shipping it to ERDF. The Fluor maintenance shop also reported the oven had been plugged into a non-GFCI protected outlet.</p> <p>The following morning on January 15, 2008 the ERDF maintenance employee attempted to recreate the conditions of the Fluor maintenance shop. The ERDF maintenance employee moved the welding rod oven into a third facility at MO-605. He plugged the oven into an electrical outlet that did not have GFCI protection. At this point, the oven began to heat up. After several minutes he checked the thermostat on the back of the oven. He observed near the opening where the cord enters the body of the thermostat,</p>

the cord was in poor condition. The cord appeared to be discolored; the rubber insulation had become checkered and brittle with age. The maintenance employee decided to take the oven out of service.

In order to keep his balance while he reached for the oven's plug, he braced himself on the backside of the metal oven. He placed one hand on the back of the metal oven, next to the housing of the thermostate and next to the area of the damaged cord. He used the other hand to pull the plug from the electrical outlet. During this process, the hand on the body of the metal oven brushed the damaged area of the electrical cord. The maintenance worker felt a slight tingle and pulled his hand away. He ignored this event because he was not injured. The employee completely unplugged the oven and placed an out of service sign on it.

Later the same day the employee informed the ERDF site supervisor of the status on welding oven and the slight tingle he felt while he unplugged the oven. The ERDF site supervisor verified the maintenance worker was not injured. The employee recieved an on the spot correction for late reporting of the event to a supervisor. the supervisor then ensured the oven was out of service. The site supervisor then made notification calls to the subcontractor Stoller and Washington Closure Hanford.

Cause Description:

WCH reviewed the facts of the event through interviews and document reviews. Interviews included both WCH and Stoller Line management, involved workers, and subject matter experts. Documents reviewed included WCH and Stoller procedures and policies, training materials, and training records. WCH performed a formal Root Cause Analysis (using Reasons Pro), as defined in DOE G 231.1-2, to identify the causes of this event as follows.

A2B3C02- Inspection/Testing LTA. Required inspection was not performed for the equipment involved in the incident.

Stoller had mechanisms in place (Electrical tool/Equipment Safety Check) to inspect items that are new or are rented. In this particular case, the welding rod oven came from the 200 Area Welding Shop. It was not new or rented and therefore did not go through any receipt process which would have included an inspection. Since there was no inspection, the damaged cord was not discovered until after the oven was energized. The welding rod oven is considered a "plug and stay" appliance and does not fall into the realm of portable electric hand tools that require and inspection before each use. Research revealed that there is not a policy regarding scheduled maintenance inspections of plug and stay appliances.

A3B2C02- Signs to stop were ignored and steps were performed incorrectly. Multiple GFCI trips indicated an off-normal situation with possible safety

implications.

A4B1C03-Couplet- Management direction created insufficient awareness of the impact of actions on safety/reliability. Management failed to provide direction regarding safeguards against non-conservative actions by personnel concerning quality, safety or reliability.

The welding rod oven was plugged into (and tripped) two different GFCI protected outlets and a non-GFCI protected outlet. The employee did not contact a supervisor or electrical SME after the second fGFCI fault. The GFCI faults provided positive signs to stop using the welding rod oven, yet these signs were ignored. There were also incorrect actions by the employee when he moved the welding rod oven to another building in order to use a non-GFCI protected outlet. Management did not ensure the employee sufficiently understood the ISMS methodology. The employee did not exhibit a questioning attitude or conservative thinking in regards to the multiple GFCI faults.

A4B1C01- Management policy guidance/expectations not well-defined, understood or enforced. Personnel exhibited a lack of understanding of existing policy and/or expectations, or policy/expectations were not well-defined or policy/expectation is not enforced.

Once the welding rod oven had tripped two GFCI's, the employee should have stopped and contacted a supervisor or electrical SME, per Stoller's Electrical Safety Program, Attachment 1, General ERDF Site Electrical Safety Training. The employee was not aware of the management expectation of stopping and reporting the second GFCI trip to their supervisor.

A6B2C02- Testing LTA. Testing did not cover all the knowledge and skills necessary to do the job. Testing did not adequately reflect the trainee's ability to perform the job.

Initial Computer Based Training on the proper response to GFCI faults was provided to the affected employee during the Hanford General Employee Training (HGET). The employee also received more training during the ERDF facility training. There are portions in the training that reviewed the use of GFCI outlets. However the testing used to check the knowledge of the employee needs improvement. The testing during HGET is covered by a random test question generator. The computer program randomly selects questions from a pool of questions. The HGET testing records of this employee were reviewed during the investigation. It was discovered that the employee did not receive a question in regards to the proper response for a GFCI fault. The pool did contain questions regarding actions to take in the event of a GFCI fault but even these questions had incorrectly stated answers.

Operating Conditions:	Normal Operations
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	The welding rod oven was tagged out of service, and notifications made to management and DOE. A fact finding was held to discuss information relative to the incident. In addition, WCH provided initial incident information to all other WCH projects and developed a safety message delivered on January 17, 2008.
FM Evaluation:	This was an isolated event by a new employee to the project that was trained to our procedures and training material. The proper reaction to prevent this event was covered in training materials. It is fortunate that no injury was sustained by this event and this event helped to high light the importance of providing focused refresher briefings in our Plan of the Days. See below for corrective actions.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Waste Operations
Plant Area:	600 Area
System/Building/Equipment:	Welding Ron Oven
Facility Function:	Environmental Restoration Operations
Corrective Action 01:	Target Completion Date: 01/15/2008 Tracking ID: IF-2008-0022-01
	1. Retrain individual involved in this event.
Corrective Action 02:	Target Completion Date: 01/16/2008 Tracking ID: IF-2008-0022-02
	2. Brief entire team on GFCI testing, equipment inspection and appropriate actions when GFCI units trip.
Corrective Action 03:	Target Completion Date: 04/01/2008 Tracking ID: IF-2008-002-03
	3. Establish periodic briefing to refresh expectations on electrical safety, equipment inspections and GFCI testing.
Lessons(s) Learned:	New employees and project personnel need to understand electrical safety practices along with expectations on reporting of incidents to their management in a timely fashion.
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01F--Inadequate Conduct of Operations - Training Deficiency 01O--Inadequate Conduct of Operations - Inadequate Maintenance 01Q--Inadequate Conduct of Operations - Personnel error 01R--Inadequate Conduct of Operations - Management issues 05F--Mechanical/Structural - Corrosion/Material Degradation/EOL

	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14B--Quality Assurance - Training and Qualification Deficiency 14E--Quality Assurance - Work Process Deficiency 14H--Quality Assurance - Inspection and Acceptance Testing Deficiency												
HQ Summary:	A subcontractor had plugged a welding rod oven into a ground fault circuit interrupter (GFCI)-protected outlet and the GFCI tripped. After the GFCI tripped a second time, the subcontractor contacted Fluor Hanford about the condition of the oven and was told that it worked when connected to a non-GFCI outlet. The subcontractor plugged it into a non-GFCI outlet and the oven light came on and started heating. When the subcontractor placed his hand on the thermometer housing, his fingertips brushed the electrical cord, resulting in a minor electrical shock to his hand. The welding rod oven was tagged out of service and notifications were made												
Similar OR Report Number:	1. EM-RL--WCH-DND-2006-0006 2.												
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>COVERT, BRUCE, C.</td> </tr> <tr> <td>Phone</td> <td>(509) 373-3228</td> </tr> <tr> <td>Title</td> <td>DIRECTOR, WASTE OPERATIONS</td> </tr> </table>	Name	COVERT, BRUCE, C.	Phone	(509) 373-3228	Title	DIRECTOR, WASTE OPERATIONS						
Name	COVERT, BRUCE, C.												
Phone	(509) 373-3228												
Title	DIRECTOR, WASTE OPERATIONS												
Originator:	<table border="1"> <tr> <td>Name</td> <td>TELLER, DONALD S</td> </tr> <tr> <td>Phone</td> <td>(509) 372-9098</td> </tr> <tr> <td>Title</td> <td>OCCURRENCE INVESTIGATOR</td> </tr> </table>	Name	TELLER, DONALD S	Phone	(509) 372-9098	Title	OCCURRENCE INVESTIGATOR						
Name	TELLER, DONALD S												
Phone	(509) 372-9098												
Title	OCCURRENCE INVESTIGATOR												
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA				
Date	Time	Person Notified	Organization										
NA	NA	NA	NA										
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/15/2008</td> <td>15:45 (PTZ)</td> <td>Bruce Covert</td> <td>WCH-PD</td> </tr> <tr> <td>01/15/2008</td> <td>18:15 (PTZ)</td> <td>Allison Wright</td> <td>DOE-FR</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	01/15/2008	15:45 (PTZ)	Bruce Covert	WCH-PD	01/15/2008	18:15 (PTZ)	Allison Wright	DOE-FR
Date	Time	Person Notified	Organization										
01/15/2008	15:45 (PTZ)	Bruce Covert	WCH-PD										
01/15/2008	18:15 (PTZ)	Allison Wright	DOE-FR										
Authorized Classifier(AC):													

6)Report Number:	EM-RP--BNRP-RPPWTP-2008-0002 After 2003 Redesign
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	RPP Waste Treatment Plant
Subject/Title:	Scissor Lift Movement Causes Electrical Cord Damage
Date/Time Discovered:	01/16/2008 10:10 (PTZ)

Date/Time Categorized:	01/16/2008 11:10 (PTZ)		
Report Type:	Notification/Final		
Report Dates:	Notification	01/18/2008	15:25 (ETZ)
	Initial Update	01/18/2008	15:25 (ETZ)
	Latest Update	01/18/2008	15:25 (ETZ)
	Final	01/18/2008	15:25 (ETZ)
Significance Category:	4		
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)		
Cause Codes:			
ISM:	2) Analyze the Hazards		
Subcontractor Involved:	No		
Occurrence Description:	<p>The event occurred on Wednesday 01/16/2008 shortly after 10 a.m. in the Low Activity Waste (LAW) building (on the -21 level). At approximately 10:00 a carpenter noticed a drop cord with exposed wires on one end lying against the west wall. Initial investigation found that a LAW Ironworker performed a 360 degree walk around to inspect the scissors lift prior to moving. The ironworker noted that the scissors lift was plugged into a spider box for charging.</p> <p>The iron worker inadvertently forgot to unplug the lift from the drop cord prior to movement of the scissors lift from the west wall to a different location to start a new task.</p> <p>When the iron worker moved the scissors lift with out the use of a spotter upon movement of the lift, the female cord cap was pulled off, causing the condition above. The Iron Worker was unaware of the situation.</p>		
Cause Description:	N/A		
Operating Conditions:	Construction		
Activity Category:	Construction		
Immediate Action(s):	<p>Work Stopped and supervision notified.</p> <p>An investigation was initiated.</p>		
FM Evaluation:			
DOE Facility Representative Input:			
DOE Program Manager Input:			

Further Evaluation is Required:	No																											
Division or Project:	Waste Treatment Plant																											
Plant Area:	600																											
System/Building/Equipment:	Low Activity Waste Building																											
Facility Function:	Nuclear Waste Operations/Disposal																											
Corrective Action:																												
Lessons(s) Learned:	N/A																											
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01Q--Inadequate Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency																											
HQ Summary:	An ironworker had forgotten to unplug a drop cord from a scissors lift before he moved the lift and the female cord cap was pulled off. The ironworker had moved the lift without the use of a spotter and was unaware of the situation. The damaged cord was later found by a carpenter. Work was stopped and an investigation was initiated.																											
Similar OR Report Number:	1. N/A																											
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">READDY, MICHAEL A</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-8300</td> </tr> <tr> <td>Title</td> <td colspan="3">OCCURRENCE REPORT COORDINATOR</td> </tr> </table>				Name	READDY, MICHAEL A			Phone	(509) 373-8300			Title	OCCURRENCE REPORT COORDINATOR														
Name	READDY, MICHAEL A																											
Phone	(509) 373-8300																											
Title	OCCURRENCE REPORT COORDINATOR																											
Originator:	<table border="1"> <tr> <td>Name</td> <td colspan="3">READDY, MICHAEL A</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-8300</td> </tr> <tr> <td>Title</td> <td colspan="3">OCCURRENCE REPORT COORDINATOR</td> </tr> </table>				Name	READDY, MICHAEL A			Phone	(509) 373-8300			Title	OCCURRENCE REPORT COORDINATOR														
Name	READDY, MICHAEL A																											
Phone	(509) 373-8300																											
Title	OCCURRENCE REPORT COORDINATOR																											
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	NA	NA	NA	NA																
Date	Time	Person Notified	Organization																									
NA	NA	NA	NA																									
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/16/2008</td> <td>11:00 (PTZ)</td> <td>Miles Stauffer</td> <td>BNI/SA</td> </tr> <tr> <td>01/16/2008</td> <td>11:10 (PTZ)</td> <td>Jeff Bruggerman</td> <td>DOE/FR</td> </tr> <tr> <td>01/16/2008</td> <td>11:10 (PTZ)</td> <td>Joe Christ</td> <td>DOE/FR</td> </tr> <tr> <td>01/16/2008</td> <td>11:10 (PTZ)</td> <td>Dave Leeth</td> <td>BNI/MGR</td> </tr> <tr> <td>01/16/2008</td> <td>11:48 (PTZ)</td> <td>Mike Boyce</td> <td>ONC</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	01/16/2008	11:00 (PTZ)	Miles Stauffer	BNI/SA	01/16/2008	11:10 (PTZ)	Jeff Bruggerman	DOE/FR	01/16/2008	11:10 (PTZ)	Joe Christ	DOE/FR	01/16/2008	11:10 (PTZ)	Dave Leeth	BNI/MGR	01/16/2008	11:48 (PTZ)	Mike Boyce	ONC
Date	Time	Person Notified	Organization																									
01/16/2008	11:00 (PTZ)	Miles Stauffer	BNI/SA																									
01/16/2008	11:10 (PTZ)	Jeff Bruggerman	DOE/FR																									
01/16/2008	11:10 (PTZ)	Joe Christ	DOE/FR																									
01/16/2008	11:10 (PTZ)	Dave Leeth	BNI/MGR																									
01/16/2008	11:48 (PTZ)	Mike Boyce	ONC																									

Authorized Classifier(AC):

7)Report Number:	EM-RP--BNRP-RPPWTP-2008-0003 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Hanford Site		
Facility Name:	RPP Waste Treatment Plant		
Subject/Title:	Power Tool Cord severed during Scissor Lift movement.		
Date/Time Discovered:	01/16/2008 14:25 (PTZ)		
Date/Time Categorized:	01/16/2008 15:40 (PTZ)		
Report Type:	Final		
Report Dates:	Notification	01/18/2008	16:55 (ETZ)
	Initial Update	02/26/2008	16:30 (ETZ)
	Latest Update	02/27/2008	18:30 (ETZ)
	Final	02/27/2008	18:30 (ETZ)
Significance Category:	3		
Reporting Criteria:	<p>10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)</p> <p>10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)</p>		
Cause Codes:	A3B3C01 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Attention was given to wrong issues -->couplet - A4B3C10 - Management Problem; Work Organization & Planning LTA; Problem performing repetitive tasks and/or subtasks		
ISM:	2) Analyze the Hazards 4) Perform Work Within Controls		
Subcontractor Involved:	No		
Occurrence Description:	The event occurred on Wednesday 01/16/2008 at approximately 1420 hours in the Low Activity Waste (LAW) building (on the +3 level export bay). A carpenter using a power drill to install scaffolding straps to the export bay		

	<p>wall while working from a scissors lift draped a drop cord over the top rail of the scissors lift. The carpenter moved the lift with the tool in the scissors lift basket, and did not unplug the tool prior to moving the lift, leaving the cord draped over the rail. When the carpenter moved the scissors lift, the power cord tangled in the tire on the lift and was severed into two pieces and both pieces fell to the floor. The cord was energized. The employee immediately stopped the lift, the spotter made the area safe by unplugging the cord from the spider box, and notified supervision. No injuries.</p>
Cause Description:	<p>An apparent cause analysis was performed to address the immediate cause(s) of the event and to determine the scope of corrective actions. The use of an apparent cause analysis is in keeping with the requirements of DOE M 231.1-2 in regards to events categorized as significant category 3.</p> <p>The following document(s) were used to conduct the apparent cause analysis:</p> <p>24590-WTP-PIER-MGT-08-0148 Rev. 0 Severed electrical cord CCN # 173244 Fact finding conducted immediately following the incident.</p> <p>The lift operator was moving a scissors lift when he and the spotter heard a snap sound and stopped the scissors lift. The spotter and the operator exited out of the scissors lift basket to investigate and discovered an electrical extension cord that had been draped over the hand rail, snagged on the drive wheel of the scissors lift severing it into two pieces. The operator and the spotter did not visually clear the extension cord or identify the fact that the lift was on top of the extension cord prior to moving the scissors lift. Cause Code A3B3C01 -Attention was given to wrong issues Selective mental processing of information was targeted at the wrong issues and was not focused on the right issues. The individual focus was centered on what psychologically important instead of was targeted on what was logically important.</p> <p>Couplet A4B5C12 -Change not identifiable during task Review implementation of supervisory behaviors that cultivate and facilitate excellence in human performance, facilitating open communications.</p>
Operating Conditions:	Construction
Activity Category:	Construction
Immediate Action(s):	<p>Work was stopped.</p> <p>Area placed in a safe condition.</p> <p>An investigation was initiated.</p>
FM Evaluation:	<p>Familiarity of environment can cause persons to relax their focus and attention to conditions, so that unsafe conditions can be overlooked and otherwise simple hazards result in an injury. Common tools can often present hazards whereas attention may be directed to other, less common (but more potentially hazardous) activities.</p>
DOE Facility Representative	

Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	Waste Treatment Plant		
Plant Area:	600		
System/Building/Equipment:	Low Activity Waste Building (LAW)		
Facility Function:	Environmental Restoration Operations		
Corrective Action 01:	<table border="1"> <tr> <td>Target Completion Date:02/25/2008</td> <td>Tracking ID:CCN164919</td> </tr> </table> <p>On Thursday 01/17/2008 a work pause was performed before work started to discuss the following information with the crews as documented on CCN# 164919.</p> <ol style="list-style-type: none"> 1. Aerial lifts will not be moved without concurrence between the operator and the spotter. 2. Determine method of communication between operator and spotter. 3. Operator and spotter will inspect the area where the lift will be used so as to identify hazards, Obstructions and travel paths. 4. All items above will be documented on the STARRT Card. 	Target Completion Date: 02/25/2008	Tracking ID: CCN164919
Target Completion Date: 02/25/2008	Tracking ID: CCN164919		
Corrective Action 02:	<table border="1"> <tr> <td>Target Completion Date:02/25/2008</td> <td>Tracking ID:24590-WTP-PIER-MGT-08-0148</td> </tr> </table> <p>The carpenters associated with this incident were coached and counseled on the importance of good communication between Scissor lift operation / spotter and the need to perform a 360 degree inspection around the scissor lift prior to its movement.</p> <p>In addition all the carpenter crews for the LAW reviewed the new Aerial/Scissor Lift Operations Procedure 24590-WTP-GPP-Sind-033 Rev. 2 which became effective on January 15th, 2008</p>	Target Completion Date: 02/25/2008	Tracking ID: 24590-WTP-PIER-MGT-08-0148
Target Completion Date: 02/25/2008	Tracking ID: 24590-WTP-PIER-MGT-08-0148		
Lessons(s) Learned:			
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01Q--Inadequate Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety		

	13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency																				
HQ Summary:	A carpenter, who was using a power drill to install scaffolding straps to the export bay wall from a scissors lift, did not unplug the tool before moving the lift. The power cord became tangled in a lift tire and was severed into two pieces. The carpenter immediately stopped the lift and the spotter made the area safe by unplugging the cord from the spider box, and notified supervision. Work was stopped and an investigation was initiated.																				
Similar OR Report Number:	1. EM-RP--BNRP-RPPWTP-2008-0002																				
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>READDY, MICHAEL A</td> </tr> <tr> <td>Phone</td> <td>(509) 373-8300</td> </tr> <tr> <td>Title</td> <td>OCCURRENCE REPORT COORDINATOR</td> </tr> </table>	Name	READDY, MICHAEL A	Phone	(509) 373-8300	Title	OCCURRENCE REPORT COORDINATOR														
Name	READDY, MICHAEL A																				
Phone	(509) 373-8300																				
Title	OCCURRENCE REPORT COORDINATOR																				
Originator:	<table border="1"> <tr> <td>Name</td> <td>READDY, MICHAEL A</td> </tr> <tr> <td>Phone</td> <td>(509) 373-8300</td> </tr> <tr> <td>Title</td> <td>OCCURRENCE REPORT COORDINATOR</td> </tr> </table>	Name	READDY, MICHAEL A	Phone	(509) 373-8300	Title	OCCURRENCE REPORT COORDINATOR														
Name	READDY, MICHAEL A																				
Phone	(509) 373-8300																				
Title	OCCURRENCE REPORT COORDINATOR																				
HQ OC Notification:	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA												
Date	Time	Person Notified	Organization																		
NA	NA	NA	NA																		
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/16/2008</td> <td>15:40 (PTZ)</td> <td>Dave Leeth</td> <td>BNI/MGR</td> </tr> <tr> <td>01/16/2008</td> <td>15:40 (PTZ)</td> <td>Jeff Bruggerman</td> <td>DOE/ FR</td> </tr> <tr> <td>01/16/2008</td> <td>15:40 (PTZ)</td> <td>Joe Christ</td> <td>DOE/ FR</td> </tr> <tr> <td>01/16/2008</td> <td>15:45 (PTZ)</td> <td>Mike Boyce</td> <td>ONC</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	01/16/2008	15:40 (PTZ)	Dave Leeth	BNI/MGR	01/16/2008	15:40 (PTZ)	Jeff Bruggerman	DOE/ FR	01/16/2008	15:40 (PTZ)	Joe Christ	DOE/ FR	01/16/2008	15:45 (PTZ)	Mike Boyce	ONC
Date	Time	Person Notified	Organization																		
01/16/2008	15:40 (PTZ)	Dave Leeth	BNI/MGR																		
01/16/2008	15:40 (PTZ)	Jeff Bruggerman	DOE/ FR																		
01/16/2008	15:40 (PTZ)	Joe Christ	DOE/ FR																		
01/16/2008	15:45 (PTZ)	Mike Boyce	ONC																		
Authorized Classifier(AC):																					

8)Report Number:	EM-RP--CHG-TANKFARM-2008-0001 After 2003 Redesign			
Secretarial Office:	Environmental Management			
Lab/Site/Org:	Hanford Site			
Facility Name:	Tank Farms			
Subject/Title:	Energized Wire Found in MCC-1 at 242A After Installation of Electrical Jumper			
Date/Time Discovered:	01/09/2008 13:47 (PTZ)			
Date/Time Categorized:	01/09/2008 16:00 (PTZ)			
Report Type:	Update			
Report Dates:	<table border="1"> <tr> <td>Notification</td> <td>01/14/2008</td> <td>17:22 (ETZ)</td> </tr> </table>	Notification	01/14/2008	17:22 (ETZ)
Notification	01/14/2008	17:22 (ETZ)		

	Latest Update	02/20/2008	11:28 (ETZ)
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:			
Subcontractor Involved:	Yes American Electric		
Occurrence Description:	<p>On 01/09/2008, while performing a safe-to-work electrical check, construction forces electricians discovered an energized electrical wire that had not been identified prior to temporary electrical jumper installation.</p> <p>On 01/09/2008, work order WFO-WO-07-2738 to install variable frequency drives as part of the 242-A Evaporator heating, ventilation, and air conditioning (HVAC) upgrades was released for work. This upgrade work involved electrical modifications to motor control center (MCC) 1's cubicle E-5 that powers the K1-5-3 building exhaust fan. MCC-1 is in the 242-A Aqueous Make-up (AMU) room. A lock and tag (L&T) was installed on 01/07/2008 as required by L&T 242A-08-01 at the substation (242-A parking lot) that supplies power to cubicle E-5.</p> <p>On the same day, work order WFO-WO-07-3327 was released to temporarily bypass the K1-5-3 building exhaust fan continuous air monitor interlock. This bypass prevents the K1-5-3 building exhaust fan shutdown during the 242-A HVAC upgrades. After placing an Authorized Worker Lock and Tag (AWL) on circuit C-8 located in the 242-A shift office, facility electricians, after performing a safe condition check at the relay and subsequent safe-to-work checks, installed a jumper across terminal points K153-3 and K153-4 on relay K-K1-1 located in RC-1 Relay Cabinet - also located in the shift office.</p> <p>After the temporary electrical jumper was installed and the AWL removed, construction forces electricians performed another safe-to-work electrical check of cubicle E-5 prior to recommencing work. During this second safe-to-work electrical check, construction forces electricians discovered an energized electrical wire > 50 volts on one of the conductors not being modified in cubicle E-5.</p>		

	<p>No work was being performed in cubicle E-5 while the temporary electrical jumper was being installed.</p> <p>The preliminary Fact Finding investigation determined that the original L&T did not adequately identify the safe condition boundary and the initial safe-to-work check was less than adequate as power to cubicle E-5 existed with or without the temporary electrical jumper on relay K-K1-1. The construction forces electrician did not check the auxiliary contact because he wasn't working on that component. As a result, this occurrence was categorized as a 2C(2) SC-3.</p>
Cause Description:	
Operating Conditions:	Does not apply.
Activity Category:	Maintenance
Immediate Action(s):	<p>Suspended work order WFO-WO-07-2738.</p> <p>Revised Lock and Tag 242A-08-01 to include circuit C-8; installed the new tag and performed the safe condition check. The safe condition check confirmed no energized electrical wires present in the K1-5-3 cubicle.</p> <p>Work was authorized to land three leads in the K1-5-3 cubicle to support restoration of heat to the building.</p> <p>Placed Red Arrow in Waste Feed Operations Senior Shift Manager logbook restricting release of electrical work until lock and tag safe condition check has been re-verified and senior management briefed (completed 01/10/2008) on work scope.</p>
FM Evaluation:	<p>UPDATE - 02/20/2008</p> <p>This UPDATE is being submitted to extend the due date of this occurrence report to 03/13/2008.</p> <p>Additional processing time is necessary to prepare for and accommodate Executive Safety Review Board (ESRB) review and approval scheduled for 02/21/2008 followed by on-call FR review/comment.</p> <p>A further UPDATE or FINAL REPORT will be submitted no later than 03/13/2008.</p>
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes.</p> <p>Before Further Operation? No</p> <p>By Whom:</p> <p>By When:</p>

Division or Project:	CH2MHILL/Office of River Protection															
Plant Area:	200 East															
System/Building/Equipment:	Electrical/242-A/Cubicle E-5															
Facility Function:	Nuclear Waste Operations/Disposal															
Corrective Action:																
Lessons(s) Learned:																
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency															
HQ Summary:	As part of 242-A evaporator heating, ventilation, and air conditioning upgrades, two separate work orders were issued to install variable frequency drives; and to temporarily bypass the K1-5-3 building exhaust fan continuous air monitor interlock, which involved installing a temporary electrical jumper. After installation of appropriate locks and tags under each work order and installing the jumper, a safe-to-work electrical check was conducted, during which construction forces electricians discovered an energized electrical wire that had not been identified prior to temporary electrical jumper installation. The preliminary fact finding investigation determined that the original lock and tag did not adequately identify the safe condition boundary and the initial safe-to-work check was less than adequate.															
Similar OR Report Number:																
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">Jarecki, Theodore D</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-0956</td> </tr> <tr> <td>Title</td> <td colspan="3">Manager, WFO Shift Operations</td> </tr> </table>				Name	Jarecki, Theodore D			Phone	(509) 373-0956			Title	Manager, WFO Shift Operations		
Name	Jarecki, Theodore D															
Phone	(509) 373-0956															
Title	Manager, WFO Shift Operations															
Originator:	<table border="1"> <tr> <td>Name</td> <td colspan="3">WATERS, SHAUN F</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-3457</td> </tr> <tr> <td>Title</td> <td colspan="3">OPERATIONS SPECIALIST</td> </tr> </table>				Name	WATERS, SHAUN F			Phone	(509) 373-3457			Title	OPERATIONS SPECIALIST		
Name	WATERS, SHAUN F															
Phone	(509) 373-3457															
Title	OPERATIONS SPECIALIST															
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	NA	NA	NA	NA				
Date	Time	Person Notified	Organization													
NA	NA	NA	NA													
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/09/2008</td> <td>17:05 (PTZ)</td> <td>Wright, D. L.</td> <td>DOE-ORP</td> </tr> <tr> <td>01/09/2008</td> <td>17:05 (PTZ)</td> <td>Smithwick, R. L.</td> <td>ONC</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	01/09/2008	17:05 (PTZ)	Wright, D. L.	DOE-ORP	01/09/2008	17:05 (PTZ)	Smithwick, R. L.	ONC
Date	Time	Person Notified	Organization													
01/09/2008	17:05 (PTZ)	Wright, D. L.	DOE-ORP													
01/09/2008	17:05 (PTZ)	Smithwick, R. L.	ONC													

	01/09/2008	17:32 (PTZ)	Hasty, M. D.	CH2MHILL
	01/09/2008	17:35 (PTZ)	Badden, J. J.	CH2MHILL
Authorized Classifier(AC):				

9)Report Number:	EM-SR--WSRC-WVIT-2008-0002 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Savannah River Site		
Facility Name:	Vitrification Facility		
Subject/Title:	221-S Lab Computer Electrical Shock		
Date/Time Discovered:	01/28/2008 10:50 (ETZ)		
Date/Time Categorized:	01/28/2008 16:10 (ETZ)		
Report Type:	Notification		
Report Dates:	Notification	01/30/2008	16:28 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
Cause Codes:	A2B6C01 - Equipment/ material problem; Defective, Failed or Contaminated; Defective or failed part		
ISM:			
Subcontractor Involved:	No		
Occurrence Description:	<p>A P&CS group technician was moving a desk top computer in the DWPF lab office in preparation for plugging in a new monitor. As he touched the back of the computer and the metal file cabinet the computer was sitting on, he felt a mild "tingle."</p> <p>The P&CS technician reported the event to the shift manager who directed that the technician be escorted to site medical by his immediate manager for evaluation. He was returned to work with no restrictions.</p> <p>E&I technicians checked the area for stray voltages and improper grounding of equipment. No abnormal readings were identified. A surge suppressor</p>		

	<p>associated with the equipment was identified that had a missing ground plug and was not on the list of approved surge protectors for site use. The surge protector was retained for future testing.</p> <p>A critique was held to attempt to determine the possible causes. It was determined in the critique that more evaluation of the suspect computer and surge suppressor was required before the cause could be determined. The subsequent evaluation revealed that the surge suppressor had failed and imposed a low voltage on the computer chassis.</p> <p>Subsequent testing with the components energized in a controlled environment determined that the surge suppressor had failed resulting in a low voltage present on the computer case. When the P & CS technician touched the case and the cabinet, a ground was created resulting in the electrical shock since the circuit was not properly grounded due to the missing ground plug.</p>
Cause Description:	To Be Determined
Operating Conditions:	DWPF was in normal radioactive operations. Canister pouring in progress. SME heatup for canister blasting in progress.
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	<ol style="list-style-type: none"> 1. Worker was escorted to medical for evaluation. He was returned to work with no restrictions. 2. The suspect computer was unplugged and "Danger - Unsafe Condition - Do Not Use" tags installed to prevent use. 3. E&I technicians checked the area for stray voltages and improper grounding of equipment. No abnormal readings identified during initial investigation. 4. Defective surge suppressor was removed from service and preserved for subsequent investigation.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes. Before Further Operation? No By Whom: SIRIM Coordinator By When:</p>
Division or Project:	LWO/DWPF
Plant Area:	S
System/Building/Equipment:	221-S Lab
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	

Lessons(s) Learned:																																	
HQ Keywords:	01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance 07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency																																
HQ Summary:	A technician was moving a desk-top computer in the DWPF lab office in preparation for plugging in a new monitor when he experienced a minor shock. He was evaluated by site medical and returned to work with no restrictions. Technicians found a surge suppressor associated with the equipment that had a missing ground plug and was not on the list of approved surge protectors for site use. Subsequent testing of the surge protector revealed that the surge suppressor had failed, resulting in a low voltage present on the computer case. When the technician touched the case and the cabinet, a ground was created resulting in the electrical shock since the circuit was not properly grounded due to the missing ground plug.																																
Similar OR Report Number:																																	
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>WILKERSON, STEVEN W</td> </tr> <tr> <td>Phone</td> <td>(803) 952-4395</td> </tr> <tr> <td>Title</td> <td>FACILITY MANAGER</td> </tr> </table>	Name	WILKERSON, STEVEN W	Phone	(803) 952-4395	Title	FACILITY MANAGER																										
Name	WILKERSON, STEVEN W																																
Phone	(803) 952-4395																																
Title	FACILITY MANAGER																																
Originator:	<table border="1"> <tr> <td>Name</td> <td>CROSS, ALAN J</td> </tr> <tr> <td>Phone</td> <td>(803) 208-6421</td> </tr> <tr> <td>Title</td> <td>QUALITY ASSURANCE ENGINEER</td> </tr> </table>	Name	CROSS, ALAN J	Phone	(803) 208-6421	Title	QUALITY ASSURANCE ENGINEER																										
Name	CROSS, ALAN J																																
Phone	(803) 208-6421																																
Title	QUALITY ASSURANCE ENGINEER																																
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA																								
Date	Time	Person Notified	Organization																														
NA	NA	NA	NA																														
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/28/2008</td> <td>16:10 (ETZ)</td> <td>Steve Wilkerson</td> <td>FM</td> </tr> <tr> <td>01/28/2008</td> <td>16:11 (ETZ)</td> <td>Greg Lawson</td> <td>OM</td> </tr> <tr> <td>01/28/2008</td> <td>16:11 (ETZ)</td> <td>Mark Holland</td> <td>EDO</td> </tr> <tr> <td>01/28/2008</td> <td>16:15 (ETZ)</td> <td>Alan Cross</td> <td>SIRIM Co</td> </tr> <tr> <td>01/28/2008</td> <td>16:47 (ETZ)</td> <td>Larry Hinson</td> <td>DOE SR</td> </tr> <tr> <td>01/28/2008</td> <td>17:42 (ETZ)</td> <td>David Burke</td> <td>WD Engr</td> </tr> <tr> <td>01/28/2008</td> <td>17:42 (ETZ)</td> <td>Kim Hauer</td> <td>LWO Mgr</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	01/28/2008	16:10 (ETZ)	Steve Wilkerson	FM	01/28/2008	16:11 (ETZ)	Greg Lawson	OM	01/28/2008	16:11 (ETZ)	Mark Holland	EDO	01/28/2008	16:15 (ETZ)	Alan Cross	SIRIM Co	01/28/2008	16:47 (ETZ)	Larry Hinson	DOE SR	01/28/2008	17:42 (ETZ)	David Burke	WD Engr	01/28/2008	17:42 (ETZ)	Kim Hauer	LWO Mgr
Date	Time	Person Notified	Organization																														
01/28/2008	16:10 (ETZ)	Steve Wilkerson	FM																														
01/28/2008	16:11 (ETZ)	Greg Lawson	OM																														
01/28/2008	16:11 (ETZ)	Mark Holland	EDO																														
01/28/2008	16:15 (ETZ)	Alan Cross	SIRIM Co																														
01/28/2008	16:47 (ETZ)	Larry Hinson	DOE SR																														
01/28/2008	17:42 (ETZ)	David Burke	WD Engr																														
01/28/2008	17:42 (ETZ)	Kim Hauer	LWO Mgr																														
Authorized Classifier(AC):																																	

10)Report Number:	LM---STOL-UTII-2008-0001 After 2003 Redesign
Secretarial Office:	Legacy Management

Lab/Site/Org:	Legacy Management Site		
Facility Name:	UMTRA Title II Sites		
Subject/Title:	Failure to apply work control process (LO/TO)		
Date/Time Discovered:	01/31/2008 07:30 (MTZ)		
Date/Time Categorized:	01/31/2008 09:15 (MTZ)		
Report Type:	Notification		
Report Dates:	Notification	01/31/2008	17:53 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:	<ol style="list-style-type: none"> 1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls 		
Subcontractor Involved:	Yes Shaum Electric		
Occurrence Description:	A Subcontractor electrician, while performing troubleshooting and maintenance of a system within the water treatment plant was asked to perform a change out of a standard electrical plug to a GFCI plug. This was additional scope. The work was performed without a Lockout-Tagout as required by governing procedures.		
Cause Description:			
Operating Conditions:	Water treatment plant was shut down		
Activity Category:	Maintenance		
Immediate Action(s):	<p>Stoller management performed a fact finding investigation to identify problem areas associated with incident.</p> <p>A review of all management, contractor and subcontractor personnel training requirements was performed.</p> <p>A review of the subcontractors contract documents was performed to determine if the scope of work was properly addressed.</p>		

	S.M Stoller H&S Manager sent an employee alert to all Stoller personnel stressing the importance of performing work in accordance with company procedures.															
FM Evaluation:																
DOE Facility Representative Input:																
DOE Program Manager Input:																
Further Evaluation is Required:	No															
Division or Project:	S.M Stoller															
Plant Area:	Breaker 33, Panel A															
System/Building/Equipment:	Tuba City Water Treatment Plant															
Facility Function:	Environmental Restoration Operations															
Corrective Action:																
Lessons(s) Learned:																
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency															
HQ Summary:	A Subcontractor electrician, while performing troubleshooting and maintenance of a system within the water treatment plant was asked to perform a change out of a standard electrical plug to a GFCI plug, which was beyond the original scope of work. The work was performed without a Lockout-Tagout as required by governing procedures.															
Similar OR Report Number:																
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">HURSHMAN, MICHAEL R</td> </tr> <tr> <td>Phone</td> <td colspan="3">(970) 248-6468</td> </tr> <tr> <td>Title</td> <td colspan="3">Health and Safety Manager</td> </tr> </table>				Name	HURSHMAN, MICHAEL R			Phone	(970) 248-6468			Title	Health and Safety Manager		
Name	HURSHMAN, MICHAEL R															
Phone	(970) 248-6468															
Title	Health and Safety Manager															
Originator:	<table border="1"> <tr> <td>Name</td> <td colspan="3">MAVEAL, THOMAS M</td> </tr> <tr> <td>Phone</td> <td colspan="3">(970) 248-6150</td> </tr> <tr> <td>Title</td> <td colspan="3">HEALTH & SAFETY MANAGER</td> </tr> </table>				Name	MAVEAL, THOMAS M			Phone	(970) 248-6150			Title	HEALTH & SAFETY MANAGER		
Name	MAVEAL, THOMAS M															
Phone	(970) 248-6150															
Title	HEALTH & SAFETY MANAGER															
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	NA	NA	NA	NA				
Date	Time	Person Notified	Organization													
NA	NA	NA	NA													
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization								
Date	Time	Person Notified	Organization													

	01/31/2008	09:15 (MTZ)	Joe Desormeau	DOE/LM
	01/31/2008	11:30 (MTZ)	Rich Bush	DOE/LM
Authorized Classifier(AC):				

11)Report Number:	NA--LASO-LANL-ACCCOMPLEX-2008-0001 After 2003 Redesign		
Secretarial Office:	National Nuclear Security Administration		
Lab/Site/Org:	Los Alamos National Laboratory		
Facility Name:	Accelerator Complex		
Subject/Title:	Improper Lock-out Tag-out		
Date/Time Discovered:	01/16/2008 14:30 (MTZ)		
Date/Time Categorized:	01/22/2008 08:30 (MTZ)		
Report Type:	Notification/Final		
Report Dates:	Notification	01/25/2008	16:36 (ETZ)
	Initial Update	01/25/2008	16:36 (ETZ)
	Latest Update	01/25/2008	16:36 (ETZ)
	Final	01/25/2008	16:36 (ETZ)
Significance Category:	4		
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)		
Cause Codes:			
ISM:	2) Analyze the Hazards		
Subcontractor Involved:	No		
Occurrence Description:	MANAGEMENT SYNOPSIS: On January 16, 2008, at 1430, the Accelerator Operations Technology-Accelerator Operations (AOT-OPS) 1L target team was conducting work to replace the Radiation Security System (RSS) flow switches. This procedure is done annually (last performed in May 2007). The Integrated Work Document (IWD), Radiation Work Permit (RWP) and Special Work Permit (SWP) for this job were all reviewed in the pre-job briefing. The procedure (SWP) requires the power supply to be off and a configuration management (orange) lock to be applied to the breaker in the open position. The worker, under the assumption the breaker was in the open position, applied the lock to the breaker when it was actually in the closed position. After discovery of the improperly applied orange lock, the condition of the equipment in question was verified safe (i.e. no electrical		

	<p>hazards were present), per Los Alamos Neutron Science Center (LANSCE) Division Electrical Safety Officer (ESO) and AOT management.</p> <p>This event was initially categorized as Sub-ORPS. However, it is the second lockout/tagout (LO/TO)-related event for AOT Division in less than 6 months. The previous (sub-threshold) event occurred in October 2007. On January 22, 2008, after the fact finding, this event was re-categorized as an ORPS Category 4 Management Concern (Group 10, subgroup 2). Factors that led to this determination include: the 2 LO/TO events within 6 months; new LO/TO requirements; loss of personnel from the Self-Selection Program (SSP), (different personnel new to the task); and inattention to details.</p> <p>BACKGROUND: AOT-OPS team last updated the SWP in 2004 and the work being performed was reviewed indicating the application of the orange lock is not a required step. Note: This step was a carry over from the Hazard Control Plan (HCP) for configuration management (for magnetic field), not for personnel safety but to prevent tools from being pulled into the magnet. Previous evaluation by an Industrial Hygienist (IH) determined the magnetic field did not present a safety hazard to personnel, and that this step in the SWP was not needed.</p>
Cause Description:	
Operating Conditions:	normal
Activity Category:	Maintenance
Immediate Action(s):	<ol style="list-style-type: none"> 1. AOT- Ops to review and revise (SWP) procedure. 2. AOT to perform HPI inquiry of this event.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Accelerator Operations Technology-Accelerator Oper
Plant Area:	TA53, MPF-53-7
System/Building/Equipment:	TA53, MPF-53-7
Facility Function:	Accelerators
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)

	12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency								
HQ Summary:	During annual replacement of the Radiation Security System flow switches, a worker, under the assumption that a circuit breaker had been opened, as required by procedure, applied a lock to the breaker when it was actually in the closed position. After discovery of the improperly applied lock, the condition of the equipment in question was verified safe; however, this is the second misapplied lock in a period of six months, with the previous event occurring in October, 2007.								
Similar OR Report Number:									
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>Dan Seely</td> </tr> <tr> <td>Phone</td> <td>(505) 667-8363</td> </tr> <tr> <td>Title</td> <td>LANSCCE Facility Operations Director</td> </tr> </table>	Name	Dan Seely	Phone	(505) 667-8363	Title	LANSCCE Facility Operations Director		
Name	Dan Seely								
Phone	(505) 667-8363								
Title	LANSCCE Facility Operations Director								
Originator:	<table border="1"> <tr> <td>Name</td> <td>YAZZIE, ALVA M</td> </tr> <tr> <td>Phone</td> <td>(505) 664-0666</td> </tr> <tr> <td>Title</td> <td>OCCURRENCE INVESTIGATOR</td> </tr> </table>	Name	YAZZIE, ALVA M	Phone	(505) 664-0666	Title	OCCURRENCE INVESTIGATOR		
Name	YAZZIE, ALVA M								
Phone	(505) 664-0666								
Title	OCCURRENCE INVESTIGATOR								
HQ OC Notification:	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA
Date	Time	Person Notified	Organization						
NA	NA	NA	NA						
Other Notifications:	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> <tr> <td>01/22/2008</td> <td>16:20 (MTZ)</td> <td>Notification Line</td> <td>NNSA</td> </tr> </table>	Date	Time	Person Notified	Organization	01/22/2008	16:20 (MTZ)	Notification Line	NNSA
Date	Time	Person Notified	Organization						
01/22/2008	16:20 (MTZ)	Notification Line	NNSA						
Authorized Classifier(AC):	Mark W. Hunsinger Date: 01/24/2008								

12)Report Number:	NA--LASO-LANL-NUCSAFGRDS-2008-0002 After 2003 Redesign		
Secretarial Office:	National Nuclear Security Administration		
Lab/Site/Org:	Los Alamos National Laboratory		
Facility Name:	Nuclear Safeguards		
Subject/Title:	Worker Receives Minor Electrical Shock from Exposed Conductors on Lamp Power Cord		
Date/Time Discovered:	01/28/2008 15:00 (MTZ)		
Date/Time Categorized:	02/07/2008 11:30 (MTZ)		
Report Type:	Notification		
Report Dates:	Notification	02/11/2008	18:28 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	2		

Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	<p>MANAGEMENT SYNOPSIS: On January 28, 2008, at approximately 1500, at Technical Area 35, Building 125, Room A200, as a Materials Physics and Applications - Center for Integrated Nanotechnologies Group (MPA-CINT) worker (W1) grabbed the power cord of a desk lamp, he felt a tingling sensation to his right ring finger. Because W1 is the group electrical safety officer, he immediately unplugged the desk lamp and cut off its cord cap to prevent further use. The desk lamp was "Underwriter's Laboratory" (UL) listed and 120 volts. W1 inspected the cord and found exposed conductors and a portion of the insulation gnawed. Further visual inspection of the cord found teeth marks on the insulation indicating that rodent(s) may have gnawed the cord. W1 then went to the operations area and asked another worker (W2) to transport him to the LANL occupational medicine facility for evaluation. W1 notified his supervisor via voice mail. LANL occupational medicine personnel evaluated W1 and released him back to work with no medical restrictions.</p> <p>The Science and Technology Operations (STO) Facility Operations Director (FOD) was notified of the event on February 1, 2008, at 1600. Because of the delay in notification to the STO FOD and the unavailability of W1, a critique was held on February 7, 2008. Based on information collected at the critique, the STO FOD Designee categorized the event as a reportable event under the Hazardous Energy criteria.</p> <p>Following notification, the LANL Chief Electrical Safety Officer evaluated the event using the electrical severity tool. The evaluation resulted in a score of 330 for an electrical severity significance of "Medium" because the event resulted in a worker contacting hazardous electrical energy.</p> <p>BACKGROUND: W1 indicated that MPA-CINT personnel had recently relocated some laser and electrical equipment in the building. At the time of the event, W1 was scoping the area for potential power upgrades for equipment. He found the desk lamp plugged into a power strip and grabbed the power cord of the lamp to unplug it when W1 received the minor electrical shock. W1 indicated that the exposed conductors were not visible when he grabbed the power cord. The exposed conductors were on the back side of the power cord.</p>

	According to the STO management, TA35-125 had previously experienced rodent problems, but no recent problems have been reported. A standing work order is currently in place for the KSL Services pest control to inspect the building, set/re-set traps, and remove rodents from the traps.
Cause Description:	
Operating Conditions:	Normal Activities
Activity Category:	Inspection/Monitoring
Immediate Action(s):	<ol style="list-style-type: none"> 1. W1 was transported to LANL occupational medicine where he was evaluated and released back to work with no medical restrictions. 2. W1 unplugged the power cord of the desk lamp, cut off the cap, and removed it from service. 3. After the event, MPA-CINT personnel inspected other power cords in their area for similar conditions; no other conditions were identified. 4. STO operations management will schedule the KSL pest control to inspect the area, re-set traps, and remove any rodents found. 5. The event and lessons learned were discussed at the MPA-CINT team and MPA Council meetings. The event will also be discussed at the next MPA-CINT group meeting.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes. Before Further Operation? No By Whom: STO and ESH-OFF By When: 03/21/2008</p>
Division or Project:	Materials Physics & Applications Division
Plant Area:	TA35-125-A200
System/Building/Equipment:	Desk Lamp Power Cord, 120 Volts
Facility Function:	Laboratory - Research & Development
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
HQ Summary:	A Center for Integrated Nanotechnologies Group (MPA-CINT) worker received a minor electrical shock when he tried to unplug a power cord of a

desk lamp. He immediately unplugged the desk lamp and cut off its cord cap to prevent further use. The desk lamp was "Underwriter's Laboratory" (UL) listed and 120 volts. He inspected the cord and found exposed conductors and a portion of the insulation gnawed, indicating the presence of rodents. He was then transported to the LANL occupational medicine facility for evaluation and released back to work with restrictions. TA35-125 had previously experienced rodent problems, but no recent problems have been reported. A standing work order is currently in place to inspect the building, set/re-set traps, and remove rodents from the traps.

Similar OR Report Number:

Facility Manager:	Name	Gail Johnson
	Phone	(505) 667-4362
	Title	STO Facility Operations Director

Originator:	Name	YAZZIE, ALVA M
	Phone	(505) 664-0666
	Title	OCCURRENCE INVESTIGATOR

HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA

Other Notifications:	Date	Time	Person Notified	Organization
	02/07/2008	11:30 (MTZ)	Jeff Williams	NNSA
	02/07/2008	15:00 (MTZ)	Notification Line	NNSA

Authorized Classifier(AC): Antonia Tallarico Date: 02/11/2008

13)Report Number: [NA--LASO-LANL-TA55-2008-0002](#) **After 2003 Redesign**

Secretarial Office: National Nuclear Security Administration

Lab/Site/Org: Los Alamos National Laboratory

Facility Name: Plutonium Proc & Handling Fac

Subject/Title: Movement of Energized Equipment Leads to Short and Tripped Breaker

Date/Time Discovered: 01/23/2008 10:50 (MTZ)

Date/Time Categorized: 01/23/2008 11:50 (MTZ)

Report Type: Notification

Report Dates:	Notification	01/28/2008	17:04 (ETZ)
	Initial Update		
	Latest Update		
	Final		

Significance Category: 3

Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls
Subcontractor Involved:	No
Occurrence Description:	<p>MANAGEMENT SYNOPSIS: On January 23, 2007, Actinide Process Chemistry group, PMT-2, personnel were working in room 409 of Technical Area 55 (TA-55) in building PF-4. During preparation work for installation of the replacement Advanced Test Line for Actinide Separations (ATLAS) tanks, one PMT-2 worker observed a spark while moving a valve actuator indicator. PMT-2 personnel immediately stopped work and the control panel associated with the indicators was locked out. No injuries occurred. The associated breaker tripped, protecting personnel from further possible electrical events. The Facilities Operations Director (FOD) Designee initially categorized this event as non-reportable. A critique was called on January 24, 2008 at which time further information was available. The FOD re-categorized this event under Group 2, Sub-group C, 2, Significance Category 3.</p> <p>BACKGROUND: When the last of the ATLAS tanks were removed 2007, the valve actuators were disconnected and the indicators were set aside, out of the normal walk area of the room. The indicators were still connected to the electrical system. In preparation for installation of the new tanks, PMT-2 personnel were preparing the floor, which entailed laying plastic and moving the indicators.</p> <p>When a PMT-2 worker picked up an actuator indicator by the head of the unit, the flexible conduit unexpectedly separated from the electrical box feedthrough and the wires were damaged, causing a short circuit and producing a visible spark. The line shorted to ground and the associated breaker tripped. The worker placed the unit back on the floor and called a Stop Work and her supervisor. No injuries occurred.</p> <p>The Systems Engineer locked out the associated control panel. The control panel had been locked out previously in 2006. However, the panel was re-energized to allow for work to be done with the ATLAS tank valves. The Systems Engineer was unaware of this and believed the indicator units to be de-energized. PMT-2 personnel performing the work were aware that the units were energized. The actuator indicator assembly had looked solid to the PMT-2 workers and they did not expect the assembly to come apart.</p>

	<p>The project of removing and replacing the ATLAS tanks was started in 2006. At that time, the work package assembled went beyond the requirements. However, since this work started, TA-55 has initiated more rigorous work package requirements, such as a Lockout Tagout (LOTO) Plan. The ATLAS Project itself has not been brought into these new requirements, hence no LOTO Plan existed.</p> <p>The Electrical Severity Ranking Tool was used to determine the relative electrical hazard to which the worker was exposed. The hazard involved was a 120 Volt circuit conductor on a 20 Amp branch circuit. As a hazard class 1.2a this gave a value of 10 for hazard level. Since the worker's hands were within the National Fire Protection Association (NFPA) 70E Limited Approach Boundary (which is 3 feet, 6 inches for 120 Volts) the Shock Proximity Factor is a one, and is not mitigated by personal protective equipment (PPE), since the worker was not wearing any dielectric gloves. There was no arc flash or thermal hazard. The worker was not shocked nor injured. The total score is a 20, which places this event in a "Low" significance, as far as exposure to, and potential injury from an electrical hazard.</p>
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Startup
Immediate Action(s):	<ol style="list-style-type: none"> 1) A Stop Work was called by the workers involved. 2) The associated control panel was locked out. 3) A critique was called the following day. 4) The Maintenance Manager will integrate the old work package into the new work package standards and requirements at TA-55. This work will entail: <ol style="list-style-type: none"> a) Inspecting all the indicator units and repairing those that require it. b) The integrated work package will correctly reflect the mechanical and the electrical interface. c) The LOTO requirements will be correctly captured in the reviewed and revised Integrated Work Document (IWD). d) A Piping and Instrument Drawing (P&ID) will be made on the control panel associated with this event. 5) The Maintenance Manager will review all current projects throughout the Stockpile Manufacturing and Support (SMS) Directorate. This will entail: <ol style="list-style-type: none"> a) Ensuring the Area Work Coordinators (AWCs) walk down their areas. b) Reviewing the Operations Manager's LOTO log book. c) Reviewing projects with the Group Leaders.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager	

Input:									
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: FOD & ESH-OFF By When: 03/09/2008								
Division or Project:	TA55								
Plant Area:	PF-4								
System/Building/Equipment:	PF-4								
Facility Function:	Plutonium Processing and Handling								
Corrective Action:									
Lessons(s) Learned:									
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01R--Inadequate Conduct of Operations - Management issues 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency								
HQ Summary:	During preparation work for installation of the replacement Advanced Test Line for Actinide Separations (ATLAS) tanks in building PF-4, a worker picked up an actuator indicator by the head of the unit, and the flexible conduit unexpectedly separated from the electrical box feed through. The wires were damaged, causing a short circuit and producing a visible spark. The line shorted to ground and the associated breaker tripped. The worker placed the unit back on the floor Work was stopped and the control panel associated with the indicators was locked out. No injuries occurred. The associated breaker tripped, protecting personnel from further possible electrical events.								
Similar OR Report Number:									
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>Stuart McKernan</td> </tr> <tr> <td>Phone</td> <td>(505) 667-7501</td> </tr> <tr> <td>Title</td> <td>Facilities Operations Director (FOD) Designee</td> </tr> </table>	Name	Stuart McKernan	Phone	(505) 667-7501	Title	Facilities Operations Director (FOD) Designee		
Name	Stuart McKernan								
Phone	(505) 667-7501								
Title	Facilities Operations Director (FOD) Designee								
Originator:	<table border="1"> <tr> <td>Name</td> <td>VOSS, SUSAN J</td> </tr> <tr> <td>Phone</td> <td>(505) 667-5979</td> </tr> <tr> <td>Title</td> <td>OCCURRENCE INVESTIGATOR</td> </tr> </table>	Name	VOSS, SUSAN J	Phone	(505) 667-5979	Title	OCCURRENCE INVESTIGATOR		
Name	VOSS, SUSAN J								
Phone	(505) 667-5979								
Title	OCCURRENCE INVESTIGATOR								
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA
Date	Time	Person Notified	Organization						
NA	NA	NA	NA						

Other Notifications:	Date	Time	Person Notified	Organization
	01/24/2008	07:26 (MTZ)	Hotline	NNSA
	01/24/2008	12:41 (MTZ)	Lloyd Gordon	ESO
	01/23/2008	16:15 (MTZ)	Lily Reese	PAAA
	01/24/2008	07:28 (MTZ)	Chuck Keilers	DNSFB
Authorized Classifier(AC):	Susan J, Voss Date: 01/28/2008			

14)Report Number:	NA--LSO-LLNL-LLNL-2008-0001 After 2003 Redesign		
Secretarial Office:	National Nuclear Security Administration		
Lab/Site/Org:	Lawrence Livermore National Lab.		
Facility Name:	Lawrence Livermore Nat. Lab. (BOP)		
Subject/Title:	Building 174 Electrical Shocks		
Date/Time Discovered:	01/08/2008 10:30 (PTZ)		
Date/Time Categorized:	01/08/2008 11:30 (PTZ)		
Report Type:	Final		
Report Dates:	Notification	01/09/2008	19:14 (ETZ)
	Initial Update	01/09/2008	20:24 (ETZ)
	Latest Update	02/06/2008	12:50 (ETZ)
	Final	02/06/2008	12:50 (ETZ)
Significance Category:	3		
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
Cause Codes:	A1B5C01 - Design/Engineering Problem; Operability of Design / Environment LTA; Ergonomics LTA A3B1C03 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Incorrect performance due to mental lapse -->couplet - A1B5C02 - Design/Engineering Problem; Operability of Design / Environment LTA; Physical environment LTA		
ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls		
Subcontractor Involved:	No		
Occurrence Description:	On January 8, 2008 at approximately 10:00 a.m., a worker received a shock		

	<p>in Building 174 while removing a plug from a hard-wired, permanently installed power strip. The power strip was located underneath a laser optic table and in close proximity to experimental equipment which led the worker to unplug the apparatus without maintaining visual contact with the plug. While working the plug loose, the worker's fingers came into contact with the exposed metal prong.</p> <p>On December 18, 2007, a similar incident occurred within the same facility when a worker received a shock while attempting to plug a low-voltage power supply into the same type of power strip. Due to the configuration of the power strip (the location underneath the table and the narrowness of the strip), only one of the prongs was inserted correctly. The worker's finger touched the second prong which was outside the power strip.</p> <p>Due to the similarity of incidents, on January 8, 2008 it was determined that a Occurrence Report should be filed as a Management Concern.</p>
Cause Description:	<p>A1B5C02 Design/Engineering Problem, Physical environment. The installation of the power strips underneath the laser optic tables created a situation where employees were forced to connect/disconnect plugs in a potentially unsafe manner.</p> <p>A3B1C03 Human Performance, Incorrect performance due to mental lapse. In both cases, the employee should have used better technique to connect/disconnect the electrical equipment. Each neglected to visually confirm that they were connecting/disconnecting the plug correctly. Couplet: A1B5C01 Ergonomics less than adequate. Because the configuration of the power strips was less than optimal, the employees failed to connect/disconnect the electrical equipment properly. A better layout of the power strips would have prevented or at least minimized the potential for an electrical shock.</p>
Operating Conditions:	N/A
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	<p>Work in the building 174 lab was halted after the December 18th incident. Afterwards, management began to review possible alternatives to the current configuration. Notification was made to personnel working in the lab about the possible concern when connecting items to the power strips. A similar response was made after the January 8th incident. On December 18th, the LLNL Fire Department was contacted because the incident occurred after normal business hours. A portable EKG test was performed and indicated no adverse effects. The worker was subsequently referred to LLNL's onsite Health Services. After the January incident, the worker was immediately transported to Health Services and evaluated with an EKG test, which also showed no injury.</p>
FM Evaluation:	<p>Soon after the incident, the LLNL Electrical Safety Advisory Board (ESAB) met to discuss the potential hazards with the power strips and their frequent</p>

	<p>installation underneath tables. It was recommended that these strips be relocated where feasible. If not feasible, it was suggested that signs be affixed to the tables alerting employees of the potential hazard. An immediate memo was sent to all workers within the directorate warning them of the potential hazards with the configuration. This was supplemented by the issuance of a LLNL Lessons Learned which reiterated the recommendations of the ESAB. Finally, the LLNL Deputy Director issued a memo instructing all LLNL work groups to review their facilities and identify where similar conditions exist. The recommendation to replace where practical or install signs was reinforced.</p> <p>A review of past Lessons Learned revealed that this same condition was identified in 2003 which prompted the preparation of a LLNL Lessons Learned which only suggested that programs consider replacing the narrow strips and urged employees not to plug or unplug devices into power strips unless they could maintain visual contact with the plug and power strip.</p> <p>LLNL management has identified this occurrence as a potential problem throughout LLNL. The Deputy Director's memo has extended corrective actions to all LLNL Directorates with the expectation that they review their work areas and take remedial action as necessary to prevent a recurrence.</p>		
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	S&T		
Plant Area:	Site 200		
System/Building/Equipment:	174		
Facility Function:	Laboratory - Research & Development		
Corrective Action 01:	<table border="1"> <tr> <td>Target Completion Date:02/21/2008</td> <td>Actual Completion Date:</td> </tr> </table>	Target Completion Date: 02/21/2008	Actual Completion Date:
Target Completion Date: 02/21/2008	Actual Completion Date:		
	Identify causes of the event/condition - A causal analysis will be conducted to determine why the shocks occurred.		
Corrective Action 02:	<table border="1"> <tr> <td>Target Completion Date:03/01/2008</td> <td>Actual Completion Date:</td> </tr> </table>	Target Completion Date: 03/01/2008	Actual Completion Date:
Target Completion Date: 03/01/2008	Actual Completion Date:		
	Perform extent of condition review - An extent of condition review will be conducted to determine how prevalent the problem is. All laboratory space will be examined and the number and location of the tables with poorly configured power strips will be identified.		
Corrective Action 03:	<table border="1"> <tr> <td>Target Completion Date:04/01/2008</td> <td>Actual Completion Date:</td> </tr> </table>	Target Completion Date: 04/01/2008	Actual Completion Date:
Target Completion Date: 04/01/2008	Actual Completion Date:		
	Correct problematic conditions - Develop a plan to address conditions where poorly configured power strips may pose a hazard. For those		

	instances where it is not feasible to correct or constraints prevent an immediate fix, signs will be placed in a prominent location warning employees of the hazard.						
Lessons(s) Learned:	The placement of these narrow power strips on the underside of laser optic tables, with the outlets facing the floor, played a large role in both shocks. There may be a tendency by employees to connect/disconnect electrical items by "feel" rather than with sight. The placement of some of the strips (i.e., against walls, adjacent to experimental equipment, etc.) may also present a problem for employees by making correct connection/disconnection difficult. Furthermore, the narrowness of the strips can contribute to an unsafe condition by allowing the two-pronged style plugs to be incorrectly inserted. LLNL Programs should review their laser optic tables to determine if potentially hazardous conditions exist. Such conditions should be remedied (i.e., relocate or remove some power strips) as circumstance dictate and resources allow. For those power strips that are not deemed feasible to relocate, signs should be posted warning employees of the potential danger.						
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01Q--Inadequate Conduct of Operations - Personnel error 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11F--Other - Inadequate Design 12C--EH Categories - Electrical Safety 14C--Quality Assurance - Quality Improvement Deficiency 14E--Quality Assurance - Work Process Deficiency 14F--Quality Assurance - Design Deficiency						
HQ Summary:	On January 8, 2008, a worker received a shock in Building 174 while removing a plug from a hard-wired, permanently installed power strip. The power strip was located underneath a laser optic table and in close proximity to experimental equipment which led the worker to unplug the apparatus without maintaining visual contact with the plug. While working the plug loose, the worker's fingers came into contact with the exposed metal prong. The worker was immediately transported to Health Services and evaluated with an EKG test, which also showed no injury. [This report also documents a very similar event which occurred on December 18, 2007, where a worker at the same facility received a shock while attempting to plug a low-voltage power supply into the same type of power strip, also without injury.]						
Similar OR Report Number:	1. N/A						
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>William Goldstein</td> </tr> <tr> <td>Phone</td> <td>(925) 422-2515</td> </tr> <tr> <td>Title</td> <td>Associate Director, Physical Sciences Directorate</td> </tr> </table>	Name	William Goldstein	Phone	(925) 422-2515	Title	Associate Director, Physical Sciences Directorate
Name	William Goldstein						
Phone	(925) 422-2515						
Title	Associate Director, Physical Sciences Directorate						
Originator:	<table border="1"> <tr> <td>Name</td> <td>Freeman, Jeffrey W</td> </tr> <tr> <td>Phone</td> <td>(925) 424-6787</td> </tr> </table>	Name	Freeman, Jeffrey W	Phone	(925) 424-6787		
Name	Freeman, Jeffrey W						
Phone	(925) 424-6787						

	Title	OCCURRENCE REPORTING		
HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
Other Notifications:	Date	Time	Person Notified	Organization
	01/08/2008	12:06 (PTZ)	David Prokosch	ES&H TL
	01/08/2008	12:08 (PTZ)	Allen Macenski	ESH&Q
	01/08/2008	11:58 (PTZ)	Becky Failor	LEDO/BU
	01/08/2008	12:03 (PTZ)	Rex Beach	LEDO
	01/08/2008	12:10 (PTZ)	Erik Begg	NNSA/LSO
Authorized Classifier(AC):				

15)Report Number:	NA--LSO-LLNL-LLNL-2008-0004 After 2003 Redesign		
Secretarial Office:	National Nuclear Security Administration		
Lab/Site/Org:	Lawrence Livermore National Lab.		
Facility Name:	Lawrence Livermore Nat. Lab. (BOP)		
Subject/Title:	Electrical Shock at Building 151 During Main Electrical Service Equipment Replacement Project		
Date/Time Discovered:	01/28/2008 11:00 (PTZ)		
Date/Time Categorized:	01/30/2008 15:00 (PTZ)		
Report Type:	Notification		
Report Dates:	Notification	01/31/2008	19:30 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:			
Subcontractor Involved:	Yes GSE Incorporated		
Occurrence Description:	On 28 January 2008, at approximately 1100, a subcontract Electrician was		

performing activities associated with the removal and replacement of the Main Electrical Service Equipment in building 151 when he received an electrical shock.

The subcontract Electrician was working in room B137 (downstairs) performing continuity testing of a buss duct that was down line of the secondary Main Breaker of 741A. Both the Secondary Main Breaker of the Transformer, as well as 741A Main Breaker was air gapped at the time. Separate testing work was being done on other equipment associated with the buss duct in room 1400 (upstairs) by LLNL High Voltage Crew personnel who had communicated with the subcontract Electrician earlier in the morning. They agreed that separate work could be conducted safely.

The subcontract Electrician performed an absence of voltage verification prior to beginning work on the buss duct to prove that the buss was de-energized. In order to conduct the continuity test a jumper was installed between the C phase and the neutral connection in the switch gear, 741A. The Electrician then went to the buss tap enclosure located down line from 741A, and performed the continuity test to confirm the proper identification of the C Phase.

While labeling the C Phase Lug the Subcontract Electrician sustained an electrical shock from the C Phase wire lug to ground where he had made contact by touching the enclosure. The Subcontract Electrician stepped back from the enclosure and picked up his volt meter and again tested for absence of voltage, there was none present. The subcontract Electrician then proceeded upstairs to talk to the High Voltage Crew about the situation.

When the Subcontract Electrician talked to the High Voltage Crew, they confirmed that they had just finished conducting a megger test on the 741 Transformer windings on the secondary C phase to ground. The LLNL High Voltage crew confirmed that an irregular reading had occurred around the time frame that the Subcontract Electrician received the shock. At this point the subcontract Electrician assumed that the voltage he had come in contact with must have come from the megger during their testing.

The subcontract Electrician informed the LLNL High Voltage crew that they may have energized the down stream buss during their megger test. Upon notification of the situation, the subcontract Electrician was taken to an off site physician for a medical evaluation and after the examination the subcontract Electrician was released to return to work.

Upon notification of the event, LLNL line management halted work on the Building 151 Main Electrical Service Equipment Removal and Replacement Project for further investigation. A critique was initiated.

Cause Description:

Operating Conditions:	Construction
Activity Category:	Construction
Immediate Action(s):	<ol style="list-style-type: none"> 1. Upon notification, LLNL line management halted work on the building 151 Electrical System Removal and Replacement project. 2. The affected subcontract Electrician was taken to an off site physician for medical evaluation. 3. An electrical design evaluation of the B151 main electrical system was initiated by the Facilities and Infrastructure Directorate. 4. Facilities and Infrastructure Directorate initiated a critique process.
FM Evaluation:	The Final Report is due by 3/15/2008.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes. Before Further Operation? No By Whom: Kevin Akey By When: 03/15/2008</p>
Division or Project:	O&B F&I
Plant Area:	Site 200
System/Building/Equipment:	151
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	<p>01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency</p>
HQ Summary:	<p>A subcontract Electrician was performing activities associated with the removal and replacement of the Main Electrical Service Equipment in building 151 when he received an electrical shock. The employee had been performing continuity testing of a buss duct that was down line of the secondary Main Breaker of 741A, and had performed an absence of voltage verification prior to beginning work on the buss. This required installing a between the C phase and the neutral connection in the switch gear, 741A. While labeling the C Phase Lug the electrician sustained an electrical shock. The electrician used his volt meter again to test for absence of voltage and</p>

there was none present. The electrician then consulted with the High Voltage Crew, who confirmed that while conducting a megger test on the 741 Transformer windings on the secondary C phase, an irregular reading had occurred. The electrician concluded that the LLNL High Voltage crew may have energized the down stream buss during their megger test. The electrician was taken to an off site physician for a medical evaluation and was released to return to work. Work was halted and a critique was initiated.

Similar OR Report Number:

Facility Manager:

Name	Harold Conner
Phone	(925) 422-5786
Title	Facilities & Infrastructure Associate Director

Originator:

Name	Freeman, Jeffrey W
Phone	(925) 424-6787
Title	OCCURRENCE REPORTING

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
01/30/2008	13:45 (PTZ)	Rex Beach	LEDO
01/30/2008	15:25 (PTZ)	Allen Macenski	ESH&Q
01/30/2008	16:05 (PTZ)	Dave Aron	NNSA/LSO
01/30/2008	16:10 (PTZ)	Bev DeOcampo	ESH TL

Authorized Classifier(AC):

16)Report Number:

[NA--SS-SNL-NMFAC-2008-0002](#) After 2003 Redesign

Secretarial Office:

National Nuclear Security Administration

Lab/Site/Org:

Sandia National Laboratories - SS

Facility Name:

SNL NM Site-wide F & M

Subject/Title:

Custodial Worker Receives Electrical Shock while Plugging in a Battery Charger in Bldg. 880

Date/Time Discovered:

01/29/2008 13:00 (MTZ)

Date/Time Categorized:

01/29/2008 14:00 (MTZ)

Report Type:

Update

Report Dates:

Notification	01/30/2008	17:01 (ETZ)
Initial Update	01/30/2008	17:13 (ETZ)
Latest Update	01/30/2008	17:13 (ETZ)
Final		

Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	<p>On January 29, 2008, at approximately 10:20am, a custodial worker was plugging in a supply cord for a MAC Patriot battery charger that serves a TASKI floor buffing machine when the custodial employee received a shock. The individual was taken to SNL Medical and returned to work later that same day. Early notification was made at 11:23am.</p> <p>Background</p> <p>At approximately 8:30am, a custodial employee used a "Doodle Bug" (scraper/cleaning tool) to clear some ice off the loading dock outside of Bldg. 880/Room B48. The custodial employee then hung the "Doodle Bug" up in Room B48 directly over the outlet and supply cord to the charger. The Doodle Bug was wet and dripped water on the plug from the battery charger and tile floor next to and beneath the charger. A second custodial employee took trash out of the building and when they walked back into Room B48, the individual noticed the TASKI Scrubber was not plugged into the charger and decided to charge the batteries. The employee first plugged the Scrubber into the charger (DC Connection) and then went to plug the charger into the wall outlet. The lights were not on in the room at the time and the area of the plug was in shadows from material and equipment stored in the area. The employee leaned over to plug the unit in and while doing this, rested their right hand on the metal case of the battery charger for support and started to plug in the unit with their left hand. As the custodial employee began inserting the plug in the outlet, the custodial employee immediately felt a tingling sensation/shock in their right hand and dropped the plug with their left and it immediately fell to the ground. The employee notified their supervisor and was taken to SNL Medical for evaluation. The charging using was marked "Do Not Use".</p> <p>Investigation</p> <p>While investigating the site, the receptacle was checked for proper operation. Hot to neutral, hot to ground and neutral to ground tests were performed. All tests were normal. The victim was asked to provide additional details of the event, and the following circumstances were</p>

	<p>identified.</p> <ul style="list-style-type: none"> - The floor around the charger was wet due to the custodial employee's coworker placing a previously used floor cleaner on a rack adjacent to the charger. - The cord cap was wet to the touch when the custodial employee attempted to plug it in. - The cord cap had a damaged jacket (photos were taken). - The lights in the room were not turned on at the time of the incident. <p>Conclusion</p> <p>Based on the circumstances described above, it appears that the victim picked up a wet, damaged cord cap and prior to plugging in the unit the custodial employee placed their right hand on the metal charger case which was sitting directly on the wet tile floor. When the cord cap made contact with the receptacle, the custodial employee completed a path from their right hand via the moisture on the cord cap, across their body and through their right hand to the grounded charger chassis. It appears that the moisture on the wet cord cap provided a path for current to flow from the "hot" blade of the cord cap through the victim and to the metal cover of the charging unit via their right hand.</p>
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Maintenance
Immediate Action(s):	<ol style="list-style-type: none"> 1) Meeting with all custodial personnel to share lessons learned 2) All custodial team leads will look at all locations where scrapers are stored and confirm that there are none hanging above receptacles 3) Piece of equipment was taken out of service for repair
FM Evaluation:	DOE/SSO Early Notification Date & Time: EOC - 1/29/08 - 11:28 FR - Wayne Walker - 1/28/08 - 11:23
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Causal Analysis Team By When: 03/14/2008
Division or Project:	4000
Plant Area:	Tech Area I

System/Building/Equipment:	MAC Patriot Charger Model #PAC1240/Bldg. 880, Rm. B48															
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)															
Corrective Action:																
Lessons(s) Learned:																
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 13E--Management Concerns - Facility Call Sheet 14E--Quality Assurance - Work Process Deficiency															
HQ Summary:	A custodial worker received a shock while plugging in a supply cord for a MAC Patriot battery charger that serves a TASKI floor buffing machine. The individual was taken to SNL Medical and returned to work later that same day. Subsequent investigation revealed that floor around the charger was wet due to the fact that a previously used floor cleaner on a rack adjacent to the charger dripped water on the floor. Also, the cord cap was wet to the touch and it had a damaged jacket. When the employee picked up the wet, damaged cord cap, and prior to plugging in the unit, the employee placed their right hand on the metal charger case which was sitting directly on the wet tile floor. When the cord cap made contact with the receptacle, the custodial employee completed a path from their left hand via the moisture on the cord cap, across their body and through their right hand to the grounded charger chassis, and experienced the shock.															
Similar OR Report Number:																
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">Carla Lamb</td> </tr> <tr> <td>Phone</td> <td colspan="3">(505) 844-1753</td> </tr> <tr> <td>Title</td> <td colspan="3">ES&H Coordinator - Facilities Management & Ops Ctr</td> </tr> </table>				Name	Carla Lamb			Phone	(505) 844-1753			Title	ES&H Coordinator - Facilities Management & Ops Ctr		
Name	Carla Lamb															
Phone	(505) 844-1753															
Title	ES&H Coordinator - Facilities Management & Ops Ctr															
Originator:	<table border="1"> <tr> <td>Name</td> <td colspan="3">LUCERO, JEWELLEE A</td> </tr> <tr> <td>Phone</td> <td colspan="3">(505) 845-4727</td> </tr> <tr> <td>Title</td> <td colspan="3">REPORTING ADMINISTRATOR</td> </tr> </table>				Name	LUCERO, JEWELLEE A			Phone	(505) 845-4727			Title	REPORTING ADMINISTRATOR		
Name	LUCERO, JEWELLEE A															
Phone	(505) 845-4727															
Title	REPORTING ADMINISTRATOR															
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	NA	NA	NA	NA				
Date	Time	Person Notified	Organization													
NA	NA	NA	NA													
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>01/29/2008</td> <td>14:00 (MTZ)</td> <td>Wayne Walker, FR</td> <td>DOE/SSO</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	01/29/2008	14:00 (MTZ)	Wayne Walker, FR	DOE/SSO				
Date	Time	Person Notified	Organization													
01/29/2008	14:00 (MTZ)	Wayne Walker, FR	DOE/SSO													

	01/30/2008	07:30 (MTZ)	Jeff Quintenz	4800	
Authorized Classifier(AC):	John Norwalk Date: 01/30/2008				

17)Report Number:	SC--PNSO-PNNL-PNNLBOPER-2008-0001 After 2003 Redesign				
Secretarial Office:	Science				
Lab/Site/Org:	Pacific Northwest National Laboratory				
Facility Name:	Energy Research Programs (PNNL)				
Subject/Title:	Lock & Tag Procedural Noncompliance (at the 336 Building)				
Date/Time Discovered:	01/04/2008 12:00 (PTZ)				
Date/Time Categorized:	01/07/2008 12:55 (PTZ)				
Report Type:	Final				
Report Dates:	Notification	01/09/2008	13:11 (ETZ)		
	Initial Update	02/21/2008	16:05 (ETZ)		
	Latest Update	02/21/2008	16:05 (ETZ)		
	Final	02/21/2008	16:05 (ETZ)		
Significance Category:	3				
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.				
Cause Codes:	A3B4C02 - Human Performance Less Than Adequate (LTA); Work Practices LTA; Deliberate violation -->couplet - NA A3B2C02 - Human Performance Less Than Adequate (LTA); Rule Based Error; Signs to stop were ignored and step performed incorrectly -->couplet - NA A3B3C03 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Individual justified action by focusing on biased evidence -->couplet - NA A5B4C01 - Communications Less Than Adequate (LTA); Verbal Communications LTA; Communication between work groups LTA				
ISM:	4) Perform Work Within Controls				
Subcontractor Involved:	No				
Occurrence Description:	On December 27, 2007, in the 336 Building, a PNNL electrician removed two 120 volt power cords from a bundle of four de-energized 120 volt power cords that had been secured together with duct tape and tagged with an Authorized Worker Danger (Danger) Tag used by authorized workers in PNNL's LOTO program. The Danger Tag had been placed by an R&D staff				

member (R1) who was not present when the tag was removed by the electrician. Removal of the Danger Tag and the two power cords by a person other than the individual who installed the tag constitutes a significant noncompliance with SBMS requirements for LOTO. Unauthorized removal of the Danger Tag was discovered on January 4, 2008 by the returning employee (R1) who originally installed the tag. The event was subsequently categorized as a reportable event and a critique was held on January 8, 2008.

The Danger Tag was originally installed by R1 on November, 20, 2007 in preparation for removal of data acquisition instruments located in the 336 Building high bay for calibration in another facility. At that time, the LOTO was intended to protect R1 from the inadvertent energization of four separate 120 volt power supplies which provided 24 volt DC current to the instruments in the high bay. R1 was working from a ladder and wanted to eliminate the potential for being startled by a shock from the 24 volt DC power. R1 disconnected the power cords from an adjacent plug-strip and taped all four together using duct tape. The ends of the cords were completely covered by tape and a Danger Tag was secured to the bundle of cords. The data acquisition instruments were then removed. Although no hazards were present in the resulting configuration, after completing work on the system, R1 decided to leave the cords taped together and left his Danger Tag installed for configuration control. Isolation of the power cords in this manner and the use of a Danger Tag for configuration control did not meet SBMS requirements, as described in the causal factors discussion section of this report.

On December 4, 2007, a second researcher (R2) issued electronic service request (ESR) #S591367 and requested a specific electrician to help perform modifications to the data acquisition system in preparation for an upcoming test. The requested electrician was familiar with the system and had worked on it previously. R1, who is also the Cognizant Space Manager (CSM) for laboratory spaces in the 336 Building, became aware of the intended work and states that he informed R2 of the power cord configuration and the Danger Tag prior to leaving for Christmas vacation. R2 does not recall the discussion.

On December 27, 2007, the electrician and R2 were both present in the 336 Building control room. Some prefabricated cabling had been installed and the two staff were preparing to validate that the new cabling had been connected correctly by powering up the system. At that time, the electrician discovered the bundled power cords and the attached Danger Tag. Two of the power cords in the bundle were needed in order to power the system and perform the connection validation. The two workers were separated by equipment in the room. The electrician states that he communicated the presence of a "tag" to R2 and that he would need a moment to connect the cords. R2 states that he did not hear or did not understand that a Danger Tag

existed. Although subsequent exact communications are unclear, R2 indicates that he told the electrician to "do what he needed to do," in order to connect the cords. The electrician removed the two power cords and the Danger Tag and placed the tag on the floor nearby and did not secure the remaining cords. The needed cords were then connected to power and the connection validation commenced.

On January 2, 2008, R1 returned from vacation and reinstalled the data acquisition instruments that had been removed for calibration. R1 did not perform a safe to work check and verify the original configuration of the power cords and the presence of his Danger Tag prior to this evolution. R1 states that he told R2 that when needed, he would remove his Danger Tag in order to power up the data acquisition system. R2 indicated that he does not recall this conversation. R2 did not mention the work being done on December 27, 2007. On January 4, 2008, R1 states that he repeated his instructions to R2 regarding the Danger Tag. Again, R2 indicated that he does not recall this conversation. R2 did not mention the work performed on December 27. Subsequently, R1 discovered his tag on the floor and that two of the power cords had been removed from the bundle and connected to power.

Cause Description:

Root & Direct Cause:

A3B4C02 - Human Performance LTA // Work Practices LTA // Deliberate Error

The direct and root cause of the event was a task performance error. PNNL's LOTO program states in part, "Each authorized worker installs and removes only their locks and Danger Tags," and "No one may authorize another person to ignore or violate this program." The Standards Based Management System (SBMS) requirements allow removal of an absent worker's Danger Tag if there is a compelling need to remove it that cannot be postponed until the authorized worker is available. Reasonable attempts to contact the worker must be made by the absent worker's line manager. An equipment configuration review and hazard analysis must also be performed. This must be documented with written authorization signed by the absent worker's manager. This process was not followed. (See corrective actions # 1 & 3.)

A review of the electrician's training record showed that he was able to correctly answer all authorized worker qualification test questions regarding authority and procedure for removal of an absent worker's tag and whether anyone could authorize removal.

Selection of "Human Performance Error" as both the direct and root cause is supported by results of the extent of condition review and the electrician's responses to qualification test questions, management interviews, and observations.

Contributing Causes:

A3B2C02- Human Performance LTA // Rule Based Error // Signs to stop were ignored and step performed incorrectly

The tag in itself should have been enough to prevent work from proceeding. However, several elements of the R&D staff member (R1) LOTO were inadequate. Some elements, executed correctly, would have likely prevented the occurrence. These include:

- * Lack of actual locks as required by SBMS, which states in part, "If an isolating device can be locked out it must be locked out." Four individual cord cap locking devices should have been used instead of taping the ends together.
- * Lack of multiple locks to control multiple energy sources as required by SBMS. Multiple locks were not used to control multiple energy sources.
- * Need for development of a written procedure by the Controlling Organization in order to plan the work and document specific steps of the LOTO to be performed. This is required by SBMS, since the activity did not meet two of the eight SBMS criteria (i.e. multiple energy sources, multiple locks) for proceeding with verbal authorization only. (See corrective actions # 1.)

A3B3C03 - Human Performance LTA // Knowledge Based Error // Individual justified action by focusing on biased evidence

The electrician's degree of customer alignment and his view of R2's role likely influenced his thought process. The electrician has stated several times that the research engineer (R2) was the "supervisor" directing his work and that this was "not an F&O thing." It is unclear if or why the electrician believed that R2 had the authority to direct removal of the Danger Tag. (Due to the electrician's absence, the causal analysis team is unable to further examine his statement.) In any event, the electrician's stated view is inconsistent with SBMS policy and with the electrician's test responses since R2 is not R1's manager and could not authorize removal.

The electrician in this event has a work history of being virtually embedded within the research groups he supported as a member of the Distributed Work Control Team (DWCT) before his current assignment to the Government Facilities Core Team. The DWCT operational model is different from other work teams in the amount of alignment they have with the customer. This electrician's tenure in the DWCT was characterized by the following:

- * Received much of his day-to-day task direction from R&D customers.

- * Assigned to a special work schedule to align with his customers.
- * Co-located with a primary customer group.
- * Received frequent kudos from his customers.
- * Generated strong customer loyalty.

Current F&O first line supervision has been working to bring the electrician into closer alignment with FO&ED's work control requirements. This includes an understanding of customers' roles in providing technical expertise while his manager fulfills ISM responsibilities for work scope hazard assessment, mitigation, and authorization.

Despite a strong alignment with the customer and the electrician's view of R2's role in the activity, the act of removing the Danger Tag without authorization is contrary to SBMS and does not match the electrician's training test and management interview responses.

A5B4C01 - Communications LTA // Verbal Communications LTA // Communications between work groups LTA

Communication of the existence of the LOTO between R1 and R2 was insufficient. SBMS requires that authorized workers notify all affected workers of the LOTO. R1 has stated that he indicated the tag's presence to R2, but R2 indicated he was not aware of it. Had R2 been aware of the Danger Tag, he would have had an opportunity to have it removed prior to the work in late December.

Communication of the existence and nature of the LOTO between the electrician and R2 was also insufficient. The electrician states that he communicated the presence of a "tag" to R2. R2 did not hear or did not comprehend that a Danger Tag existed. Although their exact communications are unclear, R2 states that he told the electrician to "do what he needed to do," which was interpreted by the electrician as an acknowledgement that he could remove the tag. R2 stated that he knew from his own LOTO training that the electrician could not remove the tag and would not have authorized it. (See corrective actions # 2.)

Note: the methodologies used to determine causal factors included the following analytical techniques: Hazard/Barrier/Target (HBT) analysis and Management Oversight and Risk Tree (MORT) Analyses.

Operating Conditions:

N/A

Activity Category:

Research

Immediate Action(s):

The work activity was stopped and the electricians lock and tag qualifications were suspended. A formal causal analysis of the event was chartered by the Director of the Facility Operations and Engineering Division (FO&ED) on January 16, 2008.

Note: The condition was discovered Friday, January 4, 2008 and was called in to the Single Point of Contact on Monday, January 7, 2008 at 1136 hours.

FM Evaluation:

An extent of condition review was performed consisting of line management interviews with 12 FO&ED authorized workers, causal analysis team interviews with three additional electricians who perform similar work with a similar customer set, and a review of the ORPS database for similar events. This review provided confidence that other PNNL workers would not remove another person's Danger Tag without initiating the process to obtain appropriate documented authorization.

LOTO program training and SBMS procedures are also clear in regard to the requirements. The electrician has been observed performing lock and tag correctly and performs jobs that require it frequently.

Review of Similar Occurrences (see Item 37):

SC--PNSO-PNNL-PNNLBOPER-2006-0005

During the course of this analysis, the team noted two non-causal deficiencies in the execution of LOTO that were similar to issues identified in SC--PNSO-PNNL-PNNLBOPER-2006-0005.

While the original purpose of the LOTO was for personal safety (consistent with the authorized worker's statements and the type of tag used), the authorized worker's Danger Tag was required to have been removed at the end of the work day in November and replaced with a "Do Not Operate" tag by the Controlling Organization for configuration control. In the 2006 event in 336, the same staff member (R1) applied a personal lock with his name and information written on it for configuration control on an electrical panel but did not apply a formal "DNO" tag until after the occurrence. The current and prior events are similar as they indicate a lack of discipline in following LOTO procedures for configuration control.

A Safe-to-Work check was not performed by the authorized worker (R1) as required before the restart of work on the system. Errors of this type occurred in the prior event in 336 when the electrical panel was opened by both research staff involved in this event (R1 and R2) without performing safe-condition and safe-to-work checks.

Performance of an effectiveness review of any actions associated with the deficiencies noted above from the 2006 event is not within the scope of this causal analysis team charter. These deficiencies will be communicated to appropriate management for disposition.

DOE Facility Representative Input:

DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Facilities & Operations / Operational Systems
Plant Area:	300 Area
System/Building/Equipment:	336 Building
Facility Function:	Laboratory - Research & Development
Corrective Action 01:	Target Completion Date: 02/29/2008 Tracking ID: ATS # 29882.1.4
	Responsible FO&ED line management should work with the principal staff member to reinforce expectations for strict compliance with SBMS LOTO requirements. This includes the process for removal of an absent worker's LOTO, appropriate use of locking devices and recent revisions that delineate separate approaches for LOTO for personal protection and for configuration control.
Corrective Action 02:	Target Completion Date: 02/29/2008 Tracking ID: ATS # 29882.1.5
	Responsible R&D line management should work with the two principal staff members to reinforce expectations for strict compliance with SBMS LOTO requirements. This includes the process for removal of an absent worker's LOTO, appropriate use of locking devices and recent revisions that delineate separate approaches for LOTO for personal protection and for configuration control.
Corrective Action 03:	Target Completion Date: 02/29/2008 Tracking ID: ATS # 29882.1.6
	The 336 Building R&D organization should examine ways to enhance communication of system status and configuration between authorized and affected workers.
Corrective Action 04:	Target Completion Date: 06/01/2008 Tracking ID: ATS # 29882.1.7
	FO&ED management should continue the ongoing assessment of the Distributed Work Core Team operations and take appropriate actions to more closely align it with other facility core team operational models. FO&ED should also communicate expectations relative to the roles of the R&D customer in providing technical expertise and the role of the F&O manager relative to responsibilities for work scope hazard assessment, mitigation and authorization.
Corrective Action 05:	Target Completion Date: 05/30/2008 Tracking ID: ATS # 29882.1.8
	Perform a corrective action effectiveness review of actions associated with the 336 Building electrical safety event in 2006. (ATS # 29882.1.8) See also SC--PNSO-PNNL-PNNLBOPER-2006-0005, corrective action # 5 - "external authority to conduct effectiveness review," which is due to be completed 3/30/08. (ATS # 13031.9.5).

Lessons(s) Learned: A fundamental principle of a LOTO program is that no worker can remove another worker's LOTO without appropriate and deliberate evaluation and management approval. Discovery of another worker's Danger Tag by the electrician should have resulted in clear communication with the research staff and suspension of work. The electrician's view and concepts of the roles and responsibilities between himself and research staff may have been influenced by lack of clear communication and the understanding between all involved of the LOTO program. All workers are required to honor all aspects of the LOTO program including the removal of another worker's Danger Tag.

HQ Keywords: 01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
 01G--Inadequate Conduct of Operations - Inadequate Procedure
 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)
 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
 01P--Inadequate Conduct of Operations - Inadequate Oral Communication
 01T--Inadequate Conduct of Operations - Willful Violation
 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)
 14C--Quality Assurance - Quality Improvement Deficiency
 14D--Quality Assurance - Documents and Records Deficiency
 14E--Quality Assurance - Work Process Deficiency

HQ Summary: While removing two 120-volt power supply cables from a bundle of four de-energized 120-volt power supply cables, an electrician removed another authorized worker's Danger Tag. There was no lock, and the Danger Tag had been attached with the same duct tape used to bundle the supply cables. The worker did not contact any hazardous energy. The work activity was stopped, the electricians lock and tag qualifications were suspended, and a critique was held.

Similar OR Report Number: 1. SC--PNSO-PNNL-PNNLBOPER-2006-0005

Facility Manager:	Name	Berger, J. E.
	Phone	(509) 371-7959
	Title	Manager, Maintenance & Fabrication Services

Originator:	Name	POLLARI, ROGER A
	Phone	(509) 371-7700
	Title	

HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA

Other Notifications:	Date	Time	Person Notified	Organization
	01/07/2008	13:15 (PTZ)	Higgins, R. L.	PNSO

| [ORPS HOME](#) | [Search & Reports](#) | [Authorities](#) | [Help](#) | [Security/Privacy Notice](#) |
*Please send comments or questions to orpssupport@hq.doe.gov or call the Helpline
at (800) 473-4375. Hours: 7:30 a.m. - 5:00 p.m., Mon - Fri (ETZ).
Please include [detailed information](#) when reporting problems.*