



# Electrical Safety Report



July 2010

## Electrical Safety Occurrences

Electrical safety performance in the month of July represented an exceptionally high number of occurrences. Twenty-two events is almost twice the average number experienced this year and in previous recent years. Although no particular cause is identified as unusually high, hazardous energy control (lockout/tagout) continues to be the leading cause of electrical safety events. Once again, a shallow review of the events may conclude that the consequences are minor, but no lockout/tagout event can be dismissed lightly. Isolation of hazardous energy is critical in protecting the lives and health of our workers and we cannot afford to fail to perform the task perfectly each time. We also must ensure our subcontractors are as diligent as we are in following each step of the hazardous energy control procedure without error. Hazardous electrical energy isolation is more critical than other forms of energy because the exposure to electrical energy is less forgiving than other types of hazards. There were five electrical shock events. One of them was attributed to static electricity. On a positive note, cutting/drilling and excavation events have decreased since the beginning of the year.

The high number of events this month combined with an adverse trend this year should be a precursor alarm that unless preemptive measures are taken, we are headed toward an unacceptable result that could injure someone and place the integrity of our programs in jeopardy. The challenge to conduct our work for a complete month without a lockout/tagout event should be accepted by all. We must continue to consider the safety of non-electrical workers and subcontractors because their lack of awareness of electrical hazards might place them in situations of exposure.

Number of Events	Involving:
8	Hazardous Energy Control
3	Inadequate Job Planning
1	Inadvertent Drilling/Cutting of Electrical Conductor
1	Excavation of Electrical Conductors
2	Vehicle Intrusion of Electrical Conductors
3	Electrical Near Miss
9	Electrical Workers
13	Non-Electrical Workers
8	Subcontractors

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

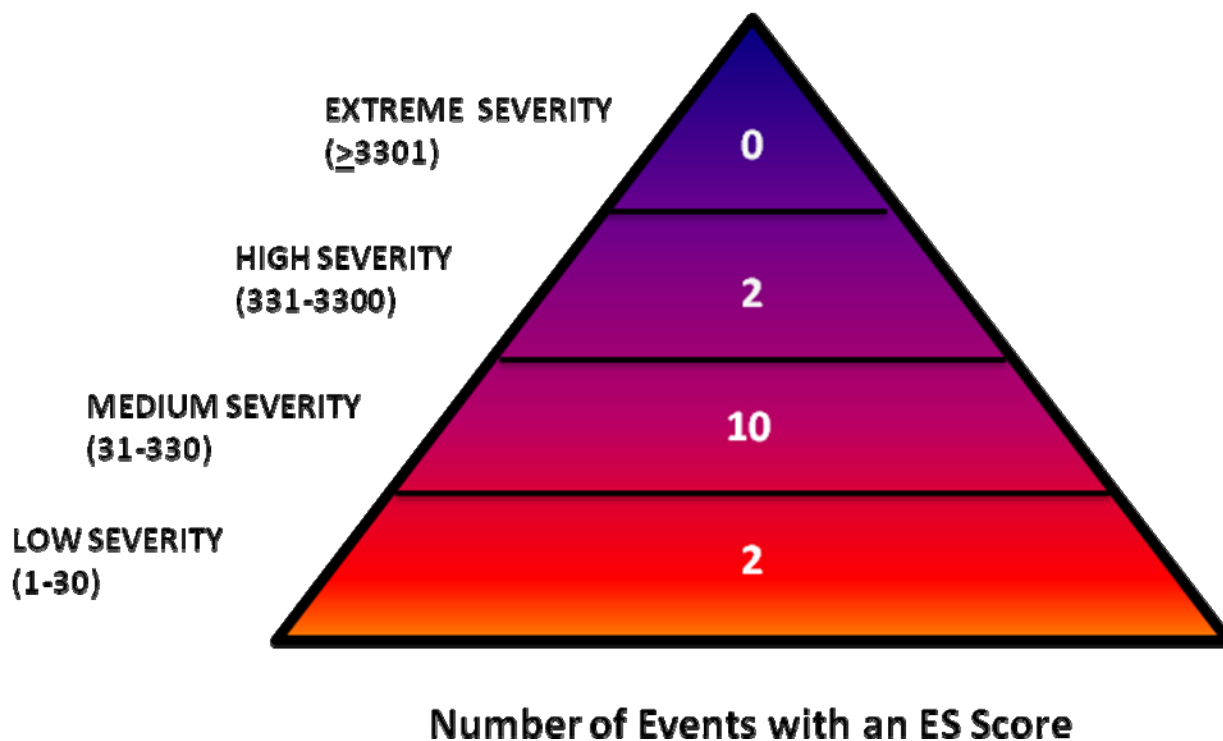
Using the key words above, twenty-six events were identified. Four events were screened out of the data because they occurred at an earlier date or the event is not related to the electrical safety program.

Below is the current summary of 2010 electrical safety occurrences:

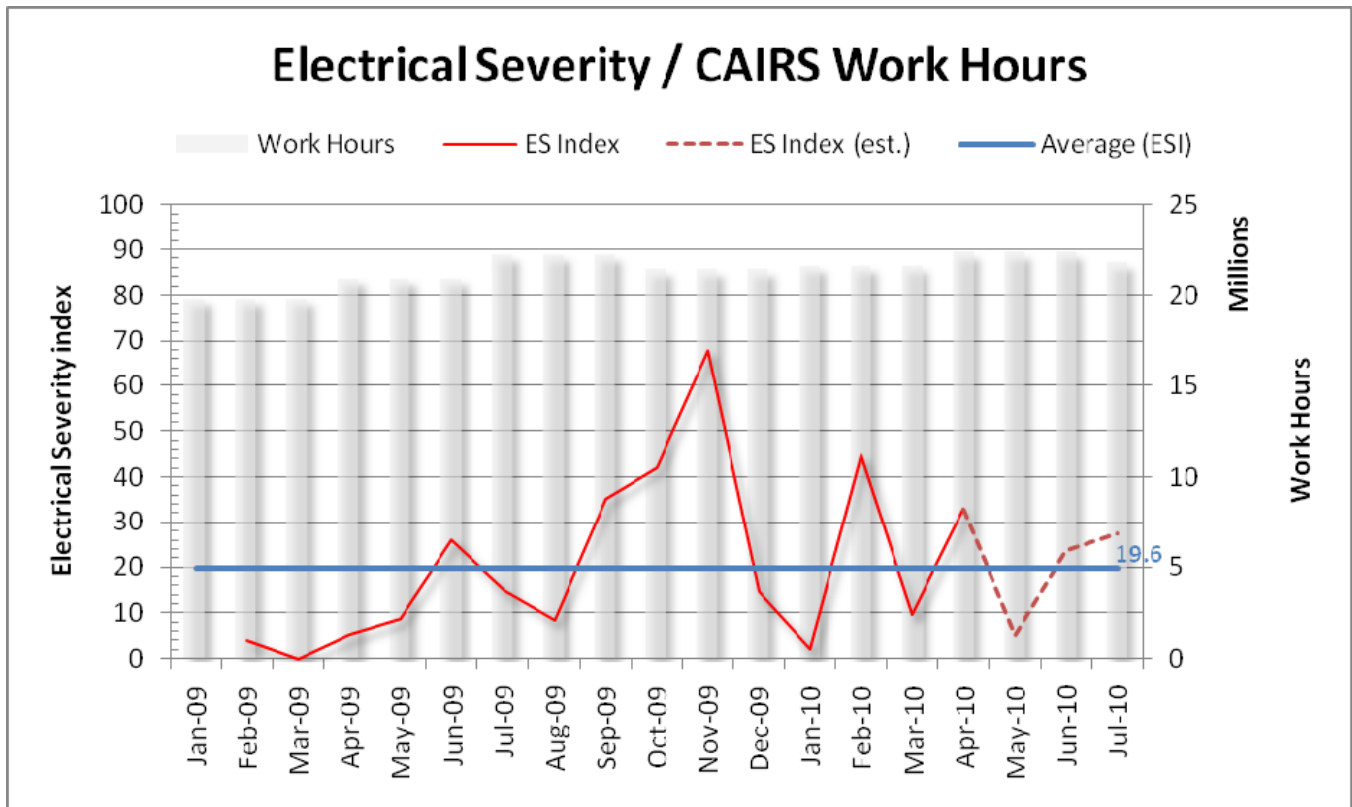
Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
July	22	5	0	0
June	13	4	0	0
May	7	1	0	0
April	13	2	0	0
March	13	2	0	0
February	13	4	0	0
January	8	0	0	0
2010 total	89 (avg. 12.7/month)	18	0	0
2009 total	128 (avg. 10.7/month)	25	3	0
2008 total	113 (avg. 9.4/month)	26	1	0
2007 total	140 (avg. 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 twenty-two electrical safety events reported in July 2010, brings the monthly average to 12.7 events just past halfway through the year. This is an increase over the rate of electrical safety occurrences in 2009 (10.7 per month). Significant improvement must be experienced throughout the remainder of the year if 2010 will show an improvement of previous years.

Please continue to evaluate electrical events using the Electrical Severity Measurement Tool. During the month of July, 8 of 22 electrical events were determined to have no Electrical Severity (ES) score. The other 14 events were distributed as shown below, with the highest ES score being 700.



The following chart shows a calculated Electrical Severity Index (ESI) for the DOE complex.



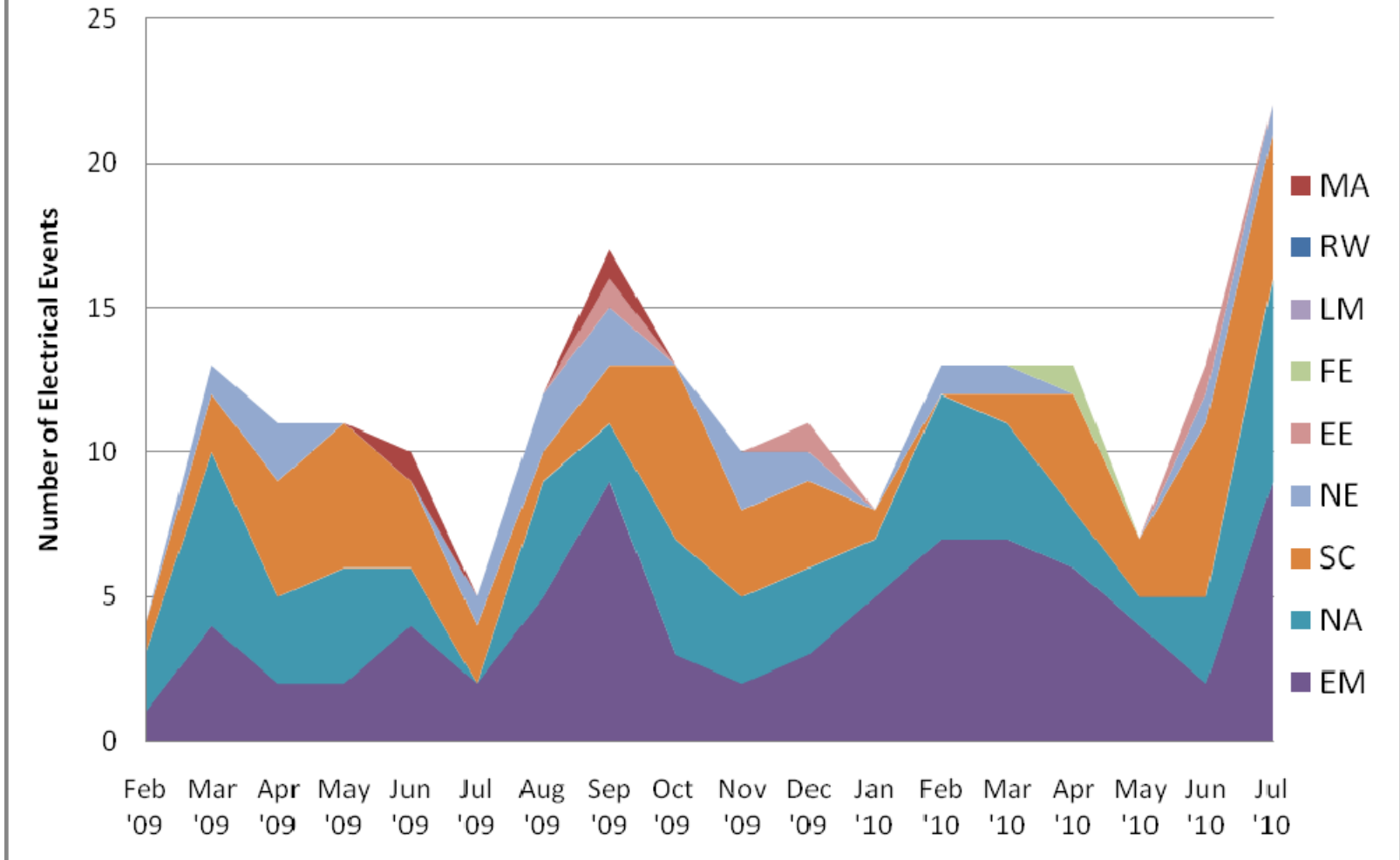
Note: An estimated ESI is calculated until accurate CAIRS man-hours are available. The chart will be updated monthly.

Category	June	July	Δ
<b>Total Electrical Severity</b>	2,630	2,990	+360
<b>Estimated Work Hours</b>	22,305,596	21,737,519	-568,077
<b>ES Index</b>	23.58	27.51	+3.93
<b>Average ESI</b>	19.2	19.6	+0.4

$$\text{Electrical Severity Index} = (\Sigma \text{ Electrical Severity} / \Sigma \text{ Work Hours}) 200,000$$

# Electrical Events by Month and Secretarial Office

(Rolling 18-Month Chart)



EE - Energy Efficiency and Renewable Energy, EM - Environmental Management, FE - Fossil Energy, LM - Legacy Management, MA - Management, NA - National Nuclear Security Administration, NE - Nuclear Energy, RW - Civilian Radioactive Waste Management, SC - Science

## Electrical Safety Occurrences – July 2010

No	Report Number	Event Summary	SHOCK	BURN	ARCF <sup>(1)</sup>	LOTO <sup>(2)</sup>	PLAN <sup>(3)</sup>	EXCAV <sup>(4)</sup>	CUT/D <sup>(5)</sup>	VEH <sup>(6)</sup>	SC <sup>(7)</sup>	RC <sup>(8)</sup>	ES <sup>(9)</sup>
1	EM--CPE-SLACCLEAN-2010-0003	Excavator severs direct buried cable located under asphalt.									3	2C(2)	0
2	EM-ID--CWI-ICPWM-2010-0003	Construction electricians failed to follow LOTO procedure.				X					4	10(2)	0
3	EM-ID--CWI-IWTU-2010-0005	Worker receives electrical shock from welding cable.	X								3	10(2)	110
4	EM-ID--CWI-IWTU-2010-0006	Worker fails to follow LOTO procedure.									3	10(2)	330
5	EM-RL--CPRC-PFP-2010-0009	Multiple workers received an apparent static shock from glovebox enclosure.	X								4	10(2)	110
6	EM-RL--CPRC-PFP-2010-0012	Subcontractor damages 480-volt conductor with fence-removal vehicle.								X	3	2C(2)	100
7	EM-RL--CPRC-PFP-2010-0014	Worker receives 120 volt electrical shock after rain leaks into work area.	X								2	2C(1)	630
8	EM-RP--WRPS-ANALLAB-2010-0001	Worker fails to follow LOTO procedure.				X					3	2C(2)	110
9	EM-RP--WRPS-TANKFARM-2010-0008	Worker fails to follow LOTO procedure.				X	X				3	2C(2)	110
10	NA--KCSO-AS-KCP-2010-0005	Worker discovers electrical energy while performing absence of voltage verification.				X					4	10(2)	0
11	NA--LASO-LANL-ACCCOMPLEX-2010-0003	Worker cuts energized conductor containing 7 kV and 100 mA.				X			X		3	2C(2)	110
12	NA--LASO-LANL-ACCCOMPLEX-2010-0004	Worker receives electrical shock from contact with a light switch.	X								2	2C(1)	150
13	NA--LASO-LANL-BOP-2010-0007	Workers fail to remove shunt across secondary of 13.8 kV/480 V transformer before attempting to energized.									3	2C(2)	0
14	NA--LSO-LLNL-LLNL-2010-0028	Workers discover energized equipment after installing LOTO.				X	X				3	2C(2)	700

No	Report Number	Event Summary	SHOCK	BURN	ARCF <sup>(1)</sup>	LOTO <sup>(2)</sup>	PLAN <sup>(3)</sup>	EXCAV <sup>(4)</sup>	CUT/D <sup>(5)</sup>	VEH <sup>(6)</sup>	SC <sup>(7)</sup>	RC <sup>(8)</sup>	ES <sup>(9)</sup>
15	NA--PS-BWP-PANTEX-2010-0044	Subcontractor installs conduit into an energized electrical panelboard without meeting site requirements.					X				4	10(2)	20
16	NA--SS-SNL-2000-2010-0005	Subcontractor worker receives electrical shock measured at 106 volts from camera mounting structure.	X								2	2C(1)	330
17	NE-ID--BEA-STC-2010-0002	Subcontractor fails to follow site LOTO procedure.				X					3	10(2)	0
18	SC--ASO-ANLE-ANLEAPS-2010-0002	An arc between heat trace and a water line creates hole in water line.									3	10(3)	20
19	SC--ASO-ANLE-ANLEFMS-2010-0010	Worker inadvertently cut and energized receptacle outlet with an lawn mower.								X	3	2C(2)	160
20	SC--BSO-LBL-OPERATIONS-2010-0010	Subcontractor fails to follow site LOTO procedure.				X					3	2C(2)	0
21	SC--PNSO-PNNL-PNNLBOPER-2010-0015	Conductor damaged during trenching activity.						X			3	2C(2)	0
22	SC-ORO--ORNL-X10EAST-2010-0003	Worker witnesses spark in panel containing 120 volt and 277 volt conductors thought to be de-energized.									3	2C(2)	0
	TOTAL		5	0	0	8	3	1	1	2			

### Key

(1) ARCF = significant arc flash, (2) LOTO = lockout/tagout, (3) PLAN = job planning, (4) EXCAV = excavation/penetration, (5) CUT/D = cutting or drilling, (6) VEH = vehicle event, (7) SC = ORPS significance category, (8) RC = ORPS reporting criteria, (9) ES = electrical severity

ES Scores: Extreme is >3301, High is 331-3300, Medium is 31-330, and Low is 1-30

## Electrical Safety Occurrences – July 2010

No	Report Number	Event Summary	EW <sup>(1)</sup>	N-EW <sup>(2)</sup>	SUB <sup>(3)</sup>	HFW <sup>(4)</sup>	WFH <sup>(5)</sup>	PPE <sup>(6)</sup>	70E <sup>(7)</sup>	VOLT <sup>(8)</sup>		C/I <sup>(9)</sup>	NEUT <sup>(10)</sup>	NM <sup>(11)</sup>
										H	L			
1	EM---CPE-SLACCLEAN-2010-0003	Excavator severs direct buried cable located under asphalt.		X		X					X			
2	EM-ID--CWI-ICPWM-2010-0003	Construction electricians failed to follow LOTO procedure.	X				X				X			
3	EM-ID--CWI-IWTU-2010-0005	Worker receives electrical shock from welding cable.		X	X	X					X			
4	EM-ID--CWI-IWTU-2010-0006	Worker fails to follow LOTO procedure.		X			X				X			
5	EM-RL-CPRC-PFP-2010-0009	Multiple workers received an apparent static shock from glovebox enclosure.		X		X					X			
6	EM-RL--CPRC-PFP-2010-0012	Subcontractor damages 480-volt conductor with fence-removal vehicle.		X	X	X					X			
7	EM-RL--CPRC-PFP-2010-0014	Worker receives 120 volt electrical shock after rain leaks into work area.		X		X					X			
8	EM-RP--WRPS-ANALLAB-2010-0001	Worker fails to follow LOTO procedure.	X				X				X			
9	EM-RP--WRPS-TANKFARM-2010-0008	Worker fails to follow LOTO procedure.	X				X				X			
10	NA--KCSO-AS-KCP-2010-0005	Worker discovers electrical energy while performing absence of voltage verification.	X				X				X			
11	NA--LASO-LANL-ACCCOMPLEX-2010-0003	Worker cuts energized conductor containing 7 kV and 100 mA.		X		X					X			
12	NA--LASO-LANL-ACCCOMPLEX-2010-0004	Worker receives electrical shock from contact with a light switch.		X		X					X			
13	NA--LASO-LANL-BOP-2010-0007	Workers fail to remove shunt across secondary of a 13.8 kV/480 V transformer before attempting to energize.	X			X					X			
14	NA--LSO-LLNL-LLNL-2010-0028	Workers discover energized equipment after installing LOTO.	X				X				X			X

No	Report Number	Event Summary	EW <sup>(1)</sup>	N-EW <sup>(2)</sup>	SUB <sup>(3)</sup>	HFW <sup>(4)</sup>	WFH <sup>(5)</sup>	PPE <sup>(6)</sup>	70E <sup>(7)</sup>	VOLT <sup>(8)</sup>		C/I <sup>(9)</sup>	NEUT <sup>(10)</sup>	NM <sup>(11)</sup>
										H	L			
15	NA--PS-BWP-PANTEX-2010-0044	Subcontractor installs conduit into an energized electrical panelboard without meeting site requirements.	X		X		X				X			
16	NA--SS-SNL-2000-2010-0005	Subcontractor worker receives electrical shock measured at 106 volts from camera mounting structure.		X	X	X					X			
17	NE-ID--BEA-STC-2010-0002	Subcontractor fails to follow site LOTO procedure.	X		X		X				X			
18	SC--ASO-ANLE-ANLEAPS-2010-0002	An arc between heat tape and a water line creates hole in water line.		X		X					X			X
19	SC--ASO-ANLE-ANLEFMS-2010-0010	Worker inadvertently cut and energized receptacle outlet with an lawn mower.		X		X					X			
20	SC--BSO-LBL-OPERATIONS-2010-0010	Subcontractor fails to follow site LOTO procedure.	X		X		X				X			
21	SC--PNSO-PNNL-PNNLBOPER-2010-0015	Conductor damaged during trenching activity.		X	X	X					X			
22	SC-ORO--ORNL-X10EAST-2010-0003	Worker witnesses spark in panel containing 120 volt and 277 volt conductors thought to be de-energized.		X	X	X					X			X
	TOTAL		9	13	8	13	9	0	0	1	21	0	0	3

### Key

(1) EW = electrical worker, (2) N-EW = non-electrical worker, (3) SUB = subcontractor, (4) HFW = hazard found the worker, (5) WFH = worker found the hazard, (6) PPE = inadequate or no PPE used, (7) 70E = NFPA 70E issues, (8) VOLT = H (>600) L(≤600), (9) C/I = Capacitance/Inductance, (10) NEUT = neutral circuit, (11) NM = near miss



# ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 54787 OR(s) with 58097 occurrences(s) as of 8/11/2010 6:59:52 AM  
Query selected 22 OR(s) with 22 occurrences(s) as of 8/11/2010 7:04:26 AM

Download this report in Microsoft Word format. 

<b>1)Report Number:</b>	<a href="#">EM--CPE-SLACCLEAN-2010-0003</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Stanford Linear Accelerator Center		
<b>Facility Name:</b>	SLAC Cleanup		
<b>Subject/Title:</b>	Excavator struck underground electrical utility cable line buried 2" below asphalt lot surface		
<b>Date/Time Discovered:</b>	07/07/2010 12:00 (PTZ)		
<b>Date/Time Categorized:</b>	07/08/2010 10:00 (PTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	08/05/2010	15:53 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>	A1B3C02 - Design/Engineering Problem; Design / documentation LTA; Design/documentation not up-to-date		
<b>ISM:</b>	5) Provide Feedback and Continuous Improvement		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>C/P/E equipment operator was using an excavator to remove asphalt and excavate designated soil in the rear lot area of building 028. As excavator was removing asphalt surface material, the excavator severed a buried electrical utility cable line (approximate one inch in size) as observed by the ground spotter. Spotter communicated condition to the equipment operator. Excavation work was immediately stopped. The work area was placed in a safe mode and site management was contacted.</p> <p>During the immediate site investigation and response to this incident it was</p>		

	<p>observed that this subsurface electrical utility cable line (specs - Anaconda W Durall-2, Type UF 10% w/ground 600 sunlight resistant) was embedded within the asphalt layers of the lot approximately 2" below the asphalt lot surface. This electrical utility cable was not installed in accordance to National Electrical Code (NEC) standard requirements.</p>
<b>Cause Description:</b>	<p>Causal analysis identified a failure of the facility to update it's utility shop drawings in regards to underground electrical utility service lines. A contributing factor as received by the subsurface utility surveyor included the severed electrical cable line lay in close parallel to a metal chainlink fence which may have interfered with the surveyor's detection equipment at the time of the initial subsurface utility survey. Also, it should be noted that the installation of this underground utility cable line was not installed in accordance with current local code or accepted National Electrical Code (NEC) standard requirements.</p>
<b>Operating Conditions:</b>	<p>Operational Status of utility system was normal</p>
<b>Activity Category:</b>	<p>Construction</p>
<b>Immediate Action(s):</b>	<p>Construction work in the immediate work area was discontinued. SLAC facility electrical group and utility service personnel were immediately contacted to investigate and service any affected utilities. SLAC facility electrical service group personnel placed the utility cable line in a lockout/tagout condition for further investigation. It was determined that this utility cable line was not identified on their utility list(s) or on any shop drawings. The Utility Location Surveyor was brought to the site and with the use of his equipment was able to identify the path of the severed utility cable line at the site. SLAC facility electrical group service personnel identified the utility cable line as the service power supply for two outdoor lights along the perimeter of the Building 028 asphalt lot. It was also determined by the SLAC facility electrical group's investigation that this utility cable line was connected to a timer which turns the lights on late evening and turn them off early in the morning. With this in mind, during the initial subsurface utility survey which was performed during the daytime the utility cable line was de-energized and subsequently went undetected.</p>
<b>FM Evaluation:</b>	<p>Verbal reports were received from SLAC facility electrical group personnel stating that this underground utility cable was more than 30 years old. If true, considerations should be made regarding a SLAC facility wide subsurface investigation study in an effort to identify potential subsurface hazardous conditions (due to previous less than adequate work practices and recordkeeping). C/P/E in accordance with it's SLAC Excavation Permit performed a subsurface utility investigation using current best practice technology to identify any subsurface utilities or anomalies, where none were discovered. As site work resumed following the incident, three additional electrical utility cable lines (identical to the severed cable in appearance) where uncovered as they were buried in the same manner as the severed utility cable line. The difference for these</p>

	three cable lines was that they were all abandoned and de-energized. Due to the observed circumstances surrounding this event (incorrect utility drawings, de-energized utilities, not following standard utility installation requirements), it's highly likely that a future similar event will occur at the SLAC facility by subcontractor's unfamiliar with the existing site conditions at SLAC.	
<b>DOE Facility Representative Input:</b>		
<b>DOE Program Manager Input:</b>		
<b>Further Evaluation is Required:</b>	No	
<b>Division or Project:</b>	C/P/E Environmental Services, LLC	
<b>Plant Area:</b>	Lot of Building 028	
<b>System/Building/Equipment:</b>	Rental Lease Excavator/ Underground utility	
<b>Facility Function:</b>	Accelerators	
<b>Corrective Action 01:</b>	<b>Target Completion</b> <b>Date:</b> 07/09/2010	<b>Actual Completion</b> <b>Date:</b> 07/19/2010
	Conduct a follow-up review with SLAC Electrical Facilities Group to discuss mitigation measures in avoiding future recurrence, site wide.	
<b>Corrective Action 02:</b>	<b>Target Completion</b> <b>Date:</b> 07/07/2010	<b>Actual Completion</b> <b>Date:</b> 07/12/2010
	Amend current C/P/E work protocols to include layering of facility utility infrastructure drawings with the addition of a 10' clearance zone along the perimeter of the area of interest and to include this additional 10' area in the subsurface utility survey investigations.	
<b>Corrective Action 03:</b>	<b>Target Completion</b> <b>Date:</b> 07/07/2010	<b>Actual Completion</b> <b>Date:</b> 07/09/2010
	Bring underground utility surveyor out to worksite to perform an additional subsurface utility survey.	
<b>Lessons(s) Learned:</b>		
<b>HQ Keywords:</b>	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency	
<b>HQ Summary:</b>	On July 7, 2010, a C/P/E, LLC equipment operator, who was using an excavator to remove asphalt and soil, severed a buried electrical utility cable in the rear lot area of Building 028. The work area was placed in a	

safe mode and management notifications were made. During the investigation, it was observed that this subsurface electrical utility cable line was embedded within the asphalt layers of the lot approximately 2" below the asphalt lot surface. Construction work in the immediate work area was discontinued. SLAC facility electrical service group personnel placed the utility cable line in a lockout/tagout condition for further investigation. It was determined that this utility cable line was not identified on the utility list(s) or on any shop drawings. The Utility Location Surveyor was brought to the site and, with the use of his equipment, was able to identify the path of the severed utility cable line at the site. It was determined that this utility cable line was connected to a timer that turns the lights on late in the evening and turns them off in the early morning. The initial subsurface utility survey was performed during the daytime when the utility cable line was de-energized and subsequently went undetected.

**Similar OR Report Number:** 1. N/A

<b>Facility Manager:</b>	Name	BEATTY, KEN W		
	Phone	(770) 908-7200		
	Title	ENVIRONMENTAL, SAFETY & HEALTH SPECI		

<b>Originator:</b>	Name	BEATTY, KEN W		
	Phone	(770) 908-7200		
	Title	ENVIRONMENTAL, SAFETY & HEALTH SPECI		

<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA

<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/07/2010	12:00 (PTZ)	Jeffrey Parkin	DOE-EM

**Authorized Classifier(AC):** Ken Beatty      Date: 07/16/2010

<b>2)Report Number:</b>	<a href="#">EM-ID--CWI-ICPWM-2010-0003</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Idaho National Laboratory		
<b>Facility Name:</b>	Waste Management Project Activities and Facilities		
<b>Subject/Title:</b>	Lock-out Tag-out Event at ICP Analytical Laboratory		
<b>Date/Time Discovered:</b>	07/08/2010 07:00 (MTZ)		
<b>Date/Time Categorized:</b>	07/08/2010 07:00 (MTZ)		
<b>Report Type:</b>	Notification/Final		
<b>Report Dates:</b>	Notification	07/12/2010	19:08 (ETZ)
	Initial Update	07/12/2010	19:08 (ETZ)

	Latest Update	07/12/2010	19:08 (ETZ)
	Final	07/12/2010	19:08 (ETZ)
	Revision 1	07/13/2010	14:09 (ETZ)
<b>Significance Category:</b>	4		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>On July 1, 2010, a CWI plant electrician noticed that new conduit had been installed in the bottom of the HVAC control panel at the ICP Analytical Laboratory Trailer (TR-14) and suspected the work had been done without a lock-out tag-out (LOTO). The plant electricians perform all the zero energy checks for LOTOs and the plant electrician knew that a zero energy check had not been performed on this panel. The plant electrician notified Construction Management of the potential LOTO violation. The Construction Manager and Job Site Supervisor verified that the job site was in a safe condition.</p> <p>Construction Management investigated the issue and determined that the work had been performed on June 15, 2010 by CWI force account electricians on Work Order (WO) 630399, Install Remote Access for HVAC and Control Panel for TRU-Lab. This work was controlled by the work order and vendor provided sketches and included installation of conduit, wire installation and installation of sensors to monitor freezers and refrigerators in the lab. The work scope required three 2 inch conduit to be installed in the bottom of an existing HVAC control panel that is powered by single phase 120 v AC circuit. The work order has a Primary Authorized Employee (PAE) hold point prior to the step that installs the conduit. The expectation was that the panel would have a Level 1 LOTO installed to perform all steps after the hold point. The workers did not use the procedure step-by-step and did not know there was a PAE Hold. They made the decision that there were no exposed energized circuits and therefore it was safe to install the conduit in the bottom of the panel.</p> <p>On July 6, 2010, a fact finding meeting was held and determined that the electrical energy in the panel was not exposed (120 v AC was suitably guarded, isolated or insulated per definition in NFPA 70E, 2004 Edition,</p>		

	<p>pg. 19) and installation of conduit in the panel would not have required a LOTO. However, the force account electricians did not use the procedure step-by-step and did not initiate a LOTO prior to installing conduit in the HVAC control panel as required by a PAE hold point in the work order.</p> <p>Following the fact-finding, at 1520 hours 07-06-2010, the event was initially determined to not be reportable. A follow up meeting was conducted on 07-07-2010 and the work control practices were reviewed in more detail. On 07-08-10 at 0700 hours, the event was categorized as a Group 10 Management Concern/Issue, Sequence number 2, Significance category 4. Violating a hold point can result in proceeding with an unmitigated danger or hazard present which could cause personnel injury or death.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal operations
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	Construction Management initiated a step back from electrical work at the ICP Analytical Lab at RWMC. Fact-finding was held.
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Idaho Clean-up Project
<b>Plant Area:</b>	Trailer 14 RWMC
<b>System/Building/Equipment:</b>	ICP Analytical Laboratory
<b>Facility Function:</b>	Nuclear Waste Operations/Disposal
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	<p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)</p> <p>01O--Inadequate Conduct of Operations - Inadequate Maintenance</p> <p>12B--EH Categories - Conduct of Operations</p> <p>14E--Quality Assurance - Work Process Deficiency</p>
<b>HQ Summary:</b>	<p>On July 1, 2010, a CWI plant electrician noticed that new conduit had been installed in the bottom of an HVAC control panel at the ICP Analytical Laboratory Trailer 14 and suspected that the work had been done without a lock-out/tag-out (LOTO). The plant electricians perform all the zero energy checks for LOTOs and the plant electrician knew that a</p>



zero energy check had not been performed on this panel. The plant electrician notified Construction Management of the potential LOTO violation. The work had been performed on June 14, 2010 by CWI force account electricians under a work order that included vendor provided sketches. The work scope required installing three 2-inch conduits in the bottom of the HVAC control panel that is powered by a single phase 120-volt AC circuit. The work order has a Primary Authorized Employee (PAE) hold point before installing the conduit. The expectation was to have a Level 1 LOTO installed to perform all steps after the hold point. The workers did not ask for the PAE evaluation because they decided that there were no exposed energized circuits, so it was safe to install the conduit. On July 6, a fact finding meeting determined that the electrical energy in the panel was not exposed and installation of conduit in the panel would not have required a LOTO. However, the electricians had failed to see the need for a LOTO evaluation by the PAE before installing conduit in the HVAC control panel as required by a hold point in the work order.

**Similar OR Report Number:**

**Facility Manager:**

Name	Wadholm, Rik
Phone	(208) 351-1838
Title	Facility Manager, ICP Analytical Laboratory

**Originator:**

Name	SEELY, VAL M
Phone	(208) 351-6831
Title	MANAGER ISSUES MANAGEMENT

**HQ OC Notification:**

Date	Time	Person Notified	Organization
NA	NA	NA	NA

**Other Notifications:**

Date	Time	Person Notified	Organization
07/08/2010	08:05 (MTZ)	R. S. Karns	DOE-ID

**Authorized Classifier(AC):** R. Vaden      Date: 07/12/2010

**3)Report Number:**

[EM-ID--CWI-IWTU-2010-0005](#) After 2003 Redesign

**Secretarial Office:**

Environmental Management

**Lab/Site/Org:**

Idaho National Laboratory

**Facility Name:**

Integrated Waste Treatment Unit

**Subject/Title:**

Potential Electrical Shock to Carpenter

**Date/Time Discovered:**

07/12/2010 23:30 (MTZ)

**Date/Time Categorized:**

07/13/2010 18:40 (MTZ)

**Report Type:**

Notification

**Report Dates:**

Notification	07/15/2010	16:45 (ETZ)
--------------	------------	-------------

	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	Yes URS-Washington Division Construction		
<b>Occurrence Description:</b>	<p>At approximately 2330 hours MDT the carpenter foreman assisting the crew raise sheetrock received a minor electrical shock when he bumped a welder ground clamp with his right thigh. The clamp was attached to a connecting bolt on the IWTU building structure approximately 2.5 feet above the floor. The clamp came off of the bolt and clamped on to the right thigh pinching the skin. The shock occurred as the clamp was bumped and lasted for less than a second. The crew stepped back after the shock and determined they should wait to complete their work until the electricians were done welding. The electricians told the carpenters they would only be another five minutes welding.</p> <p>Approximately 20 minutes later, 2350 hours, the carpenter foreman received a second shock when he reached down to remove a second welding clamp that he thought would interfere with moving of the sheetrock and present a tripping hazard. He received the shock to his right hand when he touched the welder ground clamp attached to the structure near the floor of the IWTU building. The welding clamp the carpenter attempted to remove was attached to a copper ground wire that is part of the ground grid. The wire comes out of the floor near the vertical structural steel column. The workers reported the second incident to their foreman and safety was summoned to the incident site. The employee was taken to Central Facilities Medical Services for evaluation on 7/13/2010 between 0030 and 0100 hours.</p> <p>Following the conclusion of the Incident Review Board (IRB) and based upon the information obtained during the IRB, at approximately 1840 hours (MDT) on 7/13/2010, the CWI IWTU Operations Manager categorized this event as ORPS Reportable as a Group 10 (Management</p>		



	Concerns/Issues), Sequence 2 (Any 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.), Significance Category 3. The FacRep was informed and concurred with the contractor's event categorization.
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	The work area around Column line H-9 was congested with both electrician and carpenters working in adjacent areas.
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	Employee taken to CFA Medical Services for evaluation - employee was cleared medically Night Shift Superintendent held a step back to review the incident with the crafts Shift turnover covered the incident 7/13/2010 AM Management held a step back with the day shift crafts 7/13/2010 AM Management took the 4 pack welders out of service until check by electricians Electrical Superintendent had his personnel check out all the welders on the construction site
<b>FM Evaluation:</b>	The IWTU Operation Manager has reviewed the evidence from the fact finding meeting that was held on July 13, 2010 and determine that the event should be re-categorized the event as Group 10, Sequence 2, Significance Category 3 at 1840 hours (MDT). The DOE Facility Representative concurs with the categorization.  The categorization is based on the carpenter statement that he received a shock sensation, but did not experience clenching of muscles in his right thigh or right hand. The IWTU Operations Manager determined that the incident was not a near miss based on the voltage and amperage the employee was exposed.
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Integrated Waste Management Unit
<b>Plant Area:</b>	IWTU Building
<b>System/Building/Equipment:</b>	CPP-1696 Line H-9
<b>Facility Function:</b>	Nuclear Waste Operations/Disposal

<b>Corrective Action:</b>													
<b>Lessons(s) Learned:</b>													
<b>HQ Keywords:</b>	08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency												
<b>HQ Summary:</b>	On July 12, 2010, a carpenter foreman, who was assisting a crew raise sheetrock, received a minor electrical shock when he bumped a welder ground clamp that was in use with his right thigh. The clamp was attached to a connecting bolt on the IWTU building structure approximately 2½ feet above the floor. The clamp came off of the bolt and clamped on to the right thigh pinching the skin. The shock occurred as the clamp was bumped and lasted for less than a second. About 20 minutes later, the carpenter foreman received a second shock to his right hand when he reached down to remove a second welding clamp that he thought would interfere with moving of the sheetrock and present a tripping hazard. The crew stepped back after the shock and determined they should wait to complete their work until the electricians completed welding. The carpenter foreman said that he received a shock sensation, but did not experience clenching of muscles in his right thigh or right hand. The carpenter foreman was taken to CFA Medical Services for evaluation where he was medically cleared. The night shift superintendent held a step back to review the incident with the crafts. Management took the 4 pack welders out of service until they were checked by electricians. A fact finding meeting was held.												
<b>Similar OR Report Number:</b>													
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>White, James M</td> </tr> <tr> <td>Phone</td> <td>(208) 533-8073</td> </tr> <tr> <td>Title</td> <td>Operations Manager</td> </tr> </table>	Name	White, James M	Phone	(208) 533-8073	Title	Operations Manager						
Name	White, James M												
Phone	(208) 533-8073												
Title	Operations Manager												
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>BOSLEY, JAMES B</td> </tr> <tr> <td>Phone</td> <td>(208) 351-5969</td> </tr> <tr> <td>Title</td> <td>STAFF ENGINEER - ISSUE MANAGEMENT CO</td> </tr> </table>	Name	BOSLEY, JAMES B	Phone	(208) 351-5969	Title	STAFF ENGINEER - ISSUE MANAGEMENT CO						
Name	BOSLEY, JAMES B												
Phone	(208) 351-5969												
Title	STAFF ENGINEER - ISSUE MANAGEMENT CO												
<b>HQ OC Notification:</b>	<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										
<b>Other Notifications:</b>	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> <tr> <td>07/13/2010</td> <td>14:40 (MTZ)</td> <td>Brad Davis</td> <td>DOE-ID</td> </tr> <tr> <td>07/13/2010</td> <td>18:40 (MTZ)</td> <td>Brad Davis</td> <td>DOE-ID</td> </tr> </table>	Date	Time	Person Notified	Organization	07/13/2010	14:40 (MTZ)	Brad Davis	DOE-ID	07/13/2010	18:40 (MTZ)	Brad Davis	DOE-ID
Date	Time	Person Notified	Organization										
07/13/2010	14:40 (MTZ)	Brad Davis	DOE-ID										
07/13/2010	18:40 (MTZ)	Brad Davis	DOE-ID										
<b>Authorized Classifier(AC):</b>	Casteel, Michael S     Date: 07/15/2010												
<b>4)Report Number:</b>	<a href="#">EM-ID--CWI-IWTU-2010-0006</a> After 2003 Redesign												

<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Idaho National Laboratory		
<b>Facility Name:</b>	Integrated Waste Treatment Unit		
<b>Subject/Title:</b>	DCS System Turnover Walk Down LOTO Issue		
<b>Date/Time Discovered:</b>	07/21/2010 15:00 (MTZ)		
<b>Date/Time Categorized:</b>	07/22/2010 11:40 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	07/26/2010	15:42 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>	2) Analyze the Hazards 4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>At approximately 1500 hours on 7/21/2010, the Distributed Control System (DCS) Test Engineer put his hands in the DCS cabinet to check and verify the labeling on the 24 volt direct current (VDC) electrical lines and terminals against the design drawings as part of system turnover verification from URS Construction to CWI Testing and Start up/Operations. A second employee noticed a sign on the door of the cabinet stating Danger, Lockout/Tagout required to work on this system/equipment and a LOTO number. The employees stepped back and discussed the situation and contacted the construction electricians to complete the verification of labeling.</p> <p>The DCS Test Engineer was working under a job safety analysis prepared for the DCS turn over, testing, start-up and normal operations. The 120 volts alternating current (VAC) connections in the cabinets are touch-safe construction. The 120 VAC power supply in DCS Cabinets CAB-SRB-670, CAB-SRB-671 and CAB-SRB-672 is de-energized and locked out under a CWI Lockout/Tagout related to other Testing and Startup activities and overlapped by a URS LOTO for construction. There was no potential</p>		

	<p>for the DCS Test Engineer to have come in contact with 120 VAC electrical power.</p> <p>The incident was categorized for OPRS at 1140 hours as a Management Concern, Significance Category 3, 10(2)C(3). The DOE facility representative concurs with the categorization.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	The testing was beenig conducted indoors.
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	<p>Stepped back when the LO/TO sign was noticed</p> <p>Employees discussed the situation</p> <p>Contacted URS electricians to assist with the verification of labels in the cabinets</p>
<b>FM Evaluation:</b>	<p>The incident was not a LO/TO issue, since the power source was locked out and under the control of the CWI Testing and Start up/Operations organization and did not present a hazard to the DCS Test Engineer.</p> <p>The issue is a work control issue related to the Testing and Start up/Operations Test Director and DCS Test Engineer did not sign-in on the URS LOTO that had been over hung on the CWI LOTO. They should have coordinated with the URS electricians that were working on the 24 VDC side of the DCS. The URS LOTO should have been discussed in the pre-job briefing for the project.</p>
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Idaho Completion Project - IWTU
<b>Plant Area:</b>	IWTU, CPP-1696
<b>System/Building/Equipment:</b>	Distributed Control System
<b>Facility Function:</b>	Nuclear Waste Operations/Disposal
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	<p>01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)</p> <p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)</p> <p>01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)</p> <p>01P--Inadequate Conduct of Operations - Inadequate Oral Communication</p> <p>12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)</p>

	14E--Quality Assurance - Work Process Deficiency															
<b>HQ Summary:</b>	On July 21, 2010, a Distributed Control System (DCS) test engineer put his hands in a DCS cabinet to check and verify the labeling on 24-volt direct current electrical lines and terminals against the design drawings as part of the system turnover verification from URS Construction to CWI Testing and Start up/Operations. A second employee noticed a sign on the door of the cabinet stating "Danger, Lockout/Tagout required to work on this system/equipment" and a lockout/tagout (LOTO) number. The employees stepped back and discussed the situation and contacted construction electricians to complete the labeling verification. The incident was not a LOTO issue because the power source was already locked out and under the control of the CWI Testing and Start up/Operations organization and did not present a hazard to the test engineer. However, the Testing and Start up/Operations test director and test engineer did not coordinate with the URS electricians that they were working on the 24-volt side of the DCS. The URS LOTO should have been discussed in the pre-job briefing for the project.															
<b>Similar OR Report Number:</b>																
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">Benner, Archie M</td> </tr> <tr> <td>Phone</td> <td colspan="3">(208) 533-3742</td> </tr> <tr> <td>Title</td> <td colspan="3">Deputy Operation Manager</td> </tr> </table>				Name	Benner, Archie M			Phone	(208) 533-3742			Title	Deputy Operation Manager		
Name	Benner, Archie M															
Phone	(208) 533-3742															
Title	Deputy Operation Manager															
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">BOSLEY, JAMES B</td> </tr> <tr> <td>Phone</td> <td colspan="3">(208) 351-5969</td> </tr> <tr> <td>Title</td> <td colspan="3">STAFF ENGINEER - ISSUE MANAGEMENT CO</td> </tr> </table>				Name	BOSLEY, JAMES B			Phone	(208) 351-5969			Title	STAFF ENGINEER - ISSUE MANAGEMENT CO		
Name	BOSLEY, JAMES B															
Phone	(208) 351-5969															
Title	STAFF ENGINEER - ISSUE MANAGEMENT CO															
<b>HQ OC Notification:</b>	<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													
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/22/2010</td> <td>11:40 (MTZ)</td> <td>Daphne Howerton</td> <td>DOE-ID</td> </tr> <tr> <td>07/26/2010</td> <td>13:40 (MTZ)</td> <td>Daphne Howerton</td> <td>DOE-ID</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	07/22/2010	11:40 (MTZ)	Daphne Howerton	DOE-ID	07/26/2010	13:40 (MTZ)	Daphne Howerton	DOE-ID
Date	Time	Person Notified	Organization													
07/22/2010	11:40 (MTZ)	Daphne Howerton	DOE-ID													
07/26/2010	13:40 (MTZ)	Daphne Howerton	DOE-ID													
<b>Authorized Classifier(AC):</b>	Vaden, Randall R    Date: 07/26/2010															

---

<b>5)Report Number:</b>	<a href="#">EM-RL--CPRC-PFP-2010-0009</a> After 2003 Redesign
<b>Secretarial Office:</b>	Environmental Management
<b>Lab/Site/Org:</b>	Hanford Site
<b>Facility Name:</b>	Plutonium Finishing Plant
<b>Subject/Title:</b>	Four employees felt what may have been an electrical or static shock (ARRA)
<b>Date/Time Discovered:</b>	07/08/2010 18:45 (PTZ)
<b>Date/Time Categorized:</b>	07/08/2010 19:45 (PTZ)

<b>Report Type:</b>	Notification/Final		
<b>Report Dates:</b>	Notification	07/13/2010	19:10 (ETZ)
	Initial Update	07/13/2010	19:10 (ETZ)
	Latest Update	07/13/2010	19:10 (ETZ)
	Final	07/13/2010	19:10 (ETZ)
<b>Significance Category:</b>	4		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>	2) Analyze the Hazards		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>On 7/8/10, four NCOs were working in two different glove boxes (HA 21 I and HA 28) located in Room 235B of Building 234-5Z. NCO1 reported that he felt what may have been an electrical or static shock. NCO2 was working in the same glove box and NCO3 &amp; NCO4 were working in the other glove box concurrently. The glove boxes are connected. NCOs 2, 3 and 4 immediately exited the glove box gloves and also indicated that they felt what may have been an electrical or static shock as they removed their hands. The Field Work Supervisor (FWS) notified the Shift Operation Manager. Access to Room 235B was restricted pending investigation. The employees were evaluated at Advanced Med Hanford (the on-site occupational medical provider) in the 200W area and released without restriction. None of the employees showed any physical indications of an electrical shock.</p> <p>A two part critique meeting was held on July 12th and 13th to identify the facts of the investigation. After an exhaustive field investigation was conducted with FWS, PFP Electrical Subject Matter Expert (SME), PFP Electricians, and affected personnel, it has been determined that no source could be identified as emitting any electrical charge. The investigative team could not locate any signs and/or indication of electrical issues associated with the glove boxes, external power cords, external powers sources or grounding.</p> <p>The consensus at the conclusion of the critique meeting was that the "shocks" may have been generated by static electricity. As a precautionary measure the tools and associated power cords are being removed from</p>		

	service and disposed of as waste.
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal Operations
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	<ol style="list-style-type: none"> <li>1. All work in Room 235B was stopped.</li> <li>2. The access into Room 235B was restricted.</li> <li>3. All affected personnel were transported to AHM for evaluation.</li> <li>4. Expanded restricted access to include all rooms which contain possible electrically connected glove boxes.</li> </ol>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Plutonium Finishing Plant Closure Project
<b>Plant Area:</b>	200 West
<b>System/Building/Equipment:</b>	234-5Z/200 West
<b>Facility Function:</b>	Plutonium Processing and Handling
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	<p>08A--OSHA Reportable/Industrial Hygiene - Electrical Shock</p> <p>12C--EH Categories - Electrical Safety</p> <p>13H--Management Concerns - American Recovery and Reinvestment Act (ARRA)</p> <p>14L--Quality Assurance - No QA Deficiency</p>
<b>HQ Summary:</b>	<p>On July 8, 2010, four nuclear chemical operators (NCOs) were working in two different gloveboxes (HA 21 I and HA 28) located in Room 235B of Building 234-5Z when one NCO reported that he felt what may have been an electrical or static shock. A second NCO was working in the same glovebox and the other two NCOs were working concurrently in the other glovebox. The two gloveboxes are connected. The three other NCOs indicated that they also felt what may have been a shock as they removed their hands from the glovebox gloves. The field work supervisor notified the shift operation manager and access to Room 235B was restricted pending an investigation. The NCOs were evaluated at Advanced Med Hanford in the 200W area and released without restriction. None of the NCOs showed any physical indications of an electrical shock. An investigative team could not locate any signs or indication of electrical issues associated with the gloveboxes, external power cords, external power sources or grounding. The consensus at the conclusion of a critique</p>



	meeting was that the "shocks" may have been generated by static electricity. As a precautionary measure, the tools and associated power cords are being removed from service and disposed of as waste.			
<b>Similar OR Report Number:</b>				
<b>Facility Manager:</b>	Name	Carranco, John		
	Phone	(509) 376-3293		
	Title	Deputy Project Manager		
<b>Originator:</b>	Name	SAY, JAMES E.		
	Phone	(509) 373-3456		
	Title	OPERATIONS SPECIALIST		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/08/2010	18:45 (PTZ)	RC Leonard	CHPRC
	07/08/2010	19:30 (PTZ)	JR Brack	CHPRC
	07/08/2010	19:45 (PTZ)	SL Trine	DOE-RL
<b>Authorized Classifier(AC):</b>				
<b>6)Report Number:</b>	<a href="#">EM-RL--CPRC-PFP-2010-0012</a> After 2003 Redesign			
<b>Secretarial Office:</b>	Environmental Management			
<b>Lab/Site/Org:</b>	Hanford Site			
<b>Facility Name:</b>	Plutonium Finishing Plant			
<b>Subject/Title:</b>	Fence Wire Made Contact with Flex Conduit causing Damage to Conduit and Tripping 480 volt Breaker			
<b>Date/Time Discovered:</b>	07/21/2010 07:00 (PTZ)			
<b>Date/Time Categorized:</b>	07/21/2010 07:30 (PTZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	07/22/2010	19:37 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	3			
<b>Reporting Criteria:</b>	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.
<b>Cause Codes:</b>	
<b>ISM:</b>	
<b>Subcontractor Involved:</b>	Yes Bentz Fence
<b>Occurrence Description:</b>	<p>On 7/21/2010, a fence subcontractor was working to remove 7 gauge wiring from the inner fence with a Skidsteer vehicle when a length of fence wire pulled tight against a high mast light pole and attached flex conduit causing damage to conduit and tripping the 480 volt breaker.</p> <p>The fence contractor had been performing removal on the inner property protection area fence at the Plutonium Finishing Plant (PFP) for six shifts using a manual removal method described in Work Package 2Z-09-5971 WCN03, PFP Cooling Air Conditioning Project 234-5Z, 236-Z .</p> <p>The subcontractor decided in the field to deviate from the prescribed method of removal without any discussions with PFP facility management. The decision was made by the subcontractor to remove stabilizer wiring from the inner 4'6" fence by attaching the top stabilizer wire to the back side of the Skidsteer and pulling wire out using the Skidsteer.</p> <p>As the Skidsteer started pulling the top stabilizer wire from the fence, the driver decided to turn 90 degrees from the west to the north to avoid the west outer property protection fence. The spotter for the evolution was positioned in the view of the driver when the driver began to pull but the wire but quickly lost eye contact as he pulled away.</p> <p>As the Skidsteer continued north it became apparent to the spotter that the stabilizer wire would be pulled against the flex conduit. The spotter attempted to inform the equipment operator, but was unable to be seen or heard over the running equipment. The conduit was severed after the stabilizer wire made contact. Additionally, 480 volt conductors inside the conduit were damaged.</p> <p>The spotter heard a buzz coming from the point of contact and discontinued attempting to stop the equipment operator and got clear of the area. Rather than stopping the job and notifying the Field Work Supervisor (FWS) the subcontractor chose to continue working and removed the second fence stabilizer wire. After removal of the second wire, the subcontractor then notified PFP facility personnel of the problem.</p>
<b>Cause Description:</b>	

<b>Operating Conditions:</b>	Normal Operations
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	<ol style="list-style-type: none"> <li>1. Suspended work on task 8 activities in Work Package 2Z-09-5971 WCN03, PFP Cooling Air Conditioning Project 234-5Z, 236-Z.</li> <li>2. A barrier was put into place to prevent unauthorized access.</li> <li>3. The breaker was locked and tagged.</li> <li>4. A safe condition check was completed.</li> </ol>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.  Before Further Operation? No  By Whom:  By When:</p>
<b>Division or Project:</b>	Plutonium Finishing Plant Closure Project
<b>Plant Area:</b>	200 West
<b>System/Building/Equipment:</b>	High Mast Light Pole Southwest of 234-5Z/200 West
<b>Facility Function:</b>	Plutonium Processing and Handling
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 01T--Inadequate Conduct of Operations - Willful Violation 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
<b>HQ Summary:</b>	<p>On July 21, 2010, a fence subcontractor was removing 7-gauge wiring from the inner fence with a skid steer vehicle when a length of fence wire pulled tight against a high mast light pole and attached flex conduit, causing damage to the conduit and tripping a 480-volt circuit breaker. After six days of work, the subcontractor deviated from the prescribed method of removal without any discussions with PFP facility management. The subcontractor removed stabilizer wiring from the inner 4-foot 6-inch fence by attaching the top stabilizer wire to the back side of the skid steer vehicle and pulling the wire out. As the skid steer started pulling the top stabilizer wire from the fence, the driver decided to turn 90 degrees from</p>

the west to the north to avoid another fence. The spotter lost eye contact with the operator as he pulled away. As the skid steer continued north, it became apparent to the spotter that the stabilizer wire would be pulled against the flex conduit. The conduit was severed after the stabilizer wire made contact and the 480-volt conductors inside the conduit were damaged. The spotter heard a buzz coming from the point of contact and discontinued attempting to stop the equipment operator and got clear of the area. The subcontractor chose to continue working and removed the second fence stabilizer wire. After removal of the second wire, the subcontractor then notified PFP facility personnel of the problem. The circuit breaker was locked and tagged.

**Similar OR Report Number:**

<b>Facility Manager:</b>	Name	Carranco, John
	Phone	(509) 376-3293
	Title	Deputy Project Manager

<b>Originator:</b>	Name	SAY, JAMES E.
	Phone	(509) 373-3456
	Title	OPERATIONS SPECIALIST

<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA

<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/21/2010	07:00 (PTZ)	JM Carranco	CHPRC
	07/21/2010	07:00 (PTZ)	KD Walker	CHPRC
	07/21/2010	07:45 (PTZ)	SL Trine	DOE-RL

**Authorized Classifier(AC):**

**7)Report Number:** [EM-RL--CPRC-PFP-2010-0014](#) After 2003 Redesign

**Secretarial Office:** Environmental Management

**Lab/Site/Org:** Hanford Site

**Facility Name:** Plutonium Finishing Plant

**Subject/Title:** Individual Shocked between Right Thigh and Left Hand while Working in 291-Z

**Date/Time Discovered:** 07/31/2010 07:37 (PTZ)

**Date/Time Categorized:** 07/31/2010 09:00 (PTZ)

**Report Type:** Notification

<b>Report Dates:</b>	Notification	08/02/2010	23:03 (ETZ)
	Initial Update		

	Latest Update		
	Final		
<b>Significance Category:</b>	2		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>On 7/31/10, the PFP Operations Control Center was notified that an individual felt a shock while working in the 291-Z equipment room. The individual had their left hand on a piece of scaffold railing and contacted another piece of equipment with their right thigh. The individual felt a shock between their thigh and hand.</p> <p>A significant rainstorm had occurred the previous night and there was water on the floor from roof leaks. This is not a unique condition for this room following a rainstorm; however, the individual indicated that the amount of water seemed larger than usual. Power cords were plugged in and in contact with the water. One of the power cords that were in the water did not have ground fault protection.</p> <p>The area was isolated and electricians performed a preliminary investigation. The electricians were unable to find an uncontrolled energy source. Discussion of the preliminary investigation is included in the "Evaluation by Facility Manager" Section (below).</p>		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	Normal Operations		
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)		
<b>Immediate Action(s):</b>	<ol style="list-style-type: none"> <li>1) Secured the area.</li> <li>2) Sent the individual to Advance Med Hanford (AMH), the site medical facility for evaluation. AMH evaluated and returned the individual to work without restriction.</li> <li>3) Pre-Job safety briefing was performed for an electrical investigation. The pre-job ensured appropriate PPE and precautionary actions that must be taken to perform the electrical investigation. Performed electrical investigation.</li> </ol>		

	<p>4) Following investigation, successfully tested the GFCI and reconfigured the electrical cords to be fed from the GFCI. Disconnected the copus blower.</p> <p>5) Re-routed the electrical cords to an off the floor configuration.</p> <p>6) Removed standing water from the floor area.</p> <p>7) Initiated an extent of condition review to determine if there are any other extension cords in a non-protected configuration.</p> <p>8) An Occurrence Investigator was directed to proceed to the facility as soon as possible to obtain pertinent facts, personnel statements, etc.</p>
<b>FM Evaluation:</b>	<p>The investigating electricians discussed possible causes of the event. They observed a non-GFCI protected extension cord (120v AC) plugged into the wall with a tri-tap female end. A GFCI protected cord was plugged into the tri-tap which powered up a portable cooler. Another cord that fed a blower was plugged into the tri-tap as well but was not GFCI protected. This configuration left one female receptacle on the tri-tap open. This open female receptacle was in contact with standing water on the floor from the severe thunder/rainstorm earlier in the morning. Based on the electrical investigation, the most likely source of the shock was the exposed end of the tri-tap or the non-protected copus blower cord cap.</p> <p>There was no measured voltage identified nor were there any other abnormal conditions identified that could have caused the event.</p>
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.  Before Further Operation? No  By Whom: Occurrence Investigator  By When:</p>
<b>Division or Project:</b>	Plutonium Finishing Plant Closure Project
<b>Plant Area:</b>	200 West
<b>System/Building/Equipment:</b>	200 West/234-5Z Complex/291-Z Equipment Room
<b>Facility Function:</b>	Plutonium Processing and Handling
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	<p>05E--Mechanical/Structural - Structural Deficiency/Failure  08A--OSHA Reportable/Industrial Hygiene - Electrical Shock  08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance  11D--Other - Natural Phenomena  12C--EH Categories - Electrical Safety  14E--Quality Assurance - Work Process Deficiency</p>
<b>HQ Summary:</b>	On July 31, 2010, the Plutonium Finishing Plant Operations Control Center was notified that an individual felt a shock while working in the

291-Z equipment room. The individual had their left hand on a piece of scaffold railing and contacted another piece of equipment with their right thigh. The individual felt a shock between their thigh and hand. A significant rainstorm had occurred the previous night and there was water on the floor from roof leaks. This is not a unique condition for this room following a rainstorm; however, the individual indicated that the amount of water seemed larger than usual. Power cords were plugged in and in contact with the water. One of the power cords in the water did not have ground fault protection (GFCI). The area was isolated and electricians performed a preliminary investigation but were unable to find an uncontrolled energy source. The employee was sent to the site medical facility, Advance Med Hanford, for evaluation and returned to work without restrictions.

**Similar OR Report Number:**

**Facility Manager:**

Name	Carranco, John
Phone	(509) 376-3293
Title	Deputy Project Manager

**Originator:**

Name	GIBSON, SHAWN A.
Phone	(509) 373-2523
Title	OPERATIONS SPECIALIST

**HQ OC Notification:**

Date	Time	Person Notified	Organization
NA	NA	NA	NA

**Other Notifications:**

Date	Time	Person Notified	Organization
07/31/2010	09:18 (PTZ)	DC Del Vecchio	CHPRC
07/31/2010	09:20 (PTZ)	LE Ebbeson	CHPRC
07/31/2010	09:25 (PTZ)	ED MacAlister	DOE-RL

**Authorized Classifier(AC):**

**8)Report Number:**

[EM-RP--WRPS-ANALLAB-2010-0001](#) After 2003 Redesign

**Secretarial Office:**

Environmental Management

**Lab/Site/Org:**

Hanford Site

**Facility Name:**

222-S/Analytical Laboratory

**Subject/Title:**

Electrical Work Performed After Authorized Worker and Controlling Organization Locks Were Removed (ARRA)

**Date/Time Discovered:**

07/01/2010 15:50 (PTZ)

**Date/Time Categorized:**

07/01/2010 15:50 (PTZ)

**Report Type:**

Notification

**Report Dates:**

Notification	07/06/2010	16:26 (ETZ)
--------------	------------	-------------

	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	On July 1, 2010, as a result of facts identified in an event investigation an occurrence was declared at 1550 hours. A lock and tag was removed from Breaker 9 in Panel A in the 222-S Laboratory before work was complete. An electrician secured off a wire after Authorized Worker Lock (AWL) and Controlling Organization (CO) lock were removed.		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	Does not apply.		
<b>Activity Category:</b>	Maintenance		
<b>Immediate Action(s):</b>	Suspended lock and tag work in 222-S Laboratory. Conducted an event investigation.		
<b>FM Evaluation:</b>			
<b>DOE Facility Representative Input:</b>			
<b>DOE Program Manager Input:</b>			
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: Heinemann, Jay L By When:		
<b>Division or Project:</b>	Washington River Protection Solutions, LLC (WRPS)		
<b>Plant Area:</b>	200 West		
<b>System/Building/Equipment:</b>	Electrical/222-S/Panel A, Breaker 9		
<b>Facility Function:</b>	Laboratory - Analytical		
<b>Corrective Action:</b>			
<b>Lessons(s) Learned:</b>			
<b>HQ Keywords:</b>	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)		



	12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 13H--Management Concerns - American Recovery and Reinvestment Act (ARRA) 14E--Quality Assurance - Work Process Deficiency																							
<b>HQ Summary:</b>	On July 1, 2010, management declared an occurrence as a result of facts identified in the event investigation of an unauthorized lock and tag removal before work was complete on Breaker 9 in Panel A in the 222-S Laboratory. An electrician secured a wire after the Authorized Worker lock and the Controlling Organization lock were removed. Lock and tag work in the 222-S Laboratory was suspended.																							
<b>Similar OR Report Number:</b>																								
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">Heinemann, Jay L</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-0782</td> </tr> <tr> <td>Title</td> <td colspan="3">Manager, Laboratory Maintenance</td> </tr> </table>				Name	Heinemann, Jay L			Phone	(509) 373-0782			Title	Manager, Laboratory Maintenance										
Name	Heinemann, Jay L																							
Phone	(509) 373-0782																							
Title	Manager, Laboratory Maintenance																							
<b>Originator:</b>	<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																							
<b>HQ OC Notification:</b>	<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																					
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/01/2010</td> <td>15:50 (PTZ)</td> <td>Reynolds, T. R.</td> <td>WRPS</td> </tr> <tr> <td>07/01/2010</td> <td>16:21 (PTZ)</td> <td>Yasek, R. M.</td> <td>DOE-ORP</td> </tr> <tr> <td>07/01/2010</td> <td>16:25 (PTZ)</td> <td>Wright, D. L.</td> <td>DOE-ORP</td> </tr> <tr> <td>07/01/2010</td> <td>16:28 (PTZ)</td> <td>Boyce, M. L.</td> <td>MSA-ONC</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	07/01/2010	15:50 (PTZ)	Reynolds, T. R.	WRPS	07/01/2010	16:21 (PTZ)	Yasek, R. M.	DOE-ORP	07/01/2010	16:25 (PTZ)	Wright, D. L.	DOE-ORP	07/01/2010	16:28 (PTZ)	Boyce, M. L.	MSA-ONC
Date	Time	Person Notified	Organization																					
07/01/2010	15:50 (PTZ)	Reynolds, T. R.	WRPS																					
07/01/2010	16:21 (PTZ)	Yasek, R. M.	DOE-ORP																					
07/01/2010	16:25 (PTZ)	Wright, D. L.	DOE-ORP																					
07/01/2010	16:28 (PTZ)	Boyce, M. L.	MSA-ONC																					
<b>Authorized Classifier(AC):</b>																								
<b>9)Report Number:</b>	<a href="#">EM-RP--WRPS-TANKFARM-2010-0008</a> After 2003 Redesign																							
<b>Secretarial Office:</b>	Environmental Management																							
<b>Lab/Site/Org:</b>	Hanford Site																							
<b>Facility Name:</b>	Tank Farms																							
<b>Subject/Title:</b>	Lock and Tag Isolation Boundary to Disconnect and Remove Nuisance Alarms Inadequate																							
<b>Date/Time Discovered:</b>	07/07/2010 16:39 (PTZ)																							
<b>Date/Time Categorized:</b>	07/07/2010 16:39 (PTZ)																							
<b>Report Type:</b>	Notification																							
<b>Report Dates:</b>	<table border="1"> <tr> <td>Notification</td> <td>07/12/2010</td> <td>16:00 (ETZ)</td> </tr> <tr> <td>Initial Update</td> <td></td> <td></td> </tr> </table>				Notification	07/12/2010	16:00 (ETZ)	Initial Update																
Notification	07/12/2010	16:00 (ETZ)																						
Initial Update																								



	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>	2) Analyze the Hazards 3) Develop and Implement Hazard Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>On July 6, 2010, Washington River Protection Solutions LLC initiated a safety stand down to enhance Lock and Tag awareness and review current processes. During this review, additional walk downs and technical reviews of active Lockout/Tagouts and associated work packages was conducted.</p> <p>On July 7, 2010, an in process work package TFC-WO-09-0730, "241-AN Disconnect and Remove Nuisance Alarms," was reviewed. This additional technical review identified a power feed from the 242-A Evaporator to a relay associated with the 241-AN tank farm alarm panel. The energy source was not readily identifiable during package development, however it is anticipated that the routine safe-to-work check would have identified an energized circuit. Part of the released work scope of this work package would have included the removal of the relay.</p> <p>Due to the discovery that the isolation boundary was not adequate for the work to be performed per Engineering Change Notice 726188, this event was categorized as a 2C(2) SC-3 event.</p>		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	Does not apply.		
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)		
<b>Immediate Action(s):</b>	Suspended work package and initiated investigation.		
<b>FM Evaluation:</b>			
<b>DOE Facility Representative Input:</b>			
<b>DOE Program Manager Input:</b>			
<b>Further Evaluation is</b>	Yes.		

<b>Required:</b>	Before Further Operation? No By Whom: Ellis, Martin W By When:															
<b>Division or Project:</b>	Washington River Protection Solutions, LLC (WRPS)															
<b>Plant Area:</b>	200 East															
<b>System/Building/Equipment:</b>	Alarms/241-AN/Electrical Relay															
<b>Facility Function:</b>	Nuclear Waste Operations/Disposal															
<b>Corrective Action:</b>																
<b>Lessons(s) Learned:</b>																
<b>HQ Keywords:</b>	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency															
<b>HQ Summary:</b>	On July 6, 2010, Washington River Protection Solutions LLC initiated a safety stand down to enhance Lock and Tag awareness and review current processes. During this review, additional walk downs and technical reviews of active Lockout/Tagouts and associated work packages were conducted. On July 7, an in process work package TFC-WO-09-0730, "241-AN Disconnect and Remove Nuisance Alarms," was reviewed. This additional technical review identified a power feed from the 242-A Evaporator to a relay associated with the 241-AN tank farm alarm panel that was not isolated. The energy source was not readily identifiable during package development; however, it is anticipated that the routine safe-to-work check would have identified an energized circuit. Part of the released work scope of this work package would have included the removal of the relay. The work package was suspended and an investigation was initiated.															
<b>Similar OR Report Number:</b>																
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">Ellis, Martin W</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-4696</td> </tr> <tr> <td>Title</td> <td colspan="3">Manager, Base Operations Performance Assurance</td> </tr> </table>				Name	Ellis, Martin W			Phone	(509) 373-4696			Title	Manager, Base Operations Performance Assurance		
Name	Ellis, Martin W															
Phone	(509) 373-4696															
Title	Manager, Base Operations Performance Assurance															
<b>Originator:</b>	<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															
<b>HQ OC Notification:</b>	<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													
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/07/2010</td> <td>16:40 (PTZ)</td> <td>Gregory, R. E.</td> <td>WRPS</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	07/07/2010	16:40 (PTZ)	Gregory, R. E.	WRPS				
Date	Time	Person Notified	Organization													
07/07/2010	16:40 (PTZ)	Gregory, R. E.	WRPS													

	07/07/2010	16:43 (PTZ)	Williamson, B. I.	DOE-ORP
	07/07/2010	16:46 (PTZ)	Smithwick, R. L.	MSA-ONC

**Authorized Classifier(AC):**

<b>10)Report Number:</b>	<a href="#">NA--KCSO-AS-KCP-2010-0005</a> After 2003 Redesign		
<b>Secretarial Office:</b>	National Nuclear Security Administration		
<b>Lab/Site/Org:</b>	Kansas City Plant		
<b>Facility Name:</b>	Kansas City Plant		
<b>Subject/Title:</b>	Improperly Marked Breakers Discovered Completing LOTO Requirements		
<b>Date/Time Discovered:</b>	07/22/2010 15:00 (CTZ)		
<b>Date/Time Categorized:</b>	07/22/2010 16:15 (CTZ)		
<b>Report Type:</b>	Notification/Final		
<b>Report Dates:</b>	Notification	07/23/2010	16:00 (ETZ)
	Initial Update	07/23/2010	16:00 (ETZ)
	Latest Update	07/23/2010	16:00 (ETZ)
	Final	07/23/2010	16:00 (ETZ)
<b>Significance Category:</b>	4		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	On July 21, 2010 at approximately 1230 hours Honeywell Federal Manufacturing & Technologies Kansas City (FM&T/KC) electricians discovered voltage while performing live/dead/live checks during the lockout/tagout (LOTO) of a Kansas City Plant (KCP) electrical substation. A FM&T/KC electrician wearing the required personal protective equipment was performing trouble shooting on a Variable Frequency Drive (VFD) Motor operating a cooling tower pump that was not functioning. A 480 volt substation electrical breaker feeding the VFD's electrical cabinet was LOTOed to remove all energy from the cabinet. At approximately 1230 hours a FM&T/KC high voltage electrician and the electrician who performed the initial troubleshooting deenergized and LOTOed the breaker as identified by electrical drawings and labeling on		

	<p>the breakers needed to deenergize the VFD's electrical cabinet. As part of the LOTO process, the electrician wearing the required PPE performed the required live/dead/live energy verification. The energy verification found the VFD's electrical panel was still energized. Further investigation found the electrical cabinet for another VFD, located next to the cabinet being serviced, was no longer energized. The electricians noting this discrepancy stopped work. It was determined that the breakers were incorrectly identified on the as built drawings and the panel markings. No injuries occurred from this incident.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Clear, calm, and approximately 84 degrees Fahrenheit.
<b>Activity Category:</b>	Maintenance
<b>Immediate Action(s):</b>	<p>The FM&amp;T/KC electricians notified the Maintenance Manager responsible for the high voltage crew. A review of the electrical system was completed by the manager and the two electricians. It was determined that the breakers were incorrectly identified on the as built drawings and the panel markings.</p> <p>The correct breaker was deenergized, LOTO completed and maintenance work safely completed.</p> <p>Breakers were relabeled with the correct information.</p> <p>Drawings were red lined for correction.</p> <p>FM&amp;T/KC Facilities and Health, Safety and Environment representatives notified National Nuclear Security Administration (NNSA) Kansas City Site Office (KCSO) representatives of the discovery on July 22, 2010.</p> <p>The categorization of this occurrence has been coordinated with Ken Roggenkamp, NNSA-KCSO.</p> <p>This report has been reviewed and determined to be unclassified by:  Authorized Derivative classifier: Clyde E. Hicks  Title: Administrator II HS&amp;E  Date: July 23, 2010</p>
<b>FM Evaluation:</b>	<p>This event demonstrates the importance of following specified processes for electrical safety.</p> <p>During a utilities shutdown scheduled for July 31, and August 1, 2010 the feeds will be verified for the other substation breakers.</p>
<b>DOE Facility Representative</b>	

<b>Input:</b>					
<b>DOE Program Manager Input:</b>					
<b>Further Evaluation is Required:</b>	No				
<b>Division or Project:</b>	Honeywell Federal Manufacturing & Technologies KC				
<b>Plant Area:</b>	Outside East				
<b>System/Building/Equipment:</b>	480 Volt Electrical Substation Breakers				
<b>Facility Function:</b>	Balance-of-Plant - Site/outside utilities				
<b>Corrective Action 01:</b>	<table border="1"> <thead> <tr> <th>Target Completion</th> <th>Actual Completion</th> </tr> </thead> <tbody> <tr> <td>Date:07/22/2010</td> <td>Date:07/22/2010</td> </tr> </tbody> </table>	Target Completion	Actual Completion	Date:07/22/2010	Date:07/22/2010
Target Completion	Actual Completion				
Date:07/22/2010	Date:07/22/2010				
	Relabel breakers 36A1-C and 36A-1D with correct information.				
<b>Lessons(s) Learned:</b>					
<b>HQ Keywords:</b>	<p>01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control</p> <p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)</p> <p>12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)</p> <p>14D--Quality Assurance - Documents and Records Deficiency</p> <p>14E--Quality Assurance - Work Process Deficiency</p>				
<b>HQ Summary:</b>	<p>On July 21, 2010, Honeywell Federal Manufacturing &amp; Technologies Kansas City (FM&amp;T/KC) electricians discovered voltage while performing live/dead/live checks during the lockout/tagout (LOTO) of a Kansas City Plant (KCP) electrical substation. A FM&amp;T/KC electrician wearing the required personal protective equipment was performing trouble shooting on a Variable Frequency Drive (VFD) Motor operating a cooling tower pump that was not functioning. A 480-volt substation electrical breaker feeding the VFD's electrical cabinet was LOTO'd to remove all energy from the cabinet. The FM&amp;T/KC high voltage electrician and the electrician, who performed the initial troubleshooting deenergized and LOTO'd the breaker as identified by electrical drawings and labeling on the breakers needed to deenergize the VFD's electrical cabinet. As part of the LOTO process, the electrician, wearing the required PPE, performed the required live/dead/live energy verification. The energy verification found the VFD's electrical panel was still energized. Further investigation found the electrical cabinet for another VFD, located next to the cabinet being serviced, was no longer energized. The electricians noting this discrepancy stopped work. It was determined that the breakers were incorrectly identified on the as-built drawings and the panel markings. Appropriate notifications were made.</p>				
<b>Similar OR Report Number:</b>	<p>1. NA--LASO-LANL-TA55-2008-0032</p> <p>2. NA--PS-BWP-PANTEX-2007-0099</p>				

<b>Facility Manager:</b>	Name	Curt Valle		
	Phone	(816) 997-2896		
	Title	HS&E Manager		
<b>Originator:</b>	Name	HICKS, CLYDE E		
	Phone	(816) 997-2262		
	Title	EMERGENCY MGT SPECIALIST		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/22/2010	15:00 (CTZ)	D. Caughey/ K. Roggenkam	KCSO
<b>Authorized Classifier(AC):</b>	Clyde E, Hicks      Date: 07/22/2010			

<b>11)Report Number:</b>	<a href="#">NA--LASO-LANL-ACCCOMPLEX-2010-0003</a> After 2003 Redesign			
<b>Secretarial Office:</b>	National Nuclear Security Administration			
<b>Lab/Site/Org:</b>	Los Alamos National Laboratory			
<b>Facility Name:</b>	Accelerator Complex			
<b>Subject/Title:</b>	Worker Encounters Energized Cabler during Vacuum Pump Maintenance			
<b>Date/Time Discovered:</b>	07/21/2010 15:00 (MTZ)			
<b>Date/Time Categorized:</b>	07/21/2010 17:00 (MTZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	07/23/2010	19:16 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	3			
<b>Reporting Criteria:</b>	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.			
<b>Cause Codes:</b>				
<b>ISM:</b>	4) Perform Work Within Controls			
<b>Subcontractor Involved:</b>	No			
<b>Occurrence Description:</b>	Management Synopsis:			

Three LANS employees were troubleshooting a failed vacuum pump cable when one employee misidentified an energized cable and cut it with an insulated tool. The cable was energized at 7 KV, up to 100mA. There was no shock, and the worker was not injured.

**Background:**

The vacuum team supervisor (S1) went to the equipment upper level and turned off three ion pump power supplies, including the subject pump and upstream and downstream units. S1 was communicating to a technician (T1) through an intercom system. A college student acted as a relay in the intercom communication between S1 and T1. The student is a trained energized electrical worker; however, he was not directly involved in the work other than to relay information between T1 and S1. S1 instructed the technician, who was at a lower level, to disconnect the suspect high voltage cable and lay the cable on the floor and step away to the appropriate safe distance. This was done to determine if the failure was in the cable or pump. The cable was then energized to identify the fault. It was determined that the cable was damaged, so S1 turned off the power supply and removed the cable from the back of the power supply. At this point S1 requested that T1 attempt to repair the failed cable by cutting off a short section. There are 3 pumps within 3 feet of each other. Power to all 3 pumps had been turned off. However, power to two adjacent pumps on a separate beam line had not been deenergized. T1 had misidentified one of the energized pumps cables as the failed cable at the beginning of the troubleshooting exercise. T1 picked up the misidentified energized cable and cut it. There were no arcs or sparks to indicate the cable was energized. T1 then put the cable on the concrete floor, it momentarily arced and the power supply tripped off. The workers' then paused work to assess the situation. They recognized that the wrong cable had been identified, manually turned off the tripped power supply and removed the cable from the back of power supply. T1 then placed a new rated connector on the cut cable to ensure it was in a safe configuration. S1 then notified management.

<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Maintenance
<b>Immediate Action(s):</b>	AOT management has paused ion pump trouble shooting work.
<b>FM Evaluation:</b>	There were no injuries as a result of this event.
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No



	By Whom: CAO, AOT and LANSCE FOD By When: 09/03/2010						
<b>Division or Project:</b>	AOT						
<b>Plant Area:</b>	LANSCE						
<b>System/Building/Equipment:</b>	Ion Pump						
<b>Facility Function:</b>	Accelerators						
<b>Corrective Action:</b>							
<b>Lessons(s) Learned:</b>							
<b>HQ Keywords:</b>	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 07D--Electrical Systems - Electrical Wiring 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency						
<b>HQ Summary:</b>	On July 23, 2010, three LANS employees were troubleshooting a failed vacuum pump cable when one employee misidentified an energized cable and cut it with an insulated tool. The cable was energized at 7 KV, up to 100mA. The vacuum team supervisor (S1) went to the equipment upper level and turned off three ion pump power supplies, including the subject pump and upstream and downstream units. S1 was communicating to a technician (T1) through an intercom system. S1 instructed the technician, who was at a lower level, to disconnect the suspect high voltage cable. The cable was then energized to identify the fault. The cable was determined to be damaged, so S1 turned off the power supply and removed the cable from the back of the power supply. T1 attempted to repair the failed cable by cutting off a short section. There are 3 pumps within 3 feet of each other and their power had been turned off. However, power to two adjacent pumps on a separate beam line had not been deenergized. T1 had misidentified one of the energized pumps cables as the failed cable and cut it. There were no immediate arcs or sparks, but when T1 put the cable on the concrete floor, it momentarily arced, and the power supply tripped off. The tripped power supply was manually turned off and the cable was removed from the back of the power supply. T1 then placed a new rated connector on the cut cable to ensure it was in a safe configuration. S1 then notified management.						
<b>Similar OR Report Number:</b>							
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Dan Seely</td> </tr> <tr> <td>Phone</td> <td>(505) 665-8363</td> </tr> <tr> <td>Title</td> <td>Operations Manager</td> </tr> </table>	Name	Dan Seely	Phone	(505) 665-8363	Title	Operations Manager
Name	Dan Seely						
Phone	(505) 665-8363						
Title	Operations Manager						
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>KIRSCH, MICHELLE M</td> </tr> </table>	Name	KIRSCH, MICHELLE M				
Name	KIRSCH, MICHELLE M						



	Phone	(505) 665-8146		
	Title	OCCURRENCE INVESTIGATOR		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/21/2010	17:00 (MTZ)	Bruce LeBrun	NNSA
<b>Authorized Classifier(AC):</b>	Howard Nekimken      Date: 07/23/2010			
<b>12)Report Number:</b>	<a href="#">NA--LASO-LANL-ACCCOMPLEX-2010-0004</a> After 2003 Redesign			
<b>Secretarial Office:</b>	National Nuclear Security Administration			
<b>Lab/Site/Org:</b>	Los Alamos National Laboratory			
<b>Facility Name:</b>	Accelerator Complex			
<b>Subject/Title:</b>	Faulty Light Switch Results in Worker Receiving Shock			
<b>Date/Time Discovered:</b>	07/28/2010 16:00 (MTZ)			
<b>Date/Time Categorized:</b>	07/28/2010 17:20 (MTZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	07/29/2010	17:28 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	2			
<b>Reporting Criteria:</b>	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.			
<b>Cause Codes:</b>				
<b>ISM:</b>				
<b>Subcontractor Involved:</b>	No			
<b>Occurrence Description:</b>	<p>Management Synopsis: At approximately 1600 on July 28, 2010, a Project Management Function Division Office (PMF-DO) deployed employee entered a bathroom located in Technical Area 53 (TA-53) Building 3, Sector H and received a shock after touching the bathroom light switch. The door to the bathroom was open. As the employee entered the bathroom he brushed against the metal door frame with his right elbow and at the same time engaged the light switch also with his right hand. Immediately upon engagement of the switch, the employee saw sparks coming from the switch and noted a contraction in his right hand and</p>			

	<p>tingling sensation up to the elbow. He exited the bathroom and notified a coworker (coworker is also the LANSCE Facility Operations [LFO] Electrical Safety Officer [ESO]). The ESO transported the employee to Occupational Medicine; the employee was examined and released with no work restrictions by 1710. While preparing to leave for Occupational Medicine, the ESO provided instructions to secure the scene, control the hazard, and instructed that notifications to the on call LFO duty officer and on call LFO facility coordinator be made.</p> <p>Background: Following notification, LANL electrical Authority Having Jurisdiction (AHJ) evaluated the event using the electrical severity tool. The evaluation resulted in a score of 150 for an electrical severity significance of "Medium" because the event resulted in a worker contacting uncontrolled hazardous electrical energy.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	<ol style="list-style-type: none"> <li>1) The employee was transported to Occupational Medicine for evaluation. He was subsequently released without work restrictions.</li> <li>2) The bathroom was cordoned off until the light switch could be replaced.</li> <li>3) The electrical circuit was locked and tagged out of service until the light switch could be replaced.</li> <li>4) A work ticket was submitted and the light switch will be repaired in coordination with the LFO ESO so that the failure mode is identified.</li> </ol>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.  Before Further Operation? No  By Whom: LFO-DO and CAO-PF  By When: 09/10/2010</p>
<b>Division or Project:</b>	LANSCE
<b>Plant Area:</b>	TA-53
<b>System/Building/Equipment:</b>	TA-53-3 Light Switch
<b>Facility Function:</b>	Accelerators
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	<p>07D--Electrical Systems - Electrical Wiring  08A--OSHA Reportable/Industrial Hygiene - Electrical Shock  08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance</p>

	12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency															
<b>HQ Summary:</b>	<p>On July 28, 2010, a Project Management Function Division Office deployed employee entered a bathroom located in Building 3 and received a shock after touching the bathroom light switch. The door to the bathroom was open. As the employee entered the bathroom he brushed against the metal door frame with his right elbow. At the same time, he engaged the light switch also with his right hand. Immediately upon engagement of the switch, the employee saw sparks coming from the switch and noticed a contraction in his right hand and a tingling sensation up to the elbow. He exited the bathroom and notified a coworker. The coworker, who is an electrical safety officer (ESO), transported the employee to Occupational Medicine, where the employee was examined and released with no work restrictions. The bathroom was cordoned off and the electrical circuit was locked and tagged out of service until the light switch could be replaced. A work ticket was submitted to replace the light switch. The LANL electrical Authority Having Jurisdiction evaluated the event using the electrical severity tool and assigned an electrical severity score of 150, which is a "Medium" significance event.</p>															
<b>Similar OR Report Number:</b>																
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">Dan Seely</td> </tr> <tr> <td>Phone</td> <td colspan="3">(505) 665-8363</td> </tr> <tr> <td>Title</td> <td colspan="3">LFO Facility Operations Director</td> </tr> </table>				Name	Dan Seely			Phone	(505) 665-8363			Title	LFO Facility Operations Director		
Name	Dan Seely															
Phone	(505) 665-8363															
Title	LFO Facility Operations Director															
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">HAKONSON-HAYES, AUDREY C</td> </tr> <tr> <td>Phone</td> <td colspan="3">(505) 667-9364</td> </tr> <tr> <td>Title</td> <td colspan="3">OCCURRENCE INVESTIGATOR</td> </tr> </table>				Name	HAKONSON-HAYES, AUDREY C			Phone	(505) 667-9364			Title	OCCURRENCE INVESTIGATOR		
Name	HAKONSON-HAYES, AUDREY C															
Phone	(505) 667-9364															
Title	OCCURRENCE INVESTIGATOR															
<b>HQ OC Notification:</b>	<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													
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/28/2010</td> <td>17:25 (MTZ)</td> <td>Ed Christie</td> <td>NNSA</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	07/28/2010	17:25 (MTZ)	Ed Christie	NNSA				
Date	Time	Person Notified	Organization													
07/28/2010	17:25 (MTZ)	Ed Christie	NNSA													
<b>Authorized Classifier(AC):</b>	Kimberli Tanner      Date: 07/29/2010															
<b>13)Report Number:</b>	<a href="#">NA--LASO-LANL-BOP-2010-0007</a> After 2003 Redesign															
<b>Secretarial Office:</b>	National Nuclear Security Administration															
<b>Lab/Site/Org:</b>	Los Alamos National Laboratory															
<b>Facility Name:</b>	"at large" or Balance of Plant															
<b>Subject/Title:</b>	Transformer Short Resulting from Failure to Remove Shunt Strap															
<b>Date/Time Discovered:</b>	07/01/2010 21:30 (MTZ)															
<b>Date/Time Categorized:</b>	07/02/2010 16:00 (MTZ)															

<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	07/07/2010	19:47 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>Management Synopsis:</p> <p>At 2130 at TA 3-2327, during routine 5 year transformer preventive maintenance (PM), a shunt strap (direct short) was inadvertently left on by the linemen performing the PM causing an arc across phase to phase on the 480V (secondary side) of the 13200/480V transformer of the Secondary Unit Substation H (SUS-H). This caused switch 2181 (a feed to SUS-H) to lose power. This resulted in a loss of power to some computers in the Strategic Computing Complex (SCC).</p> <p>Background:</p> <p>SUS-H is powered by a line controlled by switch 2180 located outside the building. 2180 feeds primary switch 2181 which feeds SUS-H. 2180 feeds primary switch 2181 which feeds SUS-H. Both 2180 and 2181 were locked and tagged out. Utilities linemen were engaged in routine 5 year maintenance on the transformers that power the SCC facility (facility). There are multiple double ended substations that provide power to the facility. The double ended substations create a redundant system; thereby, ensuring power is not lost in the event of an unexpected power outage or system failure. The linemen had completed the PM work on the locked and tagged system (SUS-H) and were ready to power up SUS-H. They inadvertently left a shunt strap used to conduct a double test on the transformer. This was the last test performed before the panels were re-installed and preventive maintenance work was completed.</p> <p>The linemen unlocked and removed the tags from the primary switch on</p>		

	<p>2180 and were in the process of energizing when the incident occurred. The workers were outside the facility at 2180 where they powered up the system. The shunt in the 480 volt side of the SUS-H caused the direct short. The linemen noticed 2180 did not close. At that point they contacted Utilities Power Control Central. The High Performance Computing Duty Officer was notified through the automated paging system. The linemen re-applied the clearance limit tags and received clearance from Utilities Power Control Central to proceed back into the building to determine cause. They locked out 2180, re-entered the building and discovered the burnt shunt.</p> <p>This event is being reported under ORPS Criterion Subgroup C, Hazardous Energy Control, Sequence # 2, Significance Category 3 because the shunt strap (a site condition) caused a system short (resulting in the unexpected discovery of an uncontrolled hazardous energy source).</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Maintenance
<b>Immediate Action(s):</b>	<ol style="list-style-type: none"> <li>1. The Duty Officer verified all linemen were safe.</li> <li>2. The linemen locked and tagged SUS-H.</li> <li>3. The linemen meggered the SUS-H transformer and determined there was no damage to SUS-H.</li> <li>4. The linemen proceeded to megger the bus on the secondary and were not able to get a positive result.</li> <li>5. Power was restored to the building and computing capabilities (excluding SUS-H).</li> <li>6. A compensatory measure of a "step-by-step use every time procedure" is being developed.</li> </ol>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.  Before Further Operation? No  By Whom: CAO-PF and IFCS  By When: 08/20/2010</p>
<b>Division or Project:</b>	IFCS
<b>Plant Area:</b>	TA-3-2327
<b>System/Building/Equipment:</b>	TA-3-2327
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
<b>Corrective Action:</b>	

<b>Lessons(s) Learned:</b>									
<b>HQ Keywords:</b>	01G--Inadequate Conduct of Operations - Inadequate Procedure 01O--Inadequate Conduct of Operations - Inadequate Maintenance 07C--Electrical Systems - Power Outage 07E--Electrical Systems - Electrical Equipment Failure 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency								
<b>HQ Summary:</b>	<p>On July 1, 2010, during a routine five year transformer preventive maintenance (PM), a shunt strap was inadvertently left on by linemen, causing an arc across phase to phase on the 480 Volt (secondary side) of the 13,200/480 volt transformer of the Secondary Unit Substation H (SUS-H). This caused switch 2181 (a feed to SUS-H) to lose power, resulting in a loss of power to some computers in the Strategic Computing Complex. The linemen had completed the PM work on the locked and tagged system and were ready to power up the SUS-H, however they had inadvertently left a shunt strap that was used to conduct a Doble test on the transformer. The linemen unlocked and removed the tags from the primary switch on 2180, which feeds switch 2181, and were in the process of energizing when the short occurred. The shunt in the 480 volt side of the SUS-H caused the direct short. The linemen noticed that 2180 did not close and notified Utilities Power Control Central. The High Performance Computing Duty Officer was notified through the automated paging system. The linemen locked out 2180, re-entered the building and discovered the burnt shunt. Power was restored to the building and computing capabilities (excluding SUS-H). A compensatory measure of a "step-by-step use every time procedure" is being developed.</p>								
<b>Similar OR Report Number:</b>									
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Judith Huchton</td> </tr> <tr> <td>Phone</td> <td>(505) -66-5-22</td> </tr> <tr> <td>Title</td> <td>Institutional Fac. &amp; Central Service Ops Manager</td> </tr> </table>	Name	Judith Huchton	Phone	(505) -66-5-22	Title	Institutional Fac. & Central Service Ops Manager		
Name	Judith Huchton								
Phone	(505) -66-5-22								
Title	Institutional Fac. & Central Service Ops Manager								
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>KIRSCH, MICHELLE M</td> </tr> <tr> <td>Phone</td> <td>(505) 665-8146</td> </tr> <tr> <td>Title</td> <td>OCCURRENCE INVESTIGATOR</td> </tr> </table>	Name	KIRSCH, MICHELLE M	Phone	(505) 665-8146	Title	OCCURRENCE INVESTIGATOR		
Name	KIRSCH, MICHELLE M								
Phone	(505) 665-8146								
Title	OCCURRENCE INVESTIGATOR								
<b>HQ OC Notification:</b>	<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						
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/02/2010</td> <td>09:30 (MTZ)</td> <td>NNSA Hotline</td> <td>NNSA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	07/02/2010	09:30 (MTZ)	NNSA Hotline	NNSA
Date	Time	Person Notified	Organization						
07/02/2010	09:30 (MTZ)	NNSA Hotline	NNSA						

	07/02/2010	09:35 (MTZ)	Darlene Rodriguez	NNSA
<b>Authorized Classifier(AC):</b>	Kimberli Tanner      Date: 07/07/2010			
<b>14)Report Number:</b>	<a href="#">NA--LSO-LLNL-LLNL-2010-0028</a> After 2003 Redesign			
<b>Secretarial Office:</b>	National Nuclear Security Administration			
<b>Lab/Site/Org:</b>	Lawrence Livermore National Lab.			
<b>Facility Name:</b>	Lawrence Livermore Nat. Lab. (BOP)			
<b>Subject/Title:</b>	Discovery of Energized Electrical Source During Equipment Installation At Building 391			
<b>Date/Time Discovered:</b>	07/19/2010 08:15 (PTZ)			
<b>Date/Time Categorized:</b>	07/19/2010 13:15 (PTZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	07/21/2010	17:51 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	3			
<b>Reporting Criteria:</b>	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.			
<b>Cause Codes:</b>				
<b>ISM:</b>	<ol style="list-style-type: none"> <li>1) Define the Scope of Work</li> <li>2) Analyze the Hazards</li> <li>3) Develop and Implement Hazard Controls</li> <li>4) Perform Work Within Controls</li> </ol>			
<b>Subcontractor Involved:</b>	No			
<b>Occurrence Description:</b>	<p>On July 19, 2010, at approximately 8:15 AM, a Facilities and Infrastructure (F&amp;I) Directorate electrician was in the process of installing a piece of monitoring equipment on a 480/277 Volt electrical panel (E431A18) in Building 391, Room B119. Upon completion of the equipment installation, the electrician noted that the equipment was running (i.e. electrically powered) when the system was previously thought to be de-energized.</p> <p>Two F&amp;I Maintenance &amp; Utility Service Department (MUSD) electricians and a MUSD high voltage electrician were authorized to install a "load logger" upon an electrical panel in B391, Room B119. The MUSD</p>			



electricians assumed that the electrical panel had been isolated (i.e. de-energized) by a MUSD high voltage electrician who was authorized to manipulate an associated automatic transfer switch (ATS) supporting the electrical panel to be worked. Per the approved program work permit, the ATS was manipulated to isolate the emergency power only, the normal power remained energized. Thus, electrical panel #E431A18 remained energized. After the event, it was noted that the recommended work tasks (by the authorizing program) which specified the use of a single point energy isolation at the ATS was incorrect.

After the high voltage electrician manipulated the ATS, the MUSD electricians donned the appropriate electrical Personal Protection Equipment (PPE), opened the panel door and panel dead front, and utilized a Fluke Meter (Model #179 True RMS Multi-meter) to do a zero energy check on electrical panel #E431A18. The electrician followed the prescribed Lock Out/Tag Out (LOTO) procedures by first checking a known electrical source which resulted in a positive voltage reading. Then, the electrician checked the panel for zero energy and did not receive a voltage reading on his monitoring equipment. The electrician did not perform the final step of rechecking a known electrical source. After the event, it was noted that a probe connector on the Fluke meter previously used was loose and may have contributed to a false instrument reading.

After this, the electrician removed portions of his PPE that was previously required to perform the zero energy check (i.e. arc flash shield and rated gloves) and proceeded to connect the load logger clamps onto the 480 Volt bus bar within the electrical panel. After making these connections without event, the second electrician noted that the load logger equipment was energized which meant that the electrical panel was energized.

Upon discovery of this situation, the electrician stopped work and immediately secured the door on the electrical panel. No injuries resulted from this event. A review of this event is being conducted.

The LLNL Electrical Safety Subject Matter Expert (SME) conducted an electrical severity evaluation using the DOE Electrical Severity Measurement Tool after the event transpired and calculated the score to be 700, which equates to a ranking of "high."

There was a delay between the time of this event and the categorization time due to the fact that the event was being reviewed by the program line managers associated with the facility where the work was being performed.

<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Does not apply
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this



	Category)
<b>Immediate Action(s):</b>	<p>1. The F&amp;I MUSD Electricians immediately stopped work and secured the door on electrical panel #E431A18.</p> <p>2. The work area within B391, B119 mechanical room remained barricaded.</p> <p>3. Operations &amp;&amp; Business Principal Associate Directorate (which includes F&amp;I Directorate) line managers were notified of the event.</p> <p>4. F&amp;I/MUSD personnel were instructed by line management to "safety pause" from performing low-voltage (less than 600 volts) zero-energy checks.</p> <p>5. F&amp;I Associated Director initiated a management review to be performed in response to this event.</p>
<b>FM Evaluation:</b>	<p>The final report is due to the ORO by 8/30/2010.</p> <p>The final report is due for entry into ORPS by 9/2/2010.</p>
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.</p> <p>Before Further Operation? No</p> <p>By Whom: Kevin Akey</p> <p>By When: 08/30/2010</p>
<b>Division or Project:</b>	O&B
<b>Plant Area:</b>	Site 200
<b>System/Building/Equipment:</b>	Building 391
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	<p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)</p> <p>01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)</p> <p>08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical)</p> <p>12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)</p> <p>14E--Quality Assurance - Work Process Deficiency</p>
<b>HQ Summary:</b>	<p>On July 19, 2010, after a Facilities and Infrastructure (F&amp;I) Directorate electrician installed a "load logger" on a 480/277-volt electrical panel in Building 391, the electrician noticed that the equipment was running (i.e. electrically powered) when the system was thought to be de-energized. Two maintenance electricians and a maintenance high voltage electrician were authorized to install the "load logger" on the electrical panel. The</p>

	<p>maintenance electricians assumed that the electrical panel had been isolated (i.e. de-energized) by a high voltage electrician, who was authorized to manipulate an associated automatic transfer switch (ATS) supporting the subject electrical panel. After the event, it was noted that the recommended work tasks, which specified the use of a single point energy isolation at the ATS, were incorrect. Upon discovery of this situation, the electrician stopped work and immediately secured the door on the electrical panel. No injuries resulted from this event. The LLNL Electrical Safety Subject Matter Expert used the DOE Electrical Severity Measurement Tool and calculated the score to be 700, which equates to a "high" score. F&amp;I personnel were instructed by line management to "safety pause" from performing low-voltage (less than 600 volts) zero-energy checks. A management review was initiated in response to this event.</p>																			
<b>Similar OR Report Number:</b>																				
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">Harold T. Conner, Jr.</td> </tr> <tr> <td>Phone</td> <td colspan="3">(925) 422-5786</td> </tr> <tr> <td>Title</td> <td colspan="3">Facilities &amp; Infrastructure Associate Director</td> </tr> </table>				Name	Harold T. Conner, Jr.			Phone	(925) 422-5786			Title	Facilities & Infrastructure Associate Director						
Name	Harold T. Conner, Jr.																			
Phone	(925) 422-5786																			
Title	Facilities & Infrastructure Associate Director																			
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">FREEMAN, JEFFREY W</td> </tr> <tr> <td>Phone</td> <td colspan="3">(925) 424-6787</td> </tr> <tr> <td>Title</td> <td colspan="3">OCCURRENCE REPORTING</td> </tr> </table>				Name	FREEMAN, JEFFREY W			Phone	(925) 424-6787			Title	OCCURRENCE REPORTING						
Name	FREEMAN, JEFFREY W																			
Phone	(925) 424-6787																			
Title	OCCURRENCE REPORTING																			
<b>HQ OC Notification:</b>	<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																	
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/19/2010</td> <td>15:00 (PTZ)</td> <td>Craig Wuest</td> <td>LEDO</td> </tr> <tr> <td>07/19/2010</td> <td>15:00 (PTZ)</td> <td>Tracey Simpson</td> <td>ESH TL</td> </tr> <tr> <td>07/19/2010</td> <td>15:05 (PTZ)</td> <td>Heather Larson</td> <td>NNSA/LSO</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	07/19/2010	15:00 (PTZ)	Craig Wuest	LEDO	07/19/2010	15:00 (PTZ)	Tracey Simpson	ESH TL	07/19/2010	15:05 (PTZ)	Heather Larson	NNSA/LSO
Date	Time	Person Notified	Organization																	
07/19/2010	15:00 (PTZ)	Craig Wuest	LEDO																	
07/19/2010	15:00 (PTZ)	Tracey Simpson	ESH TL																	
07/19/2010	15:05 (PTZ)	Heather Larson	NNSA/LSO																	
<b>Authorized Classifier(AC):</b>	Kevin Akey      Date: 07/20/2010																			
<b>15)Report Number:</b>	<a href="#">NA--PS-BWP-PANTEX-2010-0044</a> After 2003 Redesign																			
<b>Secretarial Office:</b>	National Nuclear Security Administration																			
<b>Lab/Site/Org:</b>	Pantex Plant																			
<b>Facility Name:</b>	Pantex Plant																			
<b>Subject/Title:</b>	Use of Electrical Close Proximity Work Permit for Upgrade of Balance of Plant HVAC Controls																			
<b>Date/Time Discovered:</b>	07/20/2010 09:43 (CTZ)																			
<b>Date/Time Categorized:</b>	07/20/2010 09:43 (CTZ)																			
<b>Report Type:</b>	Notification/Final																			

<b>Report Dates:</b>	Notification	07/22/2010	10:57 (ETZ)
	Initial Update	07/22/2010	10:57 (ETZ)
	Latest Update	07/22/2010	10:57 (ETZ)
	Final	07/22/2010	10:57 (ETZ)
<b>Significance Category:</b>	4		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>	3) Develop and Implement Hazard Controls		
<b>Subcontractor Involved:</b>	Yes AAA Electric		
<b>Occurrence Description:</b>	<p>On 7/13/10, the Project Subcontract Technical Representative (PSTR) and electrical subcontractor assigned to install the Delta Controls system in a balance of plant facility discussed the installation of conduit at the control panel/cabinet (CP-1) and installation of the control system wiring within CP-1. Prior to beginning work, the PSTR obtained an approved electrical close proximity permit that required use of a non-conductive cover over the exposed electrical components while working in CP-1 and authorized the electrical subcontractor to commence installation of the conduit from an adjacent equipment room.</p> <p>On 07/14/10, an electrical subcontractor drilled a hole in the top of CP-1 using a battery operated drill and hole saw. Because both sides of the cabinet were visible, a penetration permit was not required. Per the electrical close proximity permit, the electrical subcontractor installed a non-conductive cover over the exposed electrical components in CP-1, selected a location on the outside of the cabinet, and drilled a 3/4" diameter hole to accommodate the conduit. During this procedure there was no contact with any energized 120-volt circuit.</p> <p>On 7/16/10, the Electrical Code Inspector (ECI) went to the building equipment room to inspect the subcontractor's work to assure compliance with National Electric Code (NEC) requirements and observed a penetration of the non-conductive cover that was under the hole in the top of CP-1 and in close proximity to the 120-volt energized conductor. The electrical subcontractor was not in the equipment room at that time and actions were initiated to prevent the subcontractor from continuing work pending investigation of the as-found condition.</p>		

	<p>Subsequent review verified that there was no direct contact with electrical energy, no potential for arc flash, and no non-compliance with existing energy control procedures. The Electrical Severity Index (based on the EFCOG electrical severity tool) was determined to be 20, which is negligible. Nonetheless, the use of an electrical close proximity permit did not meet the expectations of maintenance management as the judicious approach is to always de-energize the equipment or component.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Maintenance
<b>Immediate Action(s):</b>	<p>Work Management Department Manager stopped work following discovery of the as-found condition.</p> <p>On 07/16/10, upon discovery, Maintenance management categorized the event as 2C(2) S/C 3, Failure to follow a prescribed hazardous energy control process or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source.</p> <p>On 07/19/10 a critique was conducted and the event was downgraded to be tracked in the Issues Management Problem Evaluation Request (PER) system based on the determination that applicable procedures were followed, though expectations for use of the electrical close proximity permit were not met.</p> <p>Subsequent discussion with DOE/PXSO AM resulted in the event being re-categorized on 07/20/10 as 10(2) S/C 4, 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.</p>
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	No
<b>Division or Project:</b>	Maintenance Division
<b>Plant Area:</b>	Zone 12 North
<b>System/Building/Equipment:</b>	HVAC System, Bldg. 12-127, Delta Controls Electrical Panel
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)

<b>Corrective Action:</b>									
<b>Lessons(s) Learned:</b>									
<b>HQ Keywords:</b>	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency								
<b>HQ Summary:</b>	On July 14, 2010, an electrical subcontractor drilled a hole in the top of control panel/cabinet CP-1 using a battery operated drill and hole saw. Further review of this activity determined that the use of an electrical close proximity permit did not meet the expectations of maintenance management. The Project Subcontract Technical Representative (PSTR) and electrical subcontractor assigned to install the Delta Controls system discussed the installation of the conduit and the control system wiring within CP-1. Prior to beginning work, the PSTR obtained an approved electrical close proximity permit that required use of a non-conductive cover over the exposed electrical components and authorized the electrical subcontractor to commence installation of the conduit from an adjacent equipment room. There was no contact with any energized 120-volt circuit. On July 16, the Electrical Code Inspector (ECI) observed a penetration of the non-conductive cover that was under the hole in the top of CP-1 and in close proximity to the 120-volt energized conductor. The subcontractor was prevented from continuing work pending investigation of the as-found condition. Subsequent review verified there was no direct contact with electrical energy, no potential for arc flash, and no non-compliance with existing energy control procedures, however de-energizing equipment or components is recommended. The DOE Electrical Severity score was calculated to be 20, which is negligible.								
<b>Similar OR Report Number:</b>									
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>David McCown</td> </tr> <tr> <td>Phone</td> <td>(806) 477-5844</td> </tr> <tr> <td>Title</td> <td>Work Management Department Manager</td> </tr> </table>	Name	David McCown	Phone	(806) 477-5844	Title	Work Management Department Manager		
Name	David McCown								
Phone	(806) 477-5844								
Title	Work Management Department Manager								
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>HALL, BEVERLY J</td> </tr> <tr> <td>Phone</td> <td>(806) 477-3222</td> </tr> <tr> <td>Title</td> <td></td> </tr> </table>	Name	HALL, BEVERLY J	Phone	(806) 477-3222	Title			
Name	HALL, BEVERLY J								
Phone	(806) 477-3222								
Title									
<b>HQ OC Notification:</b>	<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						
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/20/2010</td> <td>13:17 (CTZ)</td> <td>John Thurston</td> <td>PXSO</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	07/20/2010	13:17 (CTZ)	John Thurston	PXSO
Date	Time	Person Notified	Organization						
07/20/2010	13:17 (CTZ)	John Thurston	PXSO						

	07/20/2010	13:17 (CTZ)	Jim Stevens	B&W
<b>Authorized Classifier(AC):</b>	George Weathers      Date: 07/22/2010			
<b>16)Report Number:</b>	<a href="#">NA--SS-SNL-2000-2010-0005</a> After 2003 Redesign			
<b>Secretarial Office:</b>	National Nuclear Security Administration			
<b>Lab/Site/Org:</b>	Sandia National Laboratories - SS			
<b>Facility Name:</b>	SNL Division 2000			
<b>Subject/Title:</b>	Support Equipment Electrical Shock at TTR			
<b>Date/Time Discovered:</b>	07/29/2010 08:20 (MTZ)			
<b>Date/Time Categorized:</b>	07/29/2010 11:50 (MTZ)			
<b>Report Type:</b>	Notification			
<b>Report Dates:</b>	Notification	07/29/2010	19:00 (ETZ)	
	Initial Update			
	Latest Update			
	Final			
<b>Significance Category:</b>	2			
<b>Reporting Criteria:</b>	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.			
<b>Cause Codes:</b>				
<b>ISM:</b>	2) Analyze the Hazards 3) Develop and Implement Hazard Controls			
<b>Subcontractor Involved:</b>	Yes Washington Group International			
<b>Occurrence Description:</b>	On 7/29/10, at 0820, an member of the workforce (MOW) trainee not operating a camera fixture leaned against the mount touching a metal post and at that point received an electrical shock. The MOW was then taken to TTR site medical services and then further transported to Nye County Regional Medical Center for standard medical evaluation and released without conditions. An associated electrical worker measured the voltage between the two points and reported it to be 106v AC. It is believed a broken wire in a light fixture that is part of the camera dome on the camera mount, which is overall considered to be the camera fixture, was the path by which the unit became energized. The camera unit mounts have been isolated from power sources to prevent further electrical shock exposure. The offending mount has been barricaded by security. Access is via my permission only. It is quarantined pending the conclusion of the investigation.			

	Note: This incident occurred at 0820 in TTR and the SSO/FR was contacted 0925 along with SNL Electrical Safety Engineering that requires a process of investigation to quantify the hazard for determining if it is a DOE occurrence report. The determination was made using the Severity Index Reporting tool and a score that exceeded the threshold making the incident reportable at 1200, SSO/FR was contacted again to determine categorization of the incident.
<b>Cause Description:</b>	Critique/Fact Finding Performed: 7/29/10
<b>Operating Conditions:</b>	Normal, Clear, and Dry
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	MOW taken for urgent medical evaluation and equipment operations were suspended. All Contraves Mounts were isolated from power sources. The offending mount has been barricaded by security. Access is via my permission only. It is quarantined pending the conclusion of the investigation.
<b>FM Evaluation:</b>	EOC #17138  Mobile Camera Mount (MC-20) requires evaluation and repair to ensure its operational safety.
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? Yes By Whom: Causal Analysis Team By When: 09/10/2010
<b>Division or Project:</b>	2000/Tonopah Test Range -- Test Activities
<b>Plant Area:</b>	Remote Area
<b>System/Building/Equipment:</b>	Mobile Camera Mount (MC-2)/Station 20
<b>Facility Function:</b>	Laboratory - Research & Development
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
<b>HQ Summary:</b>	On July 29, 2010, a member of the workforce trainee, who was not operating a camera fixture, leaned against the camera mount touching a metal post and received an electrical shock. The trainee was then taken to



the Tonopah Test Range site medical services and then transported to Nye County Regional Medical Center for standard medical evaluation and released without restrictions. An associated electrical worker measured the voltage between the two points and reported it to be 106 volts AC. It is believed a broken wire in a light fixture that is part of the camera dome on the camera mount, which is overall considered to be the camera fixture, was the path that energized the unit. The camera mounts have been isolated from power sources to prevent further electrical shock exposure. The offending mount has been barricaded by security. Access is via facility management permission only. The mount is quarantined pending the conclusion of the investigation.

**Similar OR Report Number:**

**Facility Manager:**

Name	Brian Philipbar
Phone	(505) 844-6058
Title	Center 2900 ES&H Coordinator

**Originator:**

Name	LUCERO, JEWELLEE A
Phone	(505) 845-4727
Title	REPORTING ADMINISTRATOR

**HQ OC Notification:**

Date	Time	Person Notified	Organization
NA	NA	NA	NA

**Other Notifications:**

Date	Time	Person Notified	Organization
07/29/2010	08:45 (MTZ)	Bob Sherwood	2915
07/29/2010	08:45 (MTZ)	Vern Hermansen	2915
07/29/2010	09:00 (MTZ)	Brian Philipbar	2950
07/29/2010	09:00 (MTZ)	Larry Walker	2900
07/29/2010	09:00 (MTZ)	EOC	4136
07/29/2010	09:25 (MTZ)	Heather Trumble	DOE/SSO
07/29/2010	09:25 (MTZ)	Veronica Martinez, FR	DOE/SSO
07/29/2010	09:45 (MTZ)	Ajoy Moonka	2910
07/29/2010	12:00 (MTZ)	Veronica Martinez, FR	DOE/SSO

**Authorized Classifier(AC):**

Corey Cruz      Date: 07/29/2010

**17)Report Number:**

[NE-ID--BEA-STC-2010-0002](#) After 2003 Redesign

**Secretarial Office:**

Nuclear Energy, Science and Technology

**Lab/Site/Org:**

Idaho National Laboratory

**Facility Name:**

Science and Technology Campus

**Subject/Title:**

Identified administrative issues with an INL Lockout/Tagout (LO/TO)



	when interfacing with local utilities		
<b>Date/Time Discovered:</b>	07/22/2010 15:30 (MTZ)		
<b>Date/Time Categorized:</b>	07/22/2010 16:30 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	07/27/2010	19:16 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	Yes Portneuf Electric		
<b>Occurrence Description:</b>	<p>On 07/21/2010 a DOE-ID Facility Representative (FR) identified some administrative issues with an INL lockout/tagout (LO/TO) associated with a new installation in support of an Idaho National Laboratory (INL) demonstration research project that needed power supplied from the local utility, Idaho Falls Power (IFP). There never was any possibility of the INL's hired subcontractor personnel being exposed to hazardous energy as the utility had the supply lines air gaped and tagged out requiring the subcontractor point of contact's request and approval prior to removing the tags and landing the supply lines. During the critique held on 07/26/2010 it was determined the work package did not require an INL LO/TO because of reliance on IFP's energy control processes up and until INL's request to have the energy connected. However, as a matter of practice the Facility Project Manager for IF-613 (North Boulevard Annex) decided to hang two tags in series to ensure IFP would not energize the system prior to INL's request. These tags and their location were discussed and agreed to with IFP, BEA, and the subcontractor; one was to be located on the power pole and the other on the transformer door. The FR's initial issues were with these two tags and no physical lock. There were subsequent administrative issues with the other tags that were hung in trying to satisfy the FR's concerns. It was determined during the critique to report this event based on the need to improve the INL employees understanding and possible need to document the interface with the local utility in a procedure.</p>		

	Event original categorization was Reporting Criteria 10 Sequence Number 2 Significance Category 4. At the critique the categorization was changed to Reporting Criteria 10 Sequence Number 2 Significance Category 3 based on the information obtained at the critique. The report is one day late due to the critique completion being late Monday to allow necessary attendees.
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	N/A
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	None
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: By When:
<b>Division or Project:</b>	J120
<b>Plant Area:</b>	REC
<b>System/Building/Equipment:</b>	IF-613 North Boulevard Annex
<b>Facility Function:</b>	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
<b>HQ Summary:</b>	On July 21, 2010, a DOE-ID facility representative (FR) identified some administrative issues with an INL lockout/tagout (LO/TO) associated with a new installation in support of a demonstration research project that needed power supplied from the local utility, Idaho Falls Power (IFP). There was no possibility of INL's hired subcontractor personnel being exposed to hazardous energy because the utility had the supply lines air gapped and tagged out requiring the subcontractor's request and approval before removing the tags and landing the supply lines. During the critique held on July 26, it was determined that the work package did not require an INL LO/TO because of IFP's energy control processes up and until

INL's request to have the energy connected. However, as a matter of practice, the Facility Project Manager decided to hang two tags in series to ensure that IFP would not energize the system before INL's request. The tags and location were discussed and agreed to with IFP, BEA, and the subcontractor; one was to be located on the power pole and the other on the transformer door. The FR's initial issues were with these two tags and no physical lock. There were subsequent administrative issues with the other tags that were hung in trying to satisfy the FR's concerns. It was determined during the critique to report this event based on the need to improve the INL employees understanding and possible need to document the interface with the local utility in a procedure.

**Similar OR Report Number:**

<b>Facility Manager:</b>	Name	Lorenzo D. Smith
	Phone	(208) 526-1182
	Title	REC Facility Complex Manager

<b>Originator:</b>	Name	BRANSON, GARY L
	Phone	(208) 526-6529
	Title	

<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA

<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/22/2010	16:30 (MTZ)	M. R. Goriup	DOE-ID
	07/26/2010	16:38 (MTZ)	M. R. Goriup	DOE-ID

**Authorized Classifier(AC):** J. L> Garner      Date: 07/27/2010

**18)Report Number:** [SC--ASO-ANLE-ANLEAPS-2010-0002](#) After 2003 Redesign

**Secretarial Office:** Science

**Lab/Site/Org:** Argonne National Laboratory East

**Facility Name:** Advanced Photon Source

**Subject/Title:** Heat Tape Lead Wire Short to Ground Causes Small Arc Flash and Water Line Leak

**Date/Time Discovered:** 07/12/2010 18:15 (CTZ)

**Date/Time Categorized:** 07/14/2010 11:00 (CTZ)

**Report Type:** Update

<b>Report Dates:</b>	Notification	07/15/2010	18:40 (ETZ)
	Initial Update	07/20/2010	08:43 (ETZ)
	Latest Update	07/20/2010	11:36 (ETZ)

	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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)		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	<p>On Saturday July 10, around 1730 CDT, two graduate student general users were baking out a vacuum chamber in 6-ID-C when a small arc flash occurred between a heat tape lead wire and a nearby braided stainless steel water hose. The arc flash burned a small hole through the hose wall resulting in a minor water leak. The arc flash tripped the line breaker feeding power to the heat tape. The users isolated the leaking water line, unplugged the heat tape, and closed the opened breaker (which was in a panel mounted on the Instrument Station exterior). They replaced the hose using several shorter hoses connected together and notified the sector 6 staff members of the X-Ray Science Division, XSD, of the water line leak by email at 1809 on July 10. They also repaired the damaged lead wire by cutting it, sliding shrinkable tube insulation over two places where bare wire were showing (one where the short occurred and the other next to one of the plugs), added a connector, connected the wire back together, shrunk the tubing in place, and placed it back into service. Neither the on duty floor coordinator nor the sector 6 staff were notified of the arc flash or the wire repair.</p> <p>On Monday July 12, sector 6 staff found the damaged hose and the repaired lead wire and notified their group leader who subsequently notified the XSD ESH Coordinator by email late in the day. The damaged water hose and repaired heat tape were removed from the area and kept in the XSD ESH Coordinator office. The identified time of Discovery is based on the notification to the XSD ESH Coordinator. The APS ORPS Facility Manager designee was notified by email Monday evening, but the email was not read until Tuesday morning, July 13. Additional information was obtained that morning through inspection of the 6-ID-C Instrument Station. However, the event details needed to categorize the event could only be obtained by interviewing the two graduate student users and they were not available to attend a fact finding meeting until 0900 Wednesday, July 15. This accounts for the delay between Discovery and Categorization.</p> <p>Based upon the interviews of the two graduate student users, the arc flash occurred when one graduate student user moved an energized heat tape</p>		

	<p>lead wire to readjust how it lay. The user's finger was about a foot away from the arc point. The arc passed from a defect in the lead wire insulation to a stainless steel braided water hose less than an inch away from the wire. The arc burned a small hole through the hose wall and a visible water leak began. The two users then took the previously described actions. During the fact finding meeting the two graduate student users told the other attendees that the heat tape was being powered through a voltage controller which has a built in 7 amp pop out breaker. This did not activate. The 20 amp breaker for the power supply circuit opened instead. The controller was set to provide around 88 VAC to the heat tape. The involved target chamber, associated instrumentation, and the damaged heat tape belong to a university. The 6-ID-C Instrument Station is dedicated to its use. This equipment is about ten years old. The Sector 6 beamlines were built and operated by a Collaborative Access Team formed of Midwestern Universities, including the university the two graduate students attend. The sector operation is now the responsibility of APS XSD following a transition period starting October 2009 and ending June 2010.</p> <p>The parameters of the incident were provided to the Argonne Electrical Safety Engineer and subject matter expert in order to perform an electrical severity index value calculation. The resultant severity index value is 20. Reporting criterion 10 3(c) was chosen as the users were aware of the hazardous energy source (energized heat tape), but the one user was within the limited approach boundary for 110 VAC at 20 amps and only the resistance due to a one foot distance in dry air from the arc point being more than the resistance for the ground fault that occurred prevented the user from potentially contacting a hazardous energy source.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal operation
<b>Activity Category:</b>	Research
<b>Immediate Action(s):</b>	<p>The damaged water line and heat tape were removed from the 6-ID-C area and placed in the XSD ESH Coordinator's office. The experiment approval posted by the beamline was rescinded pending completion of a fact finding meeting and any subsequent corrective action. The university adviser for the two graduate students was contacted and asked to arrange for him and the two graduate students to attend a fact finding meeting. The fact finding meeting was subsequently held and an ORPS categorization concluded. The experiment approval was then reposted so the experiment could proceed. The two graduate students were required to retake the user training pertinent to electrical safety before they were permitted to participate in the experiment.</p>
<b>FM Evaluation:</b>	UPDATE 7/20/2010: Corrected wording in description of occurrence from "arc flash boundary" to "limited approach boundary".
<b>DOE Facility Representative Input:</b>	

<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: Facility Manager Designee By When:
<b>Division or Project:</b>	X-Ray Science Division
<b>Plant Area:</b>	6-ID-C Instrument St
<b>System/Building/Equipment:</b>	X-Ray Beamline/Building 400
<b>Facility Function:</b>	Accelerators
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance 01F--Inadequate Conduct of Operations - Training Deficiency 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 05D--Mechanical/Structural - Mechanical Equipment Failure/Damage 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11I--Other - Visiting Scientist/Researcher or Student Employee 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14B--Quality Assurance - Training and Qualification Deficiency 14E--Quality Assurance - Work Process Deficiency
<b>HQ Summary:</b>	On July 10, 2010, two graduate student general users were baking out a vacuum chamber in 6-ID-C when a small arc flash occurred between a heat tape lead wire and a nearby braided stainless steel water hose. The arc flash burned a small hole through the wall of the hose resulting in a minor water leak. The arc flash tripped the 20-amp line circuit breaker feeding power to the heat tape (88 VAC). The users isolated the leaking water line, unplugged the heat tape, and closed the opened breaker (which was in a panel mounted on the Instrument Station exterior). They replaced the hose using several shorter hoses connected together and notified the sector 6 staff members of the X-Ray Science Division, of the water line leak by email. They also repaired the damaged lead wire by cutting it, sliding shrinkable tube insulation over two places where bare wire were showing (one where the short occurred and the other next to one of the plugs), added a connector, connected the wire back together, shrunk the tubing in place, and placed it back into service. Neither the on duty floor coordinator nor the sector 6 staff was notified of the arc flash or the wire repair. The experiment approval was rescinded pending completion of a fact finding

	meeting and any subsequent corrective action.			
<b>Similar OR Report Number:</b>				
<b>Facility Manager:</b>	Name	BARKALOW, THOMAS W		
	Phone	(630) 252-9243		
	Title	SUF ESH/QA COORDINATOR		
<b>Originator:</b>	Name	BRINDLE, SUSAN K		
	Phone	(630) 252-6286		
	Title	ORPS COORDINATOR		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/14/2010	12:20 (CTZ)	C. Schumann	DOE-ASO
<b>Authorized Classifier(AC):</b>				

<b>19)Report Number:</b>	<a href="#">SC--ASO-ANLE-ANLEFMS-2010-0010</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Science		
<b>Lab/Site/Org:</b>	Argonne National Laboratory East		
<b>Facility Name:</b>	Facility Management Services		
<b>Subject/Title:</b>	Contact Made with Obstructed Electrical Outlet During Mowing Activity		
<b>Date/Time Discovered:</b>	07/15/2010 10:24 (CTZ)		
<b>Date/Time Categorized:</b>	07/15/2010 11:15 (CTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	07/19/2010	17:02 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>	2) Analyze the Hazards		
<b>Subcontractor Involved:</b>	No		



<b>Occurrence Description:</b>	<p>On 7/15/2010 at approximately 10:24 am, an FMS-Grounds employee accidentally mowed over an electrical outlet that was obstructed by shrubbery while he was mowing the field behind Building 484 with the ME# 125 tractor mower. The grounds employee immediately notified his supervisor, who called 911. Argonne Fire Department as well as FMS-Building Maintenance arrived on the scene; FMS Building Maintenance personnel secured the area; investigation determined that one of the wires was still energized at ~ 120 volts. A tracer was used on the energized wire to isolate the source of the power and a LOTO was applied.</p> <p>The grounds employee did not suffer any injuries but was transported to Argonne Medical Department for evaluation, where he was released to return to duty. There was no report of the employee suffering an electrical shock.</p> <p>The parameters of the incident were provided to the Argonne Electrical Safety Engineer and subject matter expert in order to perform an electrical severity index value calculation. The resultant severity index value is 160.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Grass was approximately 3 feet in height
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	Although there were no injuries associated with this event, employee was taken to the Argonne Medical Department for evaluation. In addition, FMS-Building Maintenance secured the area, put a tracer on the energized wire to isolate the source of the power, and then locked out/tagged out the power source.
<b>FM Evaluation:</b>	
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.</p> <p>Before Further Operation? No</p> <p>By Whom: FMS Division</p> <p>By When:</p>
<b>Division or Project:</b>	Facilities Management and Services
<b>Plant Area:</b>	Behind Bldg 484
<b>System/Building/Equipment:</b>	Outdoor electrical outlet /ME 125 tractor mower
<b>Facility Function:</b>	Balance-of-Plant - Site/outside utilities
<b>Corrective Action:</b>	
<b>Lessons(s) Learned:</b>	
<b>HQ Keywords:</b>	07D--Electrical Systems - Electrical Wiring



	08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency															
<b>HQ Summary:</b>	On July 15, 2010, a Facilities Management Services (FMS) grounds employee accidentally mowed over an electrical outlet that was obstructed by shrubbery while he was mowing the field behind Building 484 with a tractor mower. The grounds employee immediately notified his supervisor, who called 911. The Argonne Fire Department as well as FMS Building Maintenance arrived on the scene, FMS Building Maintenance personnel secured the area, and an investigation determined that one of the wires was still energized at about 120-volts. A tracer was used on the energized wire to isolate the source of the power and a lockout/tagout was applied. The grounds employee did not suffer any injuries but was transported to Argonne Medical Department for evaluation, where he was released to return to duty. There was no report of the employee suffering an electrical shock. The parameters of the incident were provided to the Argonne Electrical Safety Engineer and subject matter expert in order to perform an electrical severity index value calculation. The resultant severity index value is 160.															
<b>Similar OR Report Number:</b>																
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">ALICZ, JEFFREY E.</td> </tr> <tr> <td>Phone</td> <td colspan="3">(630) 252-9525</td> </tr> <tr> <td>Title</td> <td colspan="3">SAFETY SPECIALIST</td> </tr> </table>				Name	ALICZ, JEFFREY E.			Phone	(630) 252-9525			Title	SAFETY SPECIALIST		
Name	ALICZ, JEFFREY E.															
Phone	(630) 252-9525															
Title	SAFETY SPECIALIST															
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">COLGLAZIER, ROBIN ALAN</td> </tr> <tr> <td>Phone</td> <td colspan="3">(630) 252-8747</td> </tr> <tr> <td>Title</td> <td colspan="3">SR REGULATORY COMPLIANCE SPECIALIST</td> </tr> </table>				Name	COLGLAZIER, ROBIN ALAN			Phone	(630) 252-8747			Title	SR REGULATORY COMPLIANCE SPECIALIST		
Name	COLGLAZIER, ROBIN ALAN															
Phone	(630) 252-8747															
Title	SR REGULATORY COMPLIANCE SPECIALIST															
<b>HQ OC Notification:</b>	<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													
<b>Other Notifications:</b>	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>07/15/2010</td> <td>11:50 (CTZ)</td> <td>John Houck</td> <td>DOE-ASO</td> </tr> <tr> <td>07/15/2010</td> <td>11:50 (CTZ)</td> <td>Paul Neeson</td> <td>DOE-ASO</td> </tr> </tbody> </table>				Date	Time	Person Notified	Organization	07/15/2010	11:50 (CTZ)	John Houck	DOE-ASO	07/15/2010	11:50 (CTZ)	Paul Neeson	DOE-ASO
Date	Time	Person Notified	Organization													
07/15/2010	11:50 (CTZ)	John Houck	DOE-ASO													
07/15/2010	11:50 (CTZ)	Paul Neeson	DOE-ASO													
<b>Authorized Classifier(AC):</b>																
<b>20)Report Number:</b>	<a href="#">SC--BSO-LBL-OPERATIONS-2010-0010</a> After 2003 Redesign															
<b>Secretarial Office:</b>	Science															
<b>Lab/Site/Org:</b>	Lawrence Berkeley Laboratory															
<b>Facility Name:</b>	Operations Division															
<b>Subject/Title:</b>	LOTO Deficiency at Grizzly Peak Substation - No Exposures, No Injuries															
<b>Date/Time Discovered:</b>	07/21/2010 13:45 (PTZ)															

<b>Date/Time Categorized:</b>	07/21/2010 15:35 (PTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	07/23/2010	15:58 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>	4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	Yes Edward W. Scott Electric Co., Inc.		
<b>Occurrence Description:</b>	<p>On 07/15/2010, at approximately 1000 hours, an LBNL Facilities Maintenance Supervisor noticed that several subcontractor construction workers in the substation yard did not have an individual LOTO lock applied to the Group LOTO Box.</p> <p>The Edward W. Scott Electric subcontractor personnel were working on the LBNL Grizzly Peak Substation Transformer Bank 2 Replacement project. The LBNL Facilities Maintenance Supervisor, who is also a Qualified Electrical Worker, noticed that there were more construction workers in the substation yard than there were LOTO locks on the Group LOTO Box. The Maintenance Supervisor immediately notified the subcontractor on-site superintendent to stop all work. Work resumed approximately 15 minutes later after additional individual LOTO locks were applied by the construction workers to the Group LOTO Box.</p> <p>There were no exposures to electricity nor were there any injuries as a result of the incident.</p>		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	Outdoors, Dry, 81% humidity		
<b>Activity Category:</b>	Construction		
<b>Immediate Action(s):</b>	Facilities Maintenance Supervisor immediately informed subcontractor superintendent to stop work until all locks were in place.		
<b>FM Evaluation:</b>	- Initial incident review indicated that the subcontractor workers did not		

	completely follow LBNL LOTO procedure as outlined in the LOTO permit.						
<b>DOE Facility Representative Input:</b>							
<b>DOE Program Manager Input:</b>							
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: Facilities and EH&S By When:						
<b>Division or Project:</b>	Facilities Division						
<b>Plant Area:</b>	Substation Bank 2						
<b>System/Building/Equipment:</b>	Grizzly Peak Substation Transformer Replacement Project						
<b>Facility Function:</b>	Balance-of-Plant - Site/outside utilities						
<b>Corrective Action:</b>							
<b>Lessons(s) Learned:</b>							
<b>HQ Keywords:</b>	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency						
<b>HQ Summary:</b>	On July 15, 2010, an LBNL Facilities Maintenance Supervisor noticed that several subcontractor construction workers in the substation yard did not have an individual LOTO lock applied to the Group LOTO Box. The Edward W. Scott Electric subcontractor personnel were working on the LBNL Grizzly Peak Substation Transformer Bank 2 Replacement project. The LBNL Facilities Maintenance Supervisor, who is also a Qualified Electrical Worker, noticed that there were more construction workers in the substation yard than there were LOTO locks on the Group LOTO Box. The Maintenance Supervisor immediately notified the subcontractor on-site superintendent to stop all work. Work resumed after additional individual LOTO locks were applied by the construction workers to the Group LOTO Box. There were no exposures to electricity nor were there any injuries as a result of the incident.						
<b>Similar OR Report Number:</b>							
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Jennifer Ridgeway</td> </tr> <tr> <td>Phone</td> <td>(510) 486-6339</td> </tr> <tr> <td>Title</td> <td>Division Director</td> </tr> </table>	Name	Jennifer Ridgeway	Phone	(510) 486-6339	Title	Division Director
Name	Jennifer Ridgeway						
Phone	(510) 486-6339						
Title	Division Director						
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>MOU, FLORENCE P.</td> </tr> <tr> <td>Phone</td> <td>(510) 486-7872</td> </tr> </table>	Name	MOU, FLORENCE P.	Phone	(510) 486-7872		
Name	MOU, FLORENCE P.						
Phone	(510) 486-7872						

	Title	SENIOR ADMINISTRATOR		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/21/2010	15:38 (PTZ)	Mary Gross	BSO
<b>Authorized Classifier(AC):</b>				

<b>21)Report Number:</b>	<a href="#">SC--PNSO-PNNL-PNNLBOPER-2010-0015</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Science		
<b>Lab/Site/Org:</b>	Pacific Northwest National Laboratory		
<b>Facility Name:</b>	Energy Research Programs (PNNL)		
<b>Subject/Title:</b>	Subcontractor Damages Electrical Conduit with Trencher		
<b>Date/Time Discovered:</b>	07/08/2010 09:35 (PTZ)		
<b>Date/Time Categorized:</b>	07/08/2010 11:00 (PTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	07/12/2010	18:01 (ETZ)
	Initial Update		
	Latest Update		
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	Yes Premier Landscaping		
<b>Occurrence Description:</b>	On Thursday, July 08, 2010, at approximately 0935 hours, a landscape subcontractor damaged a buried 277 volt parking lot lighting circuit while trenching to install an irrigation line north of the 3440 Building. The circuit is controlled by a software controlled relay (which was not energized at the time of contact), but was not locked and tagged per PNNL hazardous energy control procedures.		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	N/A		

<b>Activity Category:</b>	Construction							
<b>Immediate Action(s):</b>	The area around the damaged conduit was barricaded. All trenching activities involving the use of mechanized equipment have been suspended. The circuit has been locked and tagged out. A critique will be scheduled.							
<b>FM Evaluation:</b>								
<b>DOE Facility Representative Input:</b>								
<b>DOE Program Manager Input:</b>								
<b>Further Evaluation is Required:</b>	Yes. Before Further Operation? No By Whom: By When:							
<b>Division or Project:</b>	Strategic Projects Division / Operational Systems							
<b>Plant Area:</b>	PNNL Site							
<b>System/Building/Equipment:</b>	PSF (3440 Bldg)							
<b>Facility Function:</b>	Laboratory - Research & Development							
<b>Corrective Action:</b>								
<b>Lessons(s) Learned:</b>								
<b>HQ Keywords:</b>	07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency							
<b>HQ Summary:</b>	On July 8, 2010, a landscape subcontractor damaged a buried 277-volt parking lot lighting circuit while trenching to install an irrigation line north of Building 3440. The circuit is controlled by a software controlled relay (which was not energized at the time of contact), but was not locked and tagged per PNNL hazardous energy control procedures. The area around the damaged conduit was barricaded. All trenching involving the use of mechanized equipment has been suspended. The circuit has been locked and tagged out and a critique was scheduled.							
<b>Similar OR Report Number:</b>								
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Pittman, J. P.</td> </tr> <tr> <td>Phone</td> <td>(509) 371-7056</td> </tr> <tr> <td>Title</td> <td>PM, Physical Sciences Facility Construction</td> </tr> </table>		Name	Pittman, J. P.	Phone	(509) 371-7056	Title	PM, Physical Sciences Facility Construction
Name	Pittman, J. P.							
Phone	(509) 371-7056							
Title	PM, Physical Sciences Facility Construction							
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>POLLARI, ROGER A</td> </tr> <tr> <td>Phone</td> <td>(509) 371-7700</td> </tr> </table>		Name	POLLARI, ROGER A	Phone	(509) 371-7700		
Name	POLLARI, ROGER A							
Phone	(509) 371-7700							

	Title			
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	07/08/2010	11:48 (PTZ)	Davies, T.	PNSO
<b>Authorized Classifier(AC):</b>	Pollari, R. A. Date: 07/12/2010			

<b>22)Report Number:</b>	<a href="#">SC-ORO--ORNL-X10EAST-2010-0003</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Science		
<b>Lab/Site/Org:</b>	Oak Ridge National Laboratory		
<b>Facility Name:</b>	ORNL East Complex		
<b>Subject/Title:</b>	Discovery of Unexpected Electrical Energy Source in Bldg 5800 Laboratory		
<b>Date/Time Discovered:</b>	07/26/2010 08:30 (ETZ)		
<b>Date/Time Categorized:</b>	07/26/2010 17:45 (ETZ)		
<b>Report Type:</b>	Update		
<b>Report Dates:</b>	Notification	07/28/2010	16:04 (ETZ)
	Initial Update	07/29/2010	08:02 (ETZ)
	Latest Update	07/29/2010	08:02 (ETZ)
	Final		
<b>Significance Category:</b>	3		
<b>Reporting Criteria:</b>	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.		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	On July 26, 2010, at approximately 0830 hours, an ORNL employee opened a wall mounted multi-purpose equipment box used to house research signal equipment in a laboratory in Bldg 5800. The box was opened to determine what equipment was installed. While checking the equipment on the left side of the box, the employee noticed a spark toward the right side of the box. At that location, he then noticed a communication style cable containing four insulated wires with bare ends which were draped over the edge of a small metal power supply box. The employee		

	<p>observed other communication style cables present and one 110 volt power strip. Thinking that the spark involved voltage from a twelve-volt battery, the employee donned personal protective equipment (safety glasses and thick nitrile gloves) and placed electrical tape over the bare wires to make them safe. The employee notified line management and the building electrician.</p> <p>Following a critique of the event, the Lab Shift Superintendent (LSS) was contacted, and the event was categorized as a 2C(2) occurrence, i.e., unexpected discovery of hazardous electrical energy. There were no injuries to the employee or other personnel, or impacts to other equipment or processes or the environment as a result of this event.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	<p>The employee traced the communications style cable across the ceiling to a junction box. A building operations manager was notified and requested an electrician.</p> <p>The electrician traced the communications style cable to a junction box where it was determined that two of the cable conductors were connected to a 277 volt lighting circuit. The system was de-energized during the electrician's investigation.</p> <p>Line management was notified of the event, and an investigation was initiated. The LSS, Electrical Authority Having Jurisdiction, and the Electrical Subject Matter Expert were notified.</p> <p>A critique of the event was conducted.</p> <p>Management posted the laboratory as off-limits until follow-up electrical inspections are conducted to determine if there are other hazards.</p>
<b>FM Evaluation:</b>	<p>Line management will continue its investigation and will share lessons learned.</p> <p>Updated 7/29/2010: Updated to correct Evaluation by Facility Manager.</p>
<b>DOE Facility Representative Input:</b>	
<b>DOE Program Manager Input:</b>	
<b>Further Evaluation is Required:</b>	<p>Yes.  Before Further Operation? Yes  By Whom: Line management  By When: 09/09/2010</p>



<b>Division or Project:</b>	Energy & Transportation Science Division (ETSD)															
<b>Plant Area:</b>	Bldg 5800															
<b>System/Building/Equipment:</b>	Bldg 5800, Lab D210															
<b>Facility Function:</b>	Laboratory - Research & Development															
<b>Corrective Action:</b>																
<b>Lessons(s) Learned:</b>																
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01Q--Inadequate Conduct of Operations - Personnel error 01S--Inadequate Conduct of Operations - Incorrect/Inadequate Installation 07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency															
<b>HQ Summary:</b>	<p>On July 26, 2010, an ORNL employee opened a wall mounted multi-purpose equipment box, used to house research signal equipment in a laboratory in Building 5800, to determine what equipment was installed. While checking the equipment on the left side of the box, the employee saw a spark toward the right side of the box. At that location, he then noticed a communication-style cable containing four insulated wires with bare ends that were draped over the edge of a small metal power supply box. The employee observed other similar cables present and one 110-volt power strip. Thinking that the spark involved voltage from a 12-volt battery, the employee donned personal protective equipment (safety glasses and thick nitrile gloves) and placed electrical tape over the bare wires to make them safe. The employee notified line management and the building electrician. An electrician traced the communications-style cable to a junction box where it was determined that two of the cable conductors were connected to a 277-volt lighting circuit. The system was de-energized during the electrician's investigation. A critique was conducted.</p>															
<b>Similar OR Report Number:</b>																
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">Melissa Lapsa</td> </tr> <tr> <td>Phone</td> <td colspan="3">(865) 576-8620</td> </tr> <tr> <td>Title</td> <td colspan="3">Whole-Building &amp; Community Integration Group Lead</td> </tr> </table>				Name	Melissa Lapsa			Phone	(865) 576-8620			Title	Whole-Building & Community Integration Group Lead		
Name	Melissa Lapsa															
Phone	(865) 576-8620															
Title	Whole-Building & Community Integration Group Lead															
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">STORMER, R WAYNE</td> </tr> <tr> <td>Phone</td> <td colspan="3">(865) 574-6999</td> </tr> <tr> <td>Title</td> <td colspan="3">EVENT REPORTING GROUP</td> </tr> </table>				Name	STORMER, R WAYNE			Phone	(865) 574-6999			Title	EVENT REPORTING GROUP		
Name	STORMER, R WAYNE															
Phone	(865) 574-6999															
Title	EVENT REPORTING GROUP															
<b>HQ OC Notification:</b>	<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													



<b>Other Notifications:</b>	<b>Date</b>	<b>Time</b>	<b>Person Notified</b>	<b>Organization</b>
	07/26/2010	17:45 (ETZ)	Lab Shift Superintendent	ORNL LSS
	07/26/2010	18:05 (ETZ)	Michele Branton	DOE ORNL
	07/26/2010	20:57 (ETZ)	Johnny Moore	DOE ORNL
<b>Authorized Classifier(AC):</b>				

---

[| ORPS HOME](#) | [Search & Reports](#) | [Authorities](#) | [Help](#) | [Security/Privacy Notice](#) |  
 Please send comments or questions to [orpssupport@hq.doe.gov](mailto: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.