

## November 2009 Electrical Safety Occurrences

There were 9 electrical safety occurrences for November 2009:

- 2 occurrences resulted in shocks
- 1 occurrence resulted in a burn injury
- 3 occurrences involved cut or penetrated electrical conductors
- 4 occurrences involved inadequate lockout/tagout (LOTO)
- 4 occurrences involved electrical workers and 5 occurrences involved non-electrical workers
- 4 occurrences involved subcontractors
- 4 occurrences resulted from inadequate planning

The number of electrical safety events was down from October, but severity and injuries continue to trend high. Once again an injury was received from contact with a DC source. The worker was not wearing electrical PPE while working around energized DC components and received burns. A worker was also burned from a DC source in March. More emphasis must be applied to safe work practices to avoid complacency with DC electrical hazards. This month we had three events in which energized conductors were cut or penetrated. In all cases, workers were unaware of the electrical hazard. Last month there were four electrical intrusion events and the month before that there were three. Work planners need to do a better job of identifying potential electrical hazards so that hazard controls can be implemented. The data continues to show a need to manage subcontractors and non-electrical workers. An effort should be made to end the calendar year on a positive note and begin the New Year with renewed enthusiasm to protect our workers from electrical hazards.

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, 11 events were identified. One event was screened out as an SC "R," and a second report was screened out as unrelated to electrical safety. Please continue to report all events and evaluate the events using the Electrical Severity Measurement Tool.

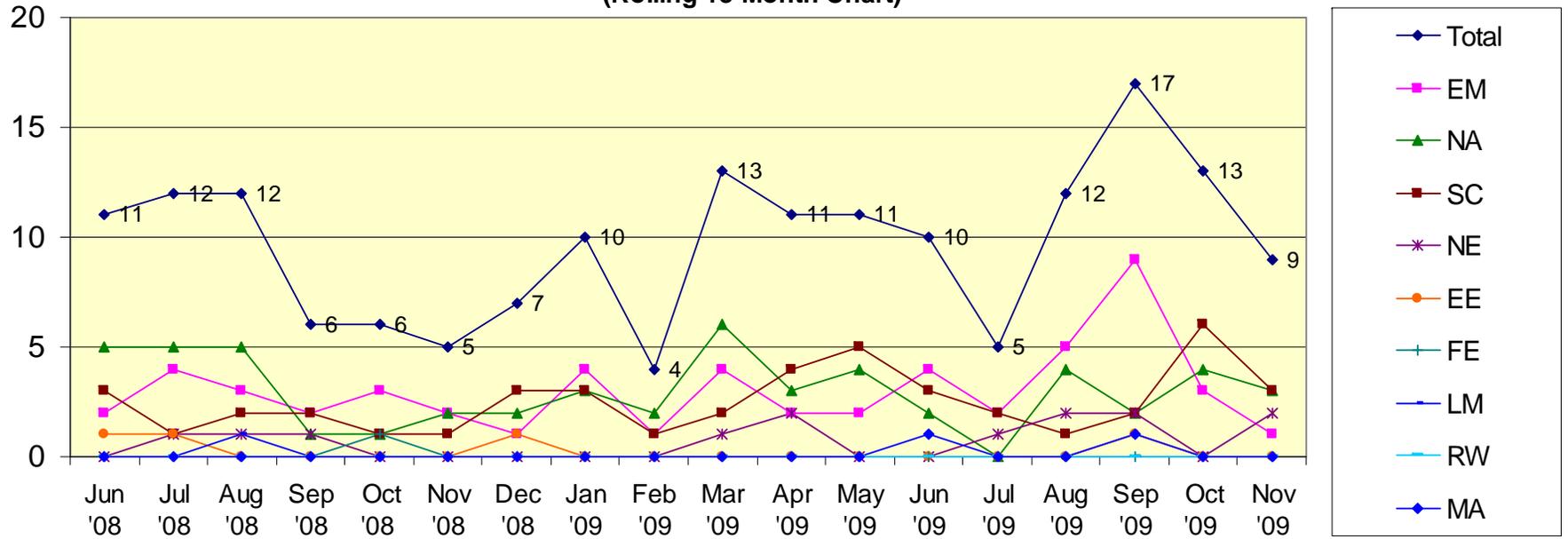
Below is the current summary of 2009 electrical safety occurrences:

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
January-09	11	2	0	0
February-09	4	1	0	0
March-09	13	1	1	0
April-09	11	1	0	0
May-09	11	2	0	0
June-09	10	3	0	0
July-09	5	1	0	0
August-09	12	3	0	0
September-09	17	2	1	0
October-09	13	4	0	0
November-09	9	2	1	0
2009 total	116 (avg. 10.5/month)	22	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

Eleven months through the calendar year, the average rate of electrical safety occurrences in 2009 is 10.5 per month, which is above the average rate of 9.4 per month experienced in 2008. The 2009 average rate remains below the 2004 – 2007 average rates. Severity is increasing toward the end of the year. The number of events continues to be a cause for concern, and should be considered a predictive indicator of more severe occurrences.

# Electrical Occurrences by Month & 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 – November 2009

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-ORO--ISOT-3019A-2009-0003	While stabilizing a window frame, a worker drills into an energized 240-volt conductor.							X		3	2C(2)	10
2	NA--LASO-LANL-ADOADMIN-2009-0005	Worker receives 120-volt electrical shock from faulty extension cord.	X				X				2	2C(1)	330
3	NA--LASO-LANL-ADOADMIN-2009-0006	Worker receives 277-volt electrical shock from energized lighting circuit.	X			X					2	2C(1)	1650
4	NA--LASO-LANL-TA55-2009-0020	Workers failed to apply LOTO according to work documents.				X	X				3	10(2)	0
5	NE-ID--BEA-RTC-2009-0002	Worker receives electrical burn from 120/240-volt batteries.		X							2	2C(1)	2100
6	NE-ID--BEA-SMC-2009-0015	Worker failed to follow prescribed LOTO process.				X	X				3	2C(2)	0
7	SC--ASO-ANLE-ANLEMCS-2009-0001	Worker cuts energized 208-volt electrical conductor.					X		X		3	2C(2)	0
8	SC--PSO-PPPL-PPPL-2009-0007	While drilling through concrete, worker drills into energized conductor.							X		3	2C(2)	0
9	SC--TJSO-JSA-TJNAF-2009-0006	Workers removed energized leads, which arced to ground, tripping a circuit breaker.				X					3	2C(2)	0
	TOTAL		2	1	0	4	4	0	3	0			

### 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 – November 2009

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-ORO--ISOT-3019A-2009-0003	While stabilizing a window frame, a worker drills into an energized 240-volt conductor.		X		X					X			
2	NA--LASO-LANL-ADOADMIN-2009-0005	Worker receives 120-volt electrical shock from faulty extension cord.		X	X	X					X			
3	NA--LASO-LANL-ADOADMIN-2009-0006	Worker receives 277-volt electrical shock from energized lighting circuit.	X		X	X					X			X
4	NA--LASO-LANL-TA55-2009-0020	Workers failed to apply LOTO according to work documents.	X		X						X			
5	NE-ID--BEA-RTC-2009-0002	Worker receives electrical burn from 120/240-volt batteries.	X			X		X			X			
6	NE-ID--BEA-SMC-2009-0015	Worker failed to follow prescribed LOTO process.		X	X						X			
7	SC--ASO-ANLE-ANLEMCS-2009-0001	Worker cuts energized 208-volt electrical conductor.		X		X					X			X
8	SC--PSO-PPPL-PPPL-2009-0007	While drilling through concrete, worker drills into energized conductor.		X		X					X			
9	SC--TJSO-JSA-TJNAF-2009-0006	Workers removed energized leads, which arced to ground, tripping a circuit breaker.	X			X					X			X
	TOTAL		4	5	4	7	0	1	0		9	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 54458 OR(s) with 57776 occurrences(s) as of 12/4/2009 7:16:30 AM  
Query selected 9 OR(s) with 9 occurrences(s) as of 12/4/2009 12:47:54 PM

Download this report in Microsoft Word format. 

<b>1)Report Number:</b>	<a href="#">EM-ORO--ISOT-3019A-2009-0003</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Environmental Management		
<b>Lab/Site/Org:</b>	Oak Ridge National Laboratory		
<b>Facility Name:</b>	3019A Complex		
<b>Subject/Title:</b>	While Stabilizing a Window, a Millwright Drilled into a 240 V AC Circuit Tripping Supply Breaker		
<b>Date/Time Discovered:</b>	11/10/2009 13:05 (ETZ)		
<b>Date/Time Categorized:</b>	11/10/2009 13:25 (ETZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	11/11/2009	13:48 (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>At approximately 13:05, a millwright drilled into a 240 V AC circuit tripping the supply breaker for a baseboard heater. The millwright stopped work and notified his supervisor when he noticed sparks and smoke. The millwright was using a double-insulated drill to drill a hole in a window frame to stabilize a Plexiglas protective cover. He was wearing prescribed PPE and was not shocked.</p> <p>The work was scheduled on the plan of the day and was being conducted in accordance with an approved routine work package.</p>		

	The work was suspended and the circuit was air gapped.							
<b>Cause Description:</b>								
<b>Operating Conditions:</b>	Normal							
<b>Activity Category:</b>	Maintenance							
<b>Immediate Action(s):</b>	Work was suspended and the circuit air gapped while locked out. A fact finding meeting was held.							
<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: Facility Manager By When: 12/11/2009							
<b>Division or Project:</b>	U233 Material Downblending and Disposition Project							
<b>Plant Area:</b>	3019 Complex							
<b>System/Building/Equipment:</b>	240 V heater wire							
<b>Facility Function:</b>	Special Nuclear Materials Storage							
<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 07E--Electrical Systems - Electrical Equipment Failure 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency							
<b>HQ Summary:</b>	On November 10, 2009, a millwright drilled into a 240-volt AC circuit, tripping the supply breaker for a baseboard heater. The millwright stopped work and notified his supervisor when he saw sparks and smoke. The millwright was using a double-insulated drill to drill a hole in a window frame to stabilize a Plexiglas protective cover. He was wearing prescribed PPE and was not shocked. The work was scheduled on the plan of the day and was being conducted in accordance with an approved routine work package. The work was suspended and the circuit was air gapped. A fact finding meeting was held.							
<b>Similar OR Report Number:</b>								
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>SCHAEFER, SARAH S</td> </tr> <tr> <td>Phone</td> <td>(865) 241-1883</td> </tr> <tr> <td>Title</td> <td>FACILITY MANAGER</td> </tr> </table>		Name	SCHAEFER, SARAH S	Phone	(865) 241-1883	Title	FACILITY MANAGER
Name	SCHAEFER, SARAH S							
Phone	(865) 241-1883							
Title	FACILITY MANAGER							

<b>Originator:</b>	Name	SCHAEFER, SARAH S		
	Phone	(865) 241-1883		
	Title	FACILITY MANAGER		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	11/10/2009	13:20 (ETZ)	Chelsea Hubbard	DOE
	11/10/2009	13:25 (ETZ)	Gary Riner	DOE
	11/10/2009	14:57 (ETZ)	Jay Mullis	DOE
	11/10/2009	14:57 (ETZ)	Brenda Hawks	DOE
	11/10/2009	14:57 (ETZ)	Wendy Cain	DOE
	11/10/2009	14:57 (ETZ)	Larry Perkins	DOE
	11/10/2009	14:57 (ETZ)	Brian DeMonia	DOE
	<b>Authorized Classifier(AC):</b>	Linda Gilpin      Date: 11/10/2009		

<b>2)Report Number:</b>	<a href="#">NA--LASO-LANL-ADOADMIN-2009-0005</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>	ADO Administration		
<b>Subject/Title:</b>	Worker Receives Electrical Shock While Installing Ceiling Tiles		
<b>Date/Time Discovered:</b>	11/16/2009 15:25 (MTZ)		
<b>Date/Time Categorized:</b>	11/16/2009 16:05 (MTZ)		
<b>Report Type:</b>	Update		
<b>Report Dates:</b>	Notification	11/17/2009	20:10 (ETZ)
	Initial Update	11/18/2009	18:24 (ETZ)
	Latest Update	11/18/2009	18:24 (ETZ)
	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>	Yes Austin, Rosendin Electric, and Lasco
<b>Occurrence Description:</b>	<p>UPDATE (11/18/2009): This report is being updated to correct event dates.</p> <p>Management Synopsis: At 1525 on November 16, 2009, a Lasco worker received a mild electrical shock when he came into contact with an energized wire from an extension cord that had been abandoned (female plug cut off), while installing ceiling tiles. The worker felt tingling in his hand but received no burns. There was a momentary spark, but the Ground Fault Circuit Interrupter (GFCI) breaker did not trip. This GFCI senses current between 5-10 milliamps. If the GFCI registers a discrepancy at this level between the incoming and outgoing current, it will trip the breaker. The Los Alamos National Laboratory (LANL) electrical authority having jurisdiction (AHJ) therefore determined that the shock involved less than 5 milliamps. The worker was wearing mechanical gloves (cloth, fingerless) and using dry wall stilts. The worker was not trained or qualified to perform energized electrical work and he was not wearing electrical personal protective equipment (PPE). The ceiling tile installation does not require the use of electrical PPE as the workers are not expected to be exposed to an electrical hazard.</p> <p>Following notification, LANL electrical AHJ reevaluated the event using the electrical severity tool. The evaluation resulted in a score of 330 for an electrical severity significance of "Medium" because the event resulted in a worker contacting hazardous electrical energy.</p> <p>A preliminary evaluation was made of the work areas to ensure safe conditions to proceed.</p> <p>The event was preliminary categorized at 1602 on 16 October 2009, as a Group 2C(2). At the critique, the Facility Operations Director (FOD) agreed to the initial categorization.</p> <p>Background: The Radiological Laboratory Utility Office Building (RLUOB) is under the final stages of construction. The work predominantly occurs inside the facility, with electrical wiring performed by Rosendin Electric (an Austin Commercial subcontractor).</p> <p>Building ceiling tile installation is done by Lasco, (A subcontractor to Austin Commercial). On 16 October 2009 after the Plan For Tomorrow (PFT) was completed at approximately 1430, four workers (Austin Commercial - Supervisor; Lasco - Supervisor; and Lasco - Foreman) conducted a tic trace of on one of two electrical extension cords that were between areas A and B on the third floor at RLUOB. None of the four</p>

workers were qualified electrical workers. There were two electrical extension cords protruding from the spider box in Area B that went up through the ceiling to Area A. The Lasco Foreman unplugged two cords (cord 1 of 2) at the spider box (upon checking for energy and finding with a tic tracer that it was not energized) cut the male end of cord 1. The workers were notified that vacuuming was going on in Area A and five more minutes were required to complete the vacuuming task in Area A. The Lasco Foreman plugged cord 2 back in the spider box in Area B so vacuuming could be completed in Area A. The Lasco Foreman did not leave Area B while the vacuuming task was being completed and did not lose observation of the spider box where the second plug had been plugged back in. After the vacuuming task was complete the Lasco Foreman unplugged the second electrical extension cord from the spider box in Area B, but did not cut the male end off of cord 2. The four workers proceeded to Area A and conducted a tic trace on the other end of electrical extension cord 1. Upon verification that it was de-energized they cut the female end of cord 1, they thought this was cord 1, but it was cord 2 which was apparently subsequently plugged back into the Spider Box by other workers in the area after the Lasco Foreman had returned to Area A. The request to remove these cords had been made at least 3 previous times to Rosendin Electric by Lasco. Rosendin stated they would complete the task but did not. Lasco was instructed by Austin commercial Superintendent to cut the lines cord so that ceiling work could proceed.

At approximately 1525 on 16 October 2009, the Lasco ceiling installer came into Area A to install two ceiling tiles that had been left out. The worker was told the cord dangling through the ceiling grid was de-energized. As the worker pushed the electrical cord into the ceiling he came into contact with the exposed wires in cord 2. The worker stated he observed a spark and felt a tingling in his hand. He was wearing fingerless, mechanical gloves used for installing ceiling tiles. He was performing the work on drywall stilts. The worker immediately notified Austin and LANL safety.

<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Construction
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	<p>1) The event was identified to the CMRR safety and management during the afternoon of 16 November 2009.</p> <p>2) The worker was escorted to LANL Occupational Medicine and examined. The worker returned to work with no work restrictions at approximately 1645 on 16 November 2009.</p>
<b>FM Evaluation:</b>	UPDATE (11/18/2009): This report is being updated to correct event dates.
<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-PF and CMRR FOD By When: 12/23/2009						
<b>Division or Project:</b>	CMRR-RLUOB						
<b>Plant Area:</b>	TA-55-400						
<b>System/Building/Equipment:</b>	Electrical wiring						
<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) 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency						
<b>HQ Summary:</b>	On November 16, 2009, while installing ceiling tiles, a Lasco worker received a mild electrical shock when he came into contact with an energized wire from an extension cord that had been abandoned (female plug cut off). The worker felt tingling in his hand but received no burns. There was a momentary spark, but the Ground Fault Circuit Interrupter (GFCI) breaker did not trip. This GFCI senses current between 5-10 milliamps. The LANL electrical Authority Having Jurisdiction therefore determined that the shock was less than 5 milliamps. The worker was wearing cloth fingerless gloves and using dry wall stilts. The worker was not wearing electrical personal protective equipment because the workers are not expected to be exposed to an electrical hazard. The worker was escorted to LANL Occupational Medicine, examined and released with no work restriction.						
<b>Similar OR Report Number:</b>							
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Richard A. Holmes</td> </tr> <tr> <td>Phone</td> <td>(505) 606-2389</td> </tr> <tr> <td>Title</td> <td>CMRR Facility Operations Director</td> </tr> </table>	Name	Richard A. Holmes	Phone	(505) 606-2389	Title	CMRR Facility Operations Director
Name	Richard A. Holmes						
Phone	(505) 606-2389						
Title	CMRR Facility Operations Director						
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>HAKONSON-HAYES, AUDREY C</td> </tr> <tr> <td>Phone</td> <td>(505) 667-9364</td> </tr> <tr> <td>Title</td> <td>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>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	11/16/2009	16:05 (MTZ)	LASO Notification Line	NNSA
<b>Authorized Classifier(AC):</b>	Antonia Tallarico Date: 11/18/2009			

<b>3)Report Number:</b>	<a href="#">NA--LASO-LANL-ADODADMIN-2009-0006</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>	ADO Administration		
<b>Subject/Title:</b>	Near Miss: Qualified Electrical Worker Receives 277V Electrical Shock		
<b>Date/Time Discovered:</b>	11/17/2009 15:00 (MTZ)		
<b>Date/Time Categorized:</b>	11/17/2009 16:15 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	11/18/2009	18:52 (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.		
	4B(6) - A facility or operations shutdown (i.e., a change of operational mode or curtailment of work or processes) directed by management for safety reasons.		
	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 2 occurrence)		
<b>Cause Codes:</b>			
<b>ISM:</b>			
<b>Subcontractor Involved:</b>	Yes Austin Commercial, Rosendin Electric		

**Occurrence Description:**

Management Synopsis: At 1500 on November 17, 2009, a qualified electrical Rosendin worker received a high hazard (277V) electrical shock when he was installing a ceiling tile around an existing J-box that was mounted on a ceiling grid by a bracket and caddy clip. He was on an 8-foot fiberglass ladder, approximately 5' - 6' high on the ladder, with his head above the ceiling tile, and his arms leaning against the metal ceiling grid. The worker installed the ceiling tile, he then placed the J-box and discovered the J-box was too large for the hole cut in the ceiling tile. The worker then removed the J-box and laid it to rest on the metal ceiling grid when he felt a tingling sensation in both arms. He did not fall off the ladder. The worker was wearing leather, work gloves and a long-sleeved shirt with the sleeves pushed back. The worker was not wearing electrical personal protective equipment (PPE).

At approximately 1505, the worker notified his Foreman and then proceeded to replace the existing J-box with a smaller one. At approximately 1520, the Foreman de-energized the circuit by turning off the light switch. Lock-out/tag-out (LO/TO) was not applied. At approximately 1530, the worker was escorted to LANL Occupational Medicine and examined. The worker was released to return to work with no work restrictions at approximately 1618 on November 17, 2009. The event was preliminary categorized at 1805 on November 17, 2009, as a Group 2C(2) and Group 4B(6).

On November 18, 2009 at 1200, based on information presented at the critique, the Chemistry Metallurgy Research Replacement (CMRR) Facility Operations Director (FOD) determined this event is a near miss to a serious occupational injury because of the electrical shock and fall injury potential. The event was preliminary categorized at 1805 on November 17, 2009, as a Group 2C(2) and Group 4B(6). At a critique held on November 18, 2009, the FOD agreed to the initial categorization and an additional categorization - Group 10(3)(2).

Following notification, the Los Alamos National Laboratory (LANL) electrical Authority Having Jurisdiction (AHJ) evaluated the event using the electrical severity tool. The evaluation resulted in a score of 1650. This equates to an electrical severity significance of "High," because the event resulted in a worker contacting 277V of electrical energy.

Background: The Radiological Laboratory Utility Office Building (RLUOB) is under the final stages of construction. The work predominantly occurs inside the facility, with electrical work performed by Rosendin Electric (an Austin Commercial subcontractor).

The worker has 10 years experience and has been working at CMRR/RLUOB since October 1, 2009.

The J-box was not covered with a metal plate, but the wires (brown, green,

	and gray) were all wire capped. Per accepted Rosendin standards for construction, this is an acceptable method for safing a J-box.
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Construction
<b>Activity Category:</b>	Construction
<b>Immediate Action(s):</b>	The worker was escorted to LANL Occupational Medicine and examined. The worker returned to work with no work restrictions at approximately 1618 on November 18, 2009.  CMRR Management stood down all operations at CMRR/RLUOB to conduct an all-hands safety briefings.
<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: CAO-PF and CMRR FOD By When: 12/23/2009
<b>Division or Project:</b>	CMRR-RLUOB
<b>Plant Area:</b>	RLUOB
<b>System/Building/Equipment:</b>	Electrical Wiring
<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>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01Q--Inadequate Conduct of Operations - Personnel error 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 08K--OSHA Reportable/Industrial Hygiene - Near Miss (Other) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency

**HQ Summary:** On November 17, 2009, a qualified electrical Rosendin Electric worker received a high-hazard (277 volts) electrical shock in the Radiological Laboratory Utility Office Building while installing a ceiling tile around an existing junction box that was mounted on a ceiling grid. He was approximately 6-feet high on an 8-foot fiberglass ladder with his head above the ceiling tile and his arms leaning against the metal ceiling grid. The worker installed the ceiling tile and then discovered the junction box was too large for the hole cut in the ceiling tile. The worker then removed the junction box and placed it on the metal ceiling grid when he felt a tingling sensation in both arms. He did not fall off the ladder. The worker was wearing leather work gloves and a long-sleeved shirt with the sleeves pushed back but was not wearing electrical personal protective equipment. The worker was escorted to LANL Occupational Medicine, examined and returned to work with no restrictions.

**Similar OR Report Number:**

<b>Facility Manager:</b>	Name	Rick Holmes
	Phone	(505) 606-2389
	Title	CMRR Facility Operations Director

<b>Originator:</b>	Name	HAKONSON-HAYES, AUDREY C
	Phone	(505) 667-9364
	Title	OCCURRENCE INVESTIGATOR

<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	11/17/2009	18:05 (MTZ)	Mike Smith	DOE HQ

<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	11/17/2009	16:24 (MTZ)	Ed Christie	NNSA

**Authorized Classifier(AC):** Kimberli Tanner      Date: 11/18/2009

**4)Report Number:** [NA--LASO-LANL-TA55-2009-0020](#) After 2003 Redesign

**Secretarial Office:** National Nuclear Security Administration

**Lab/Site/Org:** Los Alamos National Laboratory

**Facility Name:** Plutonium Proc & Handling Fac

**Subject/Title:** Management Concern: Deficiencies Identified in Work Control Process

**Date/Time Discovered:** 11/18/2009 14:30 (MTZ)

**Date/Time Categorized:** 11/18/2009 15:30 (MTZ)

**Report Type:** Notification

<b>Report Dates:</b>	Notification	11/20/2009	16:51 (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 Trane		
<b>Occurrence Description:</b>	<p><b>MANAGEMENT SYNOPSIS:</b> On Wednesday, November 18, 2009, at approximately 1430, at Technical Area 55, Building 66 (TA-55-66), during a management observation and verification (MOV) walk down of a heating ventilation and air conditioning (HVAC) maintenance job, the TA-55 maintenance manager (MSS-TA55) stopped work because of discrepancies with controls identified in the integrated work document (IWD) Specifically, the subcontractor employees (Trane) had decided that a lockout tagout was not necessary because the work package also contained an SOP for Diagnostics and Testing of Energized Electrical Circuits (DTEEC), which is no longer supposed to be used. The TA-55 facility operations director (FOD) originally categorized the event as non-compliance with hazardous energy control. A critique of the event was held the next day. After the critique the FOD re-categorized the event as a management concern because there was no hazardous energy present but several deficiencies in the work control process were identified.</p> <p><b>BACKGROUND:</b> An HVAC unit on the roof of TA-55-66 developed a refrigerant leak and needed repair. A facilities maintenance IWD was initiated in September 2009. On November 18, 2009 technicians from Trane arrived at TA-55 to do the repair work. When the maintenance and site services, field work execution (MSS-FWE) superintendent checked the schedule he found the work had not been included in the plan of the day. Further investigation revealed that the USQD on the work package was not complete. The Trane technicians were in high demand and if they did not complete the work on that day it was uncertain when they could be re-scheduled. The MSS-FWE superintendent walked the work package through the remaining steps of the approval process while the Trane technicians waited. The process was completed at approximately 1130 and a pre-job briefing was held.</p>		

	<p>During the pre-job briefing the hazards and mitigations were discussed. Although the use of DTEEC forms was supposed to have been discontinued several months prior to this event, there was a DEETC form included in the work package. The controls in the work package included a lockout/ tagout for electrical and mechanical hazards. The electrical hazards were the power to the HVAC and the mechanical hazards were the cooling fans.</p> <p>The Trane technicians discussed the hazards with the MSS-FWE superintendent, the superintendent was also the person in charge (PIC) for the work to be done. The Trane technician stated that the HVAC unit had several safety interlocks, including one which disabled the fans if there was no refrigerant present in the system. The electrical part of the repair work was checking the controls to the HVAC unit, which were powered by less than 50 volts. Since the electrical work was less than 50 volts and the fans would be disabled, the Trane technician decided the DTEEC form could be used instead of lockout / tagout. The PIC agreed and the work was initiated.</p> <p>At approximately 1430, the TA-55 maintenance manager arrived to perform a MOV. He checked the IWD and noticed the first step was a lockout / tagout. He went to the electrical switch and found no lockout / tagout. The maintenance manager asked the workers why there was no lockout / tagout and was told they were using the DTEEC form instead. The maintenance manager stopped work and began the notification process.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	HVAC repair on roof of TA-55-66
<b>Activity Category:</b>	Maintenance
<b>Immediate Action(s):</b>	<p>Work on the HVAC repair project was stopped.</p> <p>A critique was held the next day. During the critique the Trane technicians stated that they were not aware the DTEEC forms were no longer in use because the work packages they used throughout LANL still included the forms. They also stated those forms were generated to address specific work and were less than 6 months old. No one could identify how the DTEEC forms were being added to work packages.</p> <p>Based on the discrepancies identified in the critique the FOD directed that all TA-55 work packages be reviewed for DTEEC forms, further investigation to determine the source of the forms, and the re-issue of instructions not to use the DTEEC forms be sent to all employees involved in the process.</p>
<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: MSS-FWE, TA55-FOD By When:
<b>Division or Project:</b>	MSS-FWE
<b>Plant Area:</b>	TA-55
<b>System/Building/Equipment:</b>	TA-55, Building 66, HVAC unit
<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) 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01H--Inadequate Conduct of Operations - Inadequate Safety Analysis/USQs 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 01R--Inadequate Conduct of Operations - Management issues 11G--Other - Subcontractor 12B--EH Categories - Conduct of Operations 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
<b>HQ Summary:</b>	On November 18, 2009, at Technical Area 55, Building 66, during a management observation and verification walk down of a heating ventilation and air conditioning maintenance job, the TA-55 maintenance manager stopped work because of discrepancies with controls identified in the integrated work document. Specifically, the subcontractor employees (Trane) had decided that a lockout/tagout was not necessary because the work package also contained a Standard Operating Procedure for Diagnostics and Testing of Energized Electrical Circuits which is no longer supposed to be used. A critique of the event was held. The facility operations director categorized the event as a management concern because there was no hazardous energy present but several deficiencies in the work control process were identified.
<b>Similar OR Report Number:</b>	

<b>Facility Manager:</b>	Name	Stuart McKernan		
	Phone	(505) 667-7501		
	Title	Deputy Facility Operations Manager		
<b>Originator:</b>	Name	HUNSINGER, MARK W		
	Phone	(505) 665-1496		
	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
	11/18/2009	16:00 (MTZ)	Art Trujillo	NNSA/FR
<b>Authorized Classifier(AC):</b>	Mark Hunsinger      Date: 11/20/2009			

<b>5)Report Number:</b>	<a href="#">NE-ID--BEA-RTC-2009-0002</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Nuclear Energy, Science and Technology		
<b>Lab/Site/Org:</b>	Idaho National Laboratory		
<b>Facility Name:</b>	Reactor Technology Complex		
<b>Subject/Title:</b>	Electrical Burn of ATR Programs Maintenance Craft Electrician		
<b>Date/Time Discovered:</b>	11/16/2009 08:30 (MTZ)		
<b>Date/Time Categorized:</b>	11/16/2009 10:54 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	11/17/2009	18:56 (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 4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	No		

<b>Occurrence Description:</b>	At approximately 0830 on November 16, 2009, electrical work was in progress in building TRA-604 to connect a battery charger to the 604 battery bank when there was an electrical arc caused by an electrician incorrectly short-circuiting the battery bank. Work Order (WO) 136189 required that the 120-cell, 240 volt direct current (dc) battery bank system be changed to two 60-cell, 120 volt dc battery bank systems in parallel so that a 120 volt dc charger could be connected. There was no wiring diagram in the WO but the steps did give direction to connect two 60-cell battery banks in parallel. The electrician doing the work was not wearing personnel protective equipment (PPE) and received burns to both hands from the electrical arc.
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	The Advanced Test Reactor was shut down for the Cycle 145B-1, 14-day outage.
<b>Activity Category:</b>	Maintenance
<b>Immediate Action(s):</b>	<p>The ATR Maintenance Manager was informed at 0840 and immediately informed the ATR Station Manager. The general foreman took the injured electrician to the ATR Complex dispensary for medical assistance. Both hands were bandaged and the electrician was driven to the Central Facility Area (CFA) dispensary to see a doctor. The CFA doctor evaluated the electrician and found first and second degree burns over five percent of his hands. He bandaged the electrician's hands, dispensed a pain reliever and released the electrician to be driven home.</p> <p>Electrical work was stopped and access was secured to TRA-604 battery room pending results of a critique scheduled for 1330 hours, November 16, 2009.</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>	ATR Programs
<b>Plant Area:</b>	TRA-604 Battery Room
<b>System/Building/Equipment:</b>	TRA-604
<b>Facility Function:</b>	Category "A" Reactors
<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>01Q--Inadequate Conduct of Operations - Personnel error</p>

	08D--OSHA Reportable/Industrial Hygiene - Injury 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency												
<b>HQ Summary:</b>	On November 16, 2009, while connecting a battery charger to the 604 battery bank in building TRA-604, an electrician incorrectly short-circuited the battery bank and caused an electrical arc. The electrician was not wearing personnel protective equipment and received burns to both hands. The Work Order did not have a wiring diagram but did give directions to change the 120-cell, 240-volt direct current (dc) battery bank system to a parallel two 60-cell, 120-volt dc battery bank system so that a 120-volt dc charger could be connected. The Central Facility Area doctor evaluated the electrician and found first- and second-degree burns over five percent of his hands. He bandaged the electrician's hands, dispensed a pain reliever, and released the electrician to be driven home. Electrical work was stopped and access was secured to the battery room pending the results of a critique.												
<b>Similar OR Report Number:</b>													
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>SCHUEBERT, EDMOND J</td> </tr> <tr> <td>Phone</td> <td>(208) 533-4246</td> </tr> <tr> <td>Title</td> <td>ATR Operations Facility Manager</td> </tr> </table>	Name	SCHUEBERT, EDMOND J	Phone	(208) 533-4246	Title	ATR Operations Facility Manager						
Name	SCHUEBERT, EDMOND J												
Phone	(208) 533-4246												
Title	ATR Operations Facility Manager												
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>OWENS, MARJORIE A</td> </tr> <tr> <td>Phone</td> <td>(208) 533-4563</td> </tr> <tr> <td>Title</td> <td>ATR OPERATIONS FACILITY ADMINISTRATI</td> </tr> </table>	Name	OWENS, MARJORIE A	Phone	(208) 533-4563	Title	ATR OPERATIONS FACILITY ADMINISTRATI						
Name	OWENS, MARJORIE A												
Phone	(208) 533-4563												
Title	ATR OPERATIONS FACILITY ADMINISTRATI												
<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>11/16/2009</td> <td>15:29 (MTZ)</td> <td>R. Denning</td> <td>DOE-ID</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	11/16/2009	15:29 (MTZ)	R. Denning	DOE-ID				
Date	Time	Person Notified	Organization										
11/16/2009	15:29 (MTZ)	R. Denning	DOE-ID										
<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>11/16/2009</td> <td>10:57 (MTZ)</td> <td>R. Denning</td> <td>DOE-ID</td> </tr> <tr> <td>11/16/2009</td> <td>15:29 (MTZ)</td> <td>J. Geringer</td> <td>DOE-ID</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	11/16/2009	10:57 (MTZ)	R. Denning	DOE-ID	11/16/2009	15:29 (MTZ)	J. Geringer	DOE-ID
Date	Time	Person Notified	Organization										
11/16/2009	10:57 (MTZ)	R. Denning	DOE-ID										
11/16/2009	15:29 (MTZ)	J. Geringer	DOE-ID										
<b>Authorized Classifier(AC):</b>	E. Bruce Criswell      Date: 11/17/2009												

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<b>6)Report Number:</b>	<a href="#">NE-ID--BEA-SMC-2009-0015</a> After 2003 Redesign
<b>Secretarial Office:</b>	Nuclear Energy, Science and Technology
<b>Lab/Site/Org:</b>	Idaho National Laboratory
<b>Facility Name:</b>	Specific Manufacturing Capability
<b>Subject/Title:</b>	Construction Sub-Contractor Work Performed Without Following Hazardous Energy Control Process

<b>Date/Time Discovered:</b>	11/24/2009 08:30 (MTZ)		
<b>Date/Time Categorized:</b>	11/24/2009 09:15 (MTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	11/30/2009	11:18 (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 4) Perform Work Within Controls		
<b>Subcontractor Involved:</b>	Yes Eagle Rock Timber		
<b>Occurrence Description:</b>	<p>At approximately 0830 hours on 11/24/2009, a construction sub-contractor removed an electrical component during a construction activity without following the prescribed hazardous energy control process (Specific Manufacturing Capability (SMC) outage request).</p> <p>The construction sub-contractor was in the process of removing an abandoned liquefied petroleum gas (LPG) filling station, east of SMC. Laborers for the sub-contractor were instructed on 11/23/09 not to proceed with any work on the electrical components of the fill station until prints and or supporting evidence could be located documenting the panel was de-energized/abandoned.</p> <p>An SMC outage had been initiated on 11/16/2009 to determine the status of the system but had not been completed or opened.</p> <p>Contrary to the direction given on 11/23/2009, the sub-contractor performed the work without knowing the status of the system or prescribed hazard mitigation such as zero energy verification.</p>		
<b>Cause Description:</b>			
<b>Operating Conditions:</b>	Construction/Demo		
<b>Activity Category:</b>	Construction		
<b>Immediate Action(s):</b>	ALL work on this construction project has been placed on hold until construction management evaluates sub-contract work practices.		
<b>FM Evaluation:</b>	To be determined		

<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: M Park By When: 01/01/2010						
<b>Division or Project:</b>	Idaho National Laboratory						
<b>Plant Area:</b>	SMC						
<b>System/Building/Equipment:</b>	Yard area/abandon LPG fill station						
<b>Facility Function:</b>	Uranium Conversion/Processing and Handling						
<b>Corrective Action:</b>							
<b>Lessons(s) Learned:</b>							
<b>HQ Keywords:</b>	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01T--Inadequate Conduct of Operations - Willful Violation 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 11G--Other - Subcontractor 12B--EH Categories - Conduct of Operations 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency						
<b>HQ Summary:</b>	On November 24, 2009, a construction subcontractor removed an electrical component without following the prescribed hazardous energy control process. The construction subcontractor was in the process of removing an abandoned liquefied petroleum gas (LPG) filling station, east of Specific Manufacturing Capability (SMC). Subcontractor laborers were instructed on November 23, 2009, not to proceed with any work on the fill station electrical components. No work was to start until prints and/or supporting evidence could be located documenting whether the panel was de-energized or abandoned. However subcontractor personnel performed the work without knowing the status of the system or prescribed hazard mitigation such as zero energy verification. All construction project work has been placed on hold.						
<b>Similar OR Report Number:</b>							
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td>Park Michael D</td> </tr> <tr> <td>Phone</td> <td>(208) 526-6555</td> </tr> <tr> <td>Title</td> <td>SMC DEPUTY OPS Manager</td> </tr> </table>	Name	Park Michael D	Phone	(208) 526-6555	Title	SMC DEPUTY OPS Manager
Name	Park Michael D						
Phone	(208) 526-6555						
Title	SMC DEPUTY OPS Manager						
<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td>GERDES, ANNETTE W</td> </tr> <tr> <td>Phone</td> <td>(208) 526-6355</td> </tr> <tr> <td>Title</td> <td>OPERATIONS SUPPORT</td> </tr> </table>	Name	GERDES, ANNETTE W	Phone	(208) 526-6355	Title	OPERATIONS SUPPORT
Name	GERDES, ANNETTE W						
Phone	(208) 526-6355						
Title	OPERATIONS SUPPORT						

<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	11/24/2009	09:30 (MTZ)	James, Ronald L	DOE-ID
<b>Authorized Classifier(AC):</b>	Karl Griffin      Date: 11/30/2009			

<b>7)Report Number:</b>	<a href="#">SC--ASO-ANLE-ANLEMCS-2009-0001</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Science		
<b>Lab/Site/Org:</b>	Argonne National Laboratory East		
<b>Facility Name:</b>	Math and Computer Science		
<b>Subject/Title:</b>	Energized 208V Power Cable Cut in Building 221 Machine Room - No Injuries		
<b>Date/Time Discovered:</b>	11/12/2009 11:00 (CTZ)		
<b>Date/Time Categorized:</b>	11/12/2009 17:28 (CTZ)		
<b>Report Type:</b>	Notification		
<b>Report Dates:</b>	Notification	11/16/2009	16:30 (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>	At approximately 11:00 on November 12, 2009, a Math and Computing Science Division worker was decommissioning an IBM robot tape library in the Building 221 machine room and accidentally cut a live 208V, 30A power cable. Power to the tape device components was supplied through three 208V power distribution units (PDUs) located within the device. Each PDU was supplied power through its own power cord terminated at each end with twist lock connectors. The three power cords were fed to the device through two small floor slots and connected under the floor into standard 208V receptacles.		

	<p>The day before the incident the worker removed the twist lock connector cables from two of the PDUs, one from each floor opening, believing that these were the sole power sources to the device. The cords were disconnected without incident.</p> <p>On the day of the incident, just before removal of the device from the room as excess, the last task was to cut through a bundle of half a dozen thick Small Computer System Interface (SCSI) data cables that fed through the floor slots. Unbeknownst to the worker, there was a third PDU fed from a third power cable within the bundle of data cables. The power cables looked nearly identical to the SCSI cables in both diameter and color. Wearing cloth gloves, and using a pair of linesman rubber-handled wire cutters, the worker proceeded to cut the data cables just above the entry point from the floor. There was a flash when the power cable was cut, and the worker immediately dropped the wire cutters. There was no injury or shock to the worker from cutting into the power cable. The employee stopped work immediately when the incident occurred, and contacted his supervisor via an instant message. The supervisor asked expressly whether the worker received any burns or received a shock, and he indicated that he had not; they mutually agreed he did not need to go to Medical for an evaluation. The supervisor sent another worker to make sure all power was removed from the system and cables. While the second worker was on his way, the first worker manually tripped the breaker feeding the 208V receptacle, noting that the breaker feeding the cut wire did not trip. The second worker then arrived and did a zero energy check to ensure the circuit was completely disabled. The power cord was then disconnected from the receptacle beneath the floor.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Normal
<b>Activity Category:</b>	Facility Decontamination/Decommissioning
<b>Immediate Action(s):</b>	Work stopped on disassembly and worker reported to supervisor. Second worker dispatched to do zero energy checks on power line.
<b>FM Evaluation:</b>	A formal investigation was initiated on 11/13/2009.
<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: Investigation Team</p> <p>By When:</p>
<b>Division or Project:</b>	Math and Computing Science Division
<b>Plant Area:</b>	200 Area

<b>System/Building/Equipment:</b>	Building 221 Machine Room 132																							
<b>Facility Function:</b>	Laboratory - Research & Development																							
<b>Corrective Action:</b>																								
<b>Lessons(s) Learned:</b>																								
<b>HQ Keywords:</b>	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency																							
<b>HQ Summary:</b>	<p>On November 12, 2009, a Math and Computing Science Division worker was decommissioning an IBM robot tape library in the Building 221 machine room and accidentally cut an energized 208-volt, 30-amp power cable that was in a bundle of data cables. Power to the tape device components was supplied through three 208-volt power distribution units (PDUs) located within the device. The day before the incident the worker had removed the cables from two of the PDUs without incident and believed that these were the only power sources to the device. The worker was unaware of the third PDU and that a third power cable was in the bundle of data cables. Wearing cloth gloves, and using a pair of linesman rubber-handled wire cutters, the worker cut the data cables. There was a flash when the power cable was cut, and the worker immediately dropped the wire cutters. There was no injury or shock. Work was stopped and an investigation was initiated.</p>																							
<b>Similar OR Report Number:</b>																								
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">DYRKACZ, GARY R</td> </tr> <tr> <td>Phone</td> <td colspan="3">(630) 252-7478</td> </tr> <tr> <td>Title</td> <td colspan="3">ALD ESH COORDINATOR</td> </tr> </table>				Name	DYRKACZ, GARY R			Phone	(630) 252-7478			Title	ALD ESH COORDINATOR										
Name	DYRKACZ, GARY R																							
Phone	(630) 252-7478																							
Title	ALD ESH COORDINATOR																							
<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										
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11/12/2009	17:28 (CTZ)	Sue Brindle	COA
11/12/2009	17:28 (CTZ)	Rick Stevens	CELS
11/12/2009	17:45 (CTZ)	John Houck	DOE-ASO

**Authorized Classifier(AC):**

<b>8)Report Number:</b>	<a href="#">SC--PSO-PPPL-PPPL-2009-0007</a> After 2003 Redesign		
<b>Secretarial Office:</b>	Science		
<b>Lab/Site/Org:</b>	Princeton Plasma Physics Laboratory		
<b>Facility Name:</b>	Princeton Plasma Physics Lab. (BOP)		
<b>Subject/Title:</b>	Hit energized line while drilling		
<b>Date/Time Discovered:</b>	11/21/2009 15:00 (ETZ)		
<b>Date/Time Categorized:</b>	11/23/2009 08:45 (ETZ)		
<b>Report Type:</b>	Final		
<b>Report Dates:</b>	Notification	11/23/2009	10:47 (ETZ)
	Initial Update	11/23/2009	11:47 (ETZ)
	Latest Update	11/23/2009	13:10 (ETZ)
	Final	11/23/2009	13:10 (ETZ)
	Revision 1	11/23/2009	15:32 (ETZ)
<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>	A1B2C03 - Design/Engineering Problem; Design output LTA; Design output not correct		
<b>ISM:</b>	6) N/A (Not applicable to ISM Core Functions as determined by management review.)		
<b>Subcontractor Involved:</b>	No		
<b>Occurrence Description:</b>	Prior to beginning the drilling through a concrete floor to replace a potable water pipe, workers consulted drawings and used Ferroskan detection equipment to verify the presence or absence of conductors or other metals. Neither the drawings nor the detection equipment revealed the presence of an embedded conduit in the concrete floor at the site of the drilling. However, as the drilling into the concrete proceeded, an embedded energized electrical conduit for lighting in a tunnel under the room where the work was taking place was contacted and cut. The workers had completed, before beginning the work, all the proper paperwork including		

	the Job Hazard Analysis (JHA). Individuals were using the proper PPE. No injuries occurred. No further damage to the facility occurred. Workers were not aware of the incident until they subsequently determined that lights were out in the adjacent tunnel.			
<b>Cause Description:</b>	Drawings did not indicate correct location of conduit.			
<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>	System was locked out/tagged out (safed). Work in the area was discontinued.			
<b>FM Evaluation:</b>	Only concern is the PPPL Facility Manager was not notified per internal procedure. PPPL supervisors and staff to be reminded of notification requirements			
<b>DOE Facility Representative Input:</b>				
<b>DOE Program Manager Input:</b>				
<b>Further Evaluation is Required:</b>	No			
<b>Division or Project:</b>	PPPL			
<b>Plant Area:</b>	Vacuum Cntl Rm			
<b>System/Building/Equipment:</b>	D-Site			
<b>Facility Function:</b>	Laboratory - Research & Development			
<b>Corrective Action 01:</b>	<table border="1"> <tr> <td><b>Target Completion Date:</b> 11/23/2009</td> <td><b>Actual Completion Date:</b> 11/23/2009</td> </tr> </table>		<b>Target Completion Date:</b> 11/23/2009	<b>Actual Completion Date:</b> 11/23/2009
<b>Target Completion Date:</b> 11/23/2009	<b>Actual Completion Date:</b> 11/23/2009			
	Remind all workers and supervisors that the Site Protection Staff, available 24/7, needs to be informed of all off-normal events immediately.			
<b>Lessons(s) Learned:</b>				
<b>HQ Keywords:</b>	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 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 November 21, 2009, workers contacted an energized electrical conduit while performing drilling activities. Prior to beginning the drilling through a concrete floor to replace a potable water pipe, workers consulted drawings and used Ferrosan detection equipment to verify the presence or absence of conductors or other metals. Neither the drawings nor the			

	detection equipment revealed the presence of an embedded conduit in the concrete floor at the site of the drilling. However, as the drilling into the concrete proceeded, an embedded energized electrical conduit for lighting in a tunnel under the room where the work was taking place was contacted and cut. Before beginning the work, the workers had completed all the proper paperwork including the Job Hazard Analysis (JHA). Individuals were using the proper PPE. No injuries occurred. No further damage to the facility occurred. Workers were not aware of the incident until they subsequently determined that lights were out in the adjacent tunnel.															
<b>Similar OR Report Number:</b>	1. None															
<b>Facility Manager:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">SAMTMANN, C. CRAIG</td> </tr> <tr> <td>Phone</td> <td colspan="3">(609) 243-2899</td> </tr> <tr> <td>Title</td> <td colspan="3">HEAD OF SITE PROTECTION DIVISION</td> </tr> </table>				Name	SAMTMANN, C. CRAIG			Phone	(609) 243-2899			Title	HEAD OF SITE PROTECTION DIVISION		
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<b>Originator:</b>	<table border="1"> <tr> <td>Name</td> <td colspan="3">MALS BURY, JUDITH A</td> </tr> <tr> <td>Phone</td> <td colspan="3">(609) 243-2415</td> </tr> <tr> <td>Title</td> <td colspan="3">HEAD, QUALITY ASSURANCE</td> </tr> </table>				Name	MALS BURY, JUDITH A			Phone	(609) 243-2415			Title	HEAD, QUALITY ASSURANCE		
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11/23/2009	09:00 (ETZ)	Leif Dietrich	DOE/PSO													
<b>Authorized Classifier(AC):</b>																

<b>9)Report Number:</b>	<a href="#">SC--TJSO-JSA-TJNAF-2009-0006</a> After 2003 Redesign														
<b>Secretarial Office:</b>	Science														
<b>Lab/Site/Org:</b>	Thomas Jefferson National Accelerator Site														
<b>Facility Name:</b>	Thomas Jefferson Nat'l Accelerator														
<b>Subject/Title:</b>	ENG-09-1116-NEW, Unexpected Discovery of Hazardous Energy in West Arc Service Building														
<b>Date/Time Discovered:</b>	11/13/2009 08:00 (ETZ)														
<b>Date/Time Categorized:</b>	11/16/2009 13:00 (ETZ)														
<b>Report Type:</b>	Notification														
<b>Report Dates:</b>	<table border="1"> <tr> <td>Notification</td> <td>11/17/2009</td> <td>11:18 (ETZ)</td> </tr> <tr> <td>Initial Update</td> <td></td> <td></td> </tr> <tr> <td>Latest Update</td> <td></td> <td></td> </tr> <tr> <td>Final</td> <td></td> <td></td> </tr> </table>			Notification	11/17/2009	11:18 (ETZ)	Initial Update			Latest Update			Final		
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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>On Friday, Nov 13th at 6am, Jefferson Lab's Machine Control Center (MCC) reported a problem with a power supply located in Building 68. Two technicians reported to the MCC, went to building 68 and confirmed the problem, and began preparing to correct it.</p> <p>During initial troubleshooting, it was confirmed that one of the six power supplies was suspect. The technicians confirmed that the cabling associated with the bank of power supplies was labeled; however, the breaker above the unit was not. It was then assumed that this breaker fed the entire bank of power supplies.</p> <p>The breaker at the top of the rack was switched to the off position, with the assumption that this controlled power to all components in the rack. Voltage measurements were then taken for the suspect power supply to confirm that the item was de-energized. Per the fact finding meeting, it showed no voltage and the work continued.</p> <p>Leads from the suspect power supply were then disconnected and allowed to hang down behind the unit. The leads arc'ed against a bracket, causing the live breaker to open and then drop power to the suspect power supply. The association of the tripped breaker to the equipment being serviced was not obvious to the technicians.</p> <p>The area was then secured and the technicians called their supervisor. He informed them that the required breaker for that one particular power supply was not located above the bank, but instead was located two racks down, near the floor.</p> <p>The units were then locked out and the suspect power supply replaced. An Extent of Condition check was later conducted, where it was determined that this situation is not present in other areas of the Accelerator.</p>
<b>Cause Description:</b>	
<b>Operating Conditions:</b>	Heavy rain, 60 degrees F
<b>Activity Category:</b>	Normal Operations (other than Activities specifically listed in this Category)
<b>Immediate Action(s):</b>	The bank of power supplies was locked out and an extent of condition

	check conducted for similar setups in the Accelerator. None were found.
<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: Todd Kujawa By When:
<b>Division or Project:</b>	Jefferson Science Associates
<b>Plant Area:</b>	West Arc Svc Bldg
<b>System/Building/Equipment:</b>	MYA8T01 Power Supply, building 68 (West Arc Service Building)
<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) 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01Q--Inadequate Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
<b>HQ Summary:</b>	On November 13, 2009, while troubleshooting a power supply problem in Building 68, technicians disconnected electrical leads from the suspect power supply and allowed them to hang down behind the unit; however the leads were energized and arced against a bracket, causing a circuit breaker to open. The power supply cables were labeled but the circuit breaker above the power supply unit was not. The technicians had opened this circuit breaker assuming that it fed the entire bank of power supplies. However, after the incident the technician's supervisor informed them that the required circuit breaker was not located above the power supply bank, but instead was two racks down near the floor. The bank of power supplies was locked out. An extent of condition check was conducted for similar setups in the accelerator and none were found.
<b>Similar OR Report Number:</b>	
<b>Facility Manager:</b>	Name SMITH, STEPHEN JAY

	Phone	(757) 269-7007		
<b>Originator:</b>	Name	SMITH, STEPHEN JAY		
	Phone	(757) 269-7007		
	Title	LEAD QUALITY AND SAFETY ENGINEER		
<b>HQ OC Notification:</b>	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
<b>Other Notifications:</b>	Date	Time	Person Notified	Organization
	11/16/2009	13:15 (ETZ)	Steve Neilson	TJSO
<b>Authorized Classifier(AC):</b>	Stephen Smith		Date: 11/16/2009	

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