

October 2009 Electrical Safety Occurrences

There were 13 electrical safety occurrences for October 2009:

- 4 occurrences resulted in shocks
- 3 occurrences involved cut or severed electrical conductors and 1 occurrence involved penetration with a screw
- 5 occurrences involved inadequate lockout/tagout (LOTO)
- 4 occurrences involved electrical workers, 8 involved non-electrical workers, and 1 is unknown
- 8 occurrences involved subcontractors
- 4 occurrences resulted from inadequate planning

October events continue to follow the adverse trend that started in August. What is more concerning than the increased number of events is the increasing severity of these events. We should consider these numbers as a predictive sign that if action is not taken; a serious injury or fatality is in our near future. The Electrical Severity Measurement Tool can be used in screening the more serious events and help predict when recordable injuries will occur. The information provided at the annual Electrical Safety Workshop should be incorporated into our programs to meet the challenge presented to us to move to the next level in performance. Recommendations from the workshop include self-assessments to determine program health that focus on: protection of non-electrical personnel, control of subcontractor work, LOTO execution, and hazard analysis processes. These areas continue to recur as causes to the electrical events reported.

As cooler months begin, we should be prepared for electrical hazards that arise as temporary heaters are used more often. Extension cord sets and ice-melting equipment have been severed by snow-removal operations in previous winters. Heat trace wiring has been the cause of shocks and hazard exposures. As we seemed to have done with excavation hazards, we should anticipate the events that we have seen previously, and take preemptive steps to avoid the same mistakes. Use of tools such as human performance initiatives and ISM should be considered when attempting to address electrical hazards in our workplaces.

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, 13 events were identified. Please continue to report all events and screen the events using the Electrical Severity Measurement Tool.

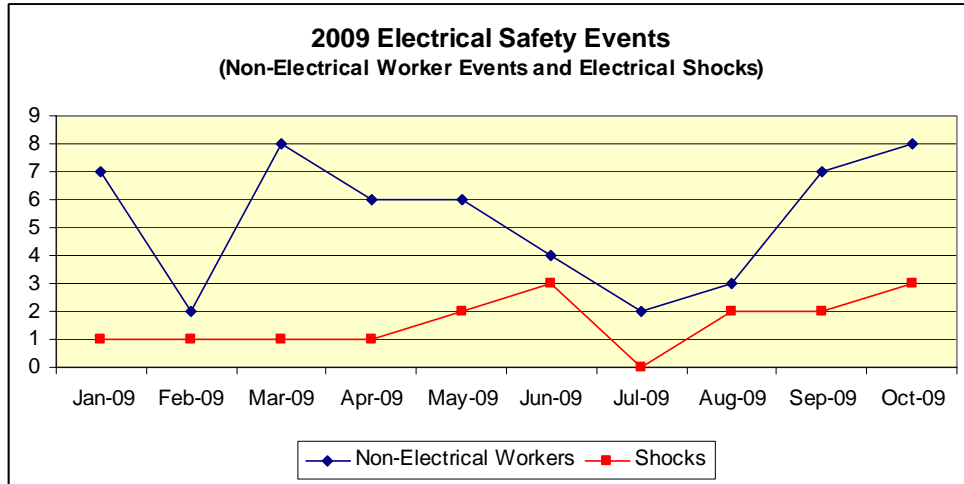
Below is the current summary of 2009 electrical safety occurrences:

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
2009 total	107 (avg. 10.7/month)	20	2	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

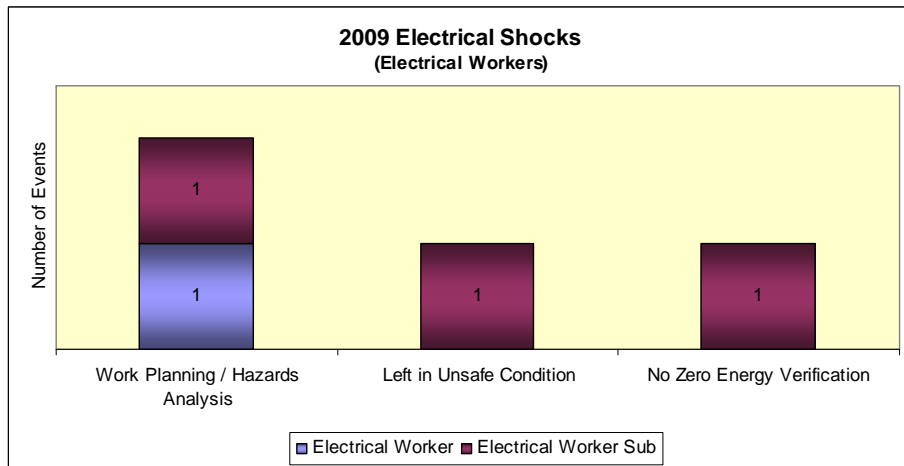
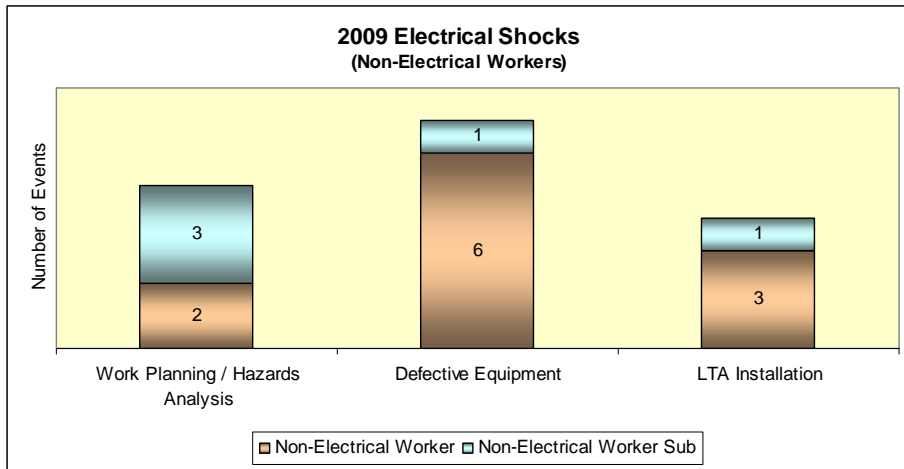
Ten months through the calendar year, the average rate of electrical safety occurrences in 2009 is 10.7 per month, which is above the average rate of 9.4 per month experienced in 2008. The 2009 average rate remains below the 2004 – 2007 average rates. Severity of events is increasing, and the number of events continues to be a cause for concern, and should be considered a predictive indicator of more severe occurrences.

Areas of Concern

Since July 2009, there has been a steady increase in electrical safety events involving non-electrical workers. The main concern is the number of events in which non-electrical workers came in contact with electrical energy. So far this year there have been 20 electrical shocks, of which 16 involved non-electrical workers. In the first five months of 2009, non-electrical workers were involved in 29 electrical events with 6 resulting in an electrical shock. In the second five month period, non-electrical workers were involved in 24 events with 10 resulting in an electrical shock.

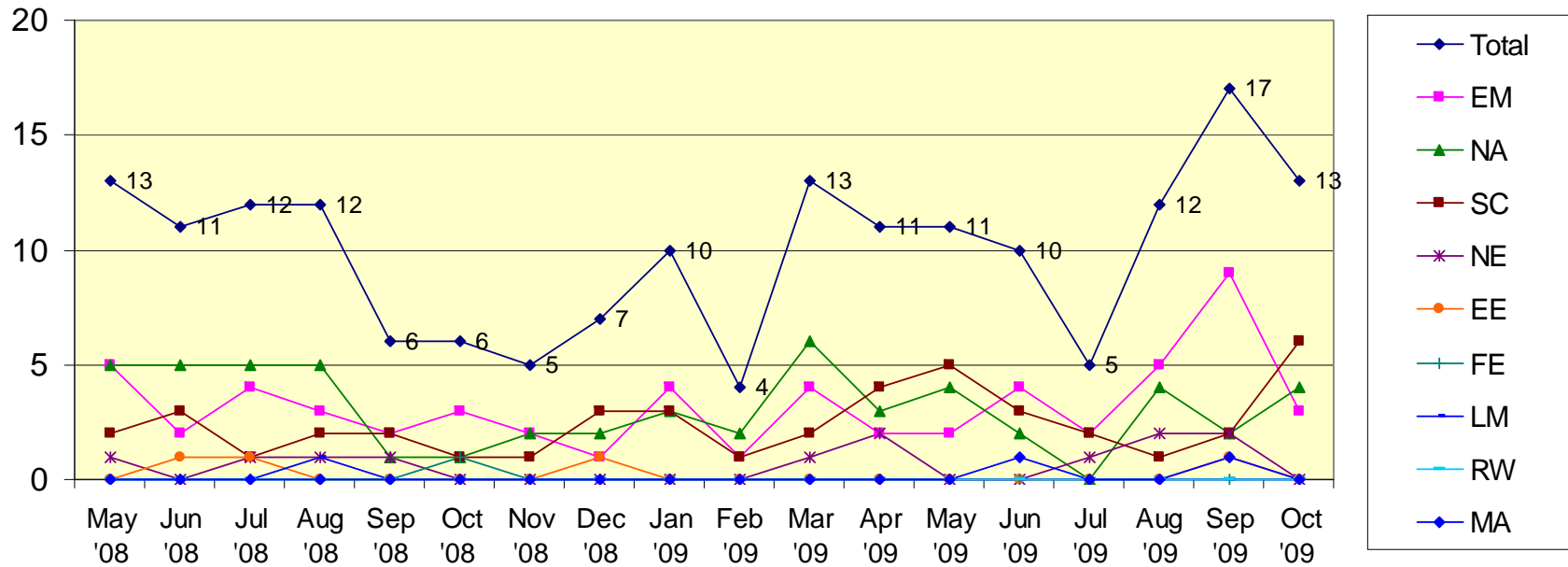


When we look at the causes for non-electrical worker shocks we see that 69 percent resulted from contact with defective equipment or less than adequate installations that provided an exposed hazard to the worker. The other 31 percent involved deficiencies in work planning/hazards analysis. If we look at the causes for electrical worker shocks we see that they are evenly divided between unsafe work practices and work planning/hazards analysis deficiencies. Subcontractors were involved in 31 percent of non-electrical worker events and 75 percent of electrical worker events.



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 – October 2009

No	Report Number	Event Summary	SHOCK	BURN	ARCF ⁽¹⁾	LOTO ⁽²⁾	PLAN ⁽³⁾	EXCAV ⁽⁴⁾	CUT/D ⁽⁵⁾	VEH ⁽⁶⁾	SC ⁽⁷⁾	RC ⁽⁸⁾	ES ⁽⁹⁾
1	EM-CAFO--WTS-WIPP-2009-0011	A mining machine severs 13.8 kV cable.							X		3	10(2)	2100
2	EM-ID--CWI-IWTU-2009-0006	A scissor lift damaged a power cord.					X		X		3	10(3)	0
3	EM-RL--CPRC-CENTPLAT-2009-0008	A service panel was found open and unattended.									3	2C(2)	0
4	NA--LASO-LANL-ADOADMIN-2009-0004	An energized conductor arced when moved by a painter.				X	X				3	2C(2)	200
5	NA--LASO-LANL-MATSCCMPLX-2009-0002	Electrical equipment was disconnected before LOTO was completely in place.				X					3	10(2)	0
6	NA--LSO-LLNL-LLNL-2009-0034	Worker receives electrical shock from a broken light casing.	X								2	2C(2)	1650
7	NA--SS-SNL-NMFAC-2009-0008	Worker receives electrical shock from an energized conductor while working above a ceiling.	X								2	2C(1)	550
8	SC--AMSO-AMES-AMES-2009-0003	Worker receives an electrical shock when touching equipment with faulty insulation.	X								3	2C(2)	
9	SC--BSO-LBL-OPERATIONS-2009-0008	Worker severs energized conductor while removing abandoned electrical equipment.				X	X		X		3	2C(2)	
10	SC--BSO-LBL-OPERATIONS-2009-0009	Worker was performing work near energized electrical component without LOTO.				X	X				3	2C(2)	
11	SC--PNSO-PNNL-PNNLBOPER-2009-0017	Worker receives electrical shock when contacting a metal-clad cable.	X								3	2C(1)	
12	SC--PNSO-PNNL-PNNLNUCL-2009-0005	Workers failed to apply LOTO to energized conductors before removing cover.				X					3	2C(2)	0
13	SC-ORO--ORNL-X10WEST-2009-0004	Workers penetrated the back of an electrical panel with a screw and hit energized conductors.							X		3	2C(2)	
	TOTAL		4	0	0	5	4	0	4	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

Electrical Safety Occurrences – (Month) 2009

No	Report Number	Event Summary	EW ⁽¹⁾	N-EW ⁽²⁾	SUB ⁽³⁾	HFW ⁽⁴⁾	WFH ⁽⁵⁾	PPE ⁽⁶⁾	70E ⁽⁷⁾	VOLT ⁽⁸⁾		C/I ⁽⁹⁾	NEUT ⁽¹⁰⁾	NM ⁽¹¹⁾
										H	L			
1	EM-CAFO--WTS-WIPP-2009-0011	A mining machine severs 13.8 kV cable.		X		X				X				X
2	EM-ID--CWI-IWTU-2009-0006	A scissor lift damaged a power cord.		X	X	X					X			X
3	EM-RL--CPRC-CENTPLAT-2009-0008	A service panel was found open and unattended.					X				X			
4	NA--LASO-LANL-ADODADMIN-2009-0004	An energized conductor arced when moved by a painter.		X	X	X					X			
5	NA--LASO-LANL-MATSCCMPLX-2009-0002	Electrical equipment was disconnected before LOTO was completely in place.	X		X		X				X			
6	NA--LSO-LLNL-LLNL-2009-0034	Worker receives electrical shock from a broken light casing.		X		X					X			X
7	NA--SS-SNL-NMFAC-2009-0008	Worker receives electrical shock from an energized conductor while working above a ceiling.	X		X	X					X			
8	SC--AMSO-AMES-AMES-2009-0003	Worker receives an electrical shock when touching equipment with faulty insulation.		X		X					X			
9	SC--BSO-LBL-OPERATIONS-2009-0008	Worker severs energized conductor while removing abandoned electrical equipment.		X	X	X					X			X
10	SC--BSO-LBL-OPERATIONS-2009-0009	Worker was performing work near energized electrical component without LOTO.	X		X		X				X			
11	SC--PNSO-PNNL-PNNLBOPER-2009-0017	Worker receives electrical shock when contacting a metal-clad cable.		X	X	X					X			
12	SC--PNSO-PNNL-PNNLNUCL-2009-0005	Workers failed to apply LOTO to energized conductors before removing cover.	X		X		X				X			
13	SC-ORO--ORNL-X10WEST-2009-0004	Workers penetrated the back of an electrical panel with a screw and hit energized conductors.		X		X					X			
	TOTAL		4	8	8	9	4	0	0	1	12	0	0	4

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 54418 OR(s) with 57736 occurrences(s) as of 11/4/2009 6:40:03 AM
 Query selected 13 OR(s) with 13 occurrences(s) as of 11/4/2009 2:52:41 PM

Download this report in Microsoft Word format. 

1)Report Number:	EM-CAFO--WTS-WIPP-2009-0011 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Carlsbad Field Office		
Facility Name:	Waste Isolation Pilot Plant		
Subject/Title:	Near Miss - Underground Mining Machine Contacted Electrical Cable		
Date/Time Discovered:	10/13/2009 21:12 (MTZ)		
Date/Time Categorized:	10/15/2009 17:15 (MTZ)		
Report Type:	Update		
Report Dates:	Notification	10/16/2009	15:44 (ETZ)
	Initial Update	10/19/2009	14:08 (ETZ)
	Latest Update	10/22/2009	18:08 (ETZ)
	Final		
Significance Category:	3		
Reporting Criteria:	<p>10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)</p> <p>10(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)</p>		
Cause Codes:			
ISM:	2) Analyze the Hazards		
Subcontractor Involved:	No		
Occurrence Description:	On October 13, 2009, during the normal backshift for the underground (U/G) mining crew a 13.8 kV feeder cable was damaged causing multiple breakers in the U/G to trip. The miner operator, the spotter and crew manager were in the immediate area at the time of the occurrence. The		

crew was assigned the task of trimming the ribs in the newly mined area of Panel 6 in the U/G. The crews had just finished trimming the west rib of Room 4 with the mining machine and were in the process of positioning the mining machine on the east rib (wall) of Room 4 in S2750. The operator was located on the east side of the mining machine approximately 5 feet away. The spotter was on the west side of the mining machine approximately 15 feet away. The crew manager was on the east side of the mining machine approximately 25 feet away. The operator, who was utilizing the radio frequency driven remote control to operate the mining machine, was positioning the machine to line-up with the rib, having to maneuver between the north rib and the opening to Room 4. The laser, used in the guidance process, was located on the north rib. A Portable Power Center (PPC) was located west of the mining machine in S2750 on the north rib. A feeder cable and ground cable were running along the south rib of S2750 hanging from the back (roof). The feeder and ground cable continued this path until just past the opening of Room 4 where it was hung across the drift (south to north in a diagonal line) to the PPC. As the operator was making his last cut prior to going to lunch (2020 hours), the cutter head on the mining machine caught a sag in the ground wire hanging from the back. When the ground cable became entangled in the cutting head it caused several J-hooks to break. The J-hooks were holding the 13.8 kV feeder cable and the ground wire to the back. When the hooks broke this allowed the feeder cable to drop onto the miner, resulting in the feeder cable becoming entangled in the cutting head. At this point the 13.8 kV feeder cable was damaged causing the PPC breaker to trip as well as the breaker to the feeder cable (CB-2 in Switchstation 4). The operator, spotter and Crew Manager all observed sparks for a very brief moment. As the cable fell it struck the spotter on the back of his right hand and left lower leg. The spotter was evaluated by an Emergency Service Technician (EST) and required only minor first aid for a scrape on his left lower leg.

A barrier was placed to isolate the area and the feeder breaker to the PPC was locked out and tagged. It was observed that at least one bit on the mining machine's cutting head had penetrated the feeder cable.

A debrief was held to gain first-hand knowledge and input, including distractions and error precursors, from the workers involved. When personnel involved in the work activity were asked if they felt pressured to get the job done, the consensus was that they were not pressured or rushed. The operator mentioned he was just trying to get the miner lined up to initiate a straight cut to trim the East rib after their dinner break.

Discussion about the configuration of the equipment relative to the electrical distribution components identified several error precursors that were not recognized prior to the incident. The operators mentioned that they were not used to seeing the feeder cable and the PPC located in the

configuration that they were in (located on the back adjacent to room entries). When asked what determines the placement of the PPC and the feeder cable, the operators and crew manager all stated it depended on the current job. The main issue for placement of the PPC was the amount of trailing cable available from the PPC to the miner. The placement of the feeder cable was typically already done when the miners started their jobs. When questioned about input from the equipment operators for placement of the PPC and feeder cable, the operators stated that they typically were not involved in the decisions related to placement of utilities.

A WIPP Form has been submitted to document the incident and track completion of corrective actions.

An event critique is scheduled for 10/19/09 when the necessary attendees are available.

UPDATE 10/20/09: On 10/13/09, the event was classified as non-reportable pending further investigation. After a Debrief was conducted and preliminary investigations concluded, the event was categorized as a Management Concern 10(2)3 on 10/15/09 and an ORPS was issued on 10/16/09.

Since that time, an Event Critique was conducted on 10/19/09 and an engineering evaluation was performed. Upon examining the additional facts derived from the critique and engineering evaluations, it was concluded that the event should be re-categorized as a Group 10, (3), SC-3, A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence.

The conclusion was based on the following:

- 1) During the event, the 13.8kV feeder cable was dislodged from its supporting "J" hooks and fell to the floor, contacting the equipment spotter on his right hand and left shin. He received a superficial abrasion to his left shin and was examined by an Emergency Services Technician who released him back to work with no restrictions. There were no barriers between the falling cable and the spotter which could have resulted in a serious occupational injury.
- 2) The mining machine operator was utilizing a radio frequency driven remote control to operate the mining machine when the cutter head on the continuous mining machine contacted the energized 13.8kV cable. The cutter bits damaged the insulation on the cable which was evidenced by the visible sparks and tripping of the breakers on the upstream switching station and portable power center. Separation from the continuous mining machine was the only barrier between the operator and potentially energized equipment. The operator could have suffered a serious occupational injury from contact with energized equipment.

A Root Cause Analysis (RCA) will be performed and a final RCA report is scheduled for issuance on 11/12/09. Additional corrective actions,

	<p>applicable cause codes and Lessons Learned will incorporated in this report as they become available.</p> <p>UPDATE 10/22/09: Five new corrective actions identified in the Event Critique and corresponding site tracking numbers have been included in this report. Applicable cause codes and any additional corrective actions will be identified when the Root Cause Analysis Report has been issued.</p>
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	<p>Employee was taken for medical evaluation and received first aid treatment.</p> <p>A barrier was placed around the affected area.</p> <p>Electrical power (feeder breaker) was locked out and tagged.</p> <p>Mining activities were suspended.</p> <p>Photographs were taken at the scene.</p> <p>A debrief was conducted after incident scene was safely secured.</p> <p>An NCR was generated to determine any additional damage to the mining machine and Portable Power Center (PPC).</p> <p>A WIPP Form was submitted.</p>
FM Evaluation:	<p>Employee was taken for medical evaluation and received first aid treatment. A barrier was placed around the affected area. Electrical power (feeder breaker) was locked out and tagged. Mining activities were suspended. A Debrief was conducted.</p> <p>Based on the initial evaluations of the Debrief, this event was categorized as a non-reportable occurrence on 10/13/09. After the initial categorization, additional evaluations were conducted and on 10/15/09 and determined to be a reportable occurrence. In-depth event investigations are being conducted at this time and the results of those investigations will be updated in this report as those results become available.</p> <p>UPDATE 10/19/09: Replaced titles with names of personnel in Other Notifications section and made clarification change from miner to mining machine in Description of Occurrence section.</p> <p>UPDATE 10/20/09: On 10/13/09, the event was classified as non-</p>

reportable pending further investigation. After a Debrief was conducted and preliminary investigations concluded, the event was categorized as a Management Concern 10(2)3 on 10/15/09 and an ORPS was issued on 10/16/09.

Since that time, an Event Critique was conducted on 10/19/09 and an engineering evaluation was performed. Upon examining the additional facts derived from the critique and engineering evaluations, it was concluded that the event should be re-categorized as a Group 10, (3), SC-3, A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence.

The conclusion was based on the following:

1) During the event, the 13.8 kV feeder cable was dislodged from its supporting “J” hooks and fell to the floor, contacting the equipment spotter on his right hand and left shin. He received a superficial abrasion to his left shin and was examined by an Emergency Services Technician who released him back to work with no restrictions. There were no barriers between the falling cable and the spotter which could have resulted in a serious occupational injury.

2) The mining machine operator was utilizing a radio frequency driven remote control to operate the mining machine when the cutter head on the continuous mining machine contacted the energized 13.8kV cable. The cutter bits damaged the insulation on the cable which was evidenced by the visible sparks and tripping of the breakers on the upstream switching station and portable power center. Separation from the continuous mining machine was the only barrier between the operator and potentially energized equipment. The operator could have suffered a serious occupational injury from contact with energized equipment.

A Root Cause Analysis (RCA) will be performed and a final RCA report is scheduled for issuance on 11/12/09. Additional corrective actions, applicable cause codes and Lessons Learned will be incorporated in this report as they become available.

UPDATE 10/22/09: Five new corrective actions identified in the Event Critique and corresponding site tracking numbers have been included in this report. Applicable cause codes and any additional corrective actions will be identified when the Root Cause Analysis Report has been issued.

DOE Facility Representative Input:

DOE Program Manager Input:

Further Evaluation is Required:

Yes.
Before Further Operation? No
By Whom: Operations
By When:

Division or Project:

WTS/WIPP

Plant Area:	Underground
System/Building/Equipment:	Mining equipment/Electric power cable
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action 01:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Evaluate configuration of Portable Power Centers (PPCs), cabling and other utilities relative to mining equipment operations in the underground. This corrective action is being tracked under site Commitment Tracking System (CTS) number 34493.
Corrective Action 02:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Gather input from equipment operators on placement of PPCs, cabling and other utilities and incorporate in the work control process. This corrective action is being tracked under site CTS number 34494.
Corrective Action 03:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Review current Job Hazard Analysis (JHAs) and pre-job briefings to ensure that the proximity of powered cables and utilities relative to equipment operations is evaluated and addressed. This corrective action is being tracked under site CTS number 34495.
Corrective Action 04:	Target Completion Date: 11/05/2009 Actual Completion Date:
	Develop and issue Lessons Learned for this occurrence. This corrective action is being tracked under site CTS number 34496.
Corrective Action 05:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Develop a safety briefing specific to the safe operation of applicable mining machines/equipment and the unique hazards related to mining machine/equipment operation, and present to all applicable operators. This corrective action is being tracked under site CTS number 34497.
Corrective Action 06:	Target Completion Date: 11/19/2009 Actual Completion Date:
	Include this event into the current Hazard Recognition training program as part of the JHA Improvement Initiatives. This corrective action is being tracked under site CTS number 34498.
Corrective Action 07:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Evaluate pre-job walkdowns to ensure that changed hazards/conditions are specifically looked for. This corrective action is being tracked under site CTS number 34499.

Corrective Action 08:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Emphasize hazard recognition in areas of familiarity and risk tolerance. This corrective action is being tracked under site CTS number 34500.
Corrective Action 09:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Review mining practices with respect to energized cables or obstacles. This corrective action is being tracked under site CTS number 34501.
Corrective Action 10:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Evaluate work packages to ensure they specifically call out a safe working distance from obstacles, such that if not met, the object is moved. This corrective action is being tracked under site CTS number 34502.
Corrective Action 11:	Target Completion Date: 10/30/2009 Actual Completion Date:
	Evaluate adequacy of operational control of the continuous mining machines under the task demands and environmental conditions experienced during this event. This corrective action is being tracked under site CTS number 34503.
Lessons(s) Learned:	
HQ Keywords:	07B--Electrical Systems - Electrical Distribution 08D--OSHA Reportable/Industrial Hygiene - Injury 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 13E--Management Concerns - Facility Call Sheet 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 13, 2009, while trimming walls in a newly mined area in the underground (U/G), a mining crew damaged a 13.8-kV feeder cable causing multiple circuit breakers in the U/G to trip. As the mining machine operator made his last cut on the walls, the cutter head on the machine caught a sag in a ground wire, which became entangled in the cutting head, causing several J-hooks to break. The J-hooks were holding the 13.8-kV feeder cable and the ground wire to the roof of the mine. When the hooks broke, the feeder cable dropped onto the mining machine, resulting in the feeder cable becoming entangled in the cutting head. The operator, spotter and Crew Manager briefly observed sparks. As the cable fell, it also struck the spotter on the back of his right hand and left lower leg. The spotter was evaluated by an Emergency Service Technician and required only minor

	first aid for a scrape on his left lower leg. A barrier was placed to isolate the area and the feeder breaker was locked out and tagged. A critique will be held.			
Similar OR Report Number:	1. EM-ID--CWI-IWTU-2009-0006			
	2. SC-CH-BA-FNAL-FERMILAB-2003-0001			
Facility Manager:	Name	BRYAN, WESLEY		
	Phone	(575) 234-8250		
	Title	FACILITY MANAGER		
Originator:	Name	KNOX, JEFF W.		
	Phone	(575) 234-8462		
	Title	TECHNICAL COORDINATOR		
HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
Other Notifications:	Date	Time	Person Notified	Organization
	10/13/2009	21:12 (MTZ)	Hardy Bellows	WTS/DFM
	10/13/2009	21:12 (MTZ)	Alvy Williams	WTS/FSM
	10/13/2009	21:15 (MTZ)	Wesley Bryan	WTS/FM
	10/14/2009	06:30 (MTZ)	Jeff Knox	WTS/FMD
	10/15/2009	17:15 (MTZ)	Farok Sharif	WTS/GM
	10/15/2009	17:15 (MTZ)	David Moody	CBFO/MGR
	10/13/2009	21:37 (MTZ)	Kenny Padilla	CBFO/FR
	10/15/2009	17:15 (MTZ)	Vernon Daub	CBFO/DM
Authorized Classifier(AC):				

2)Report Number:	EM-ID--CWI-IWTU-2009-0006 After 2003 Redesign		
Secretarial Office:	Environmental Management		
Lab/Site/Org:	Idaho National Laboratory		
Facility Name:	Integrated Waste Treatment Unit		
Subject/Title:	Scissor Lift Contacts 240 V Temporary Electrical Cable Resulting In An Arc at the IWTU Construction Site		
Date/Time Discovered:	10/08/2009 07:15 (MTZ)		
Date/Time Categorized:	10/08/2009 09:40 (MTZ)		
Report Type:	Notification		
Report Dates:	Notification	10/08/2009	17:52 (ETZ)
	Initial Update		

	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
Cause Codes:			
ISM:			
Subcontractor Involved:	Yes Intermech		
Occurrence Description:	<p>At approximately 1600 hours on 10/07/2009 a scissor lift used for welding to HVAC ducting contacted a temporary 240 volt electrical cable which arced. The HVAC subcontract welder/scissor lift operator had finished his work for the day and was lowering the scissor lift when the lift contacted the cable. He then raised the lift up and moved the line and lowered the lift to the ground position. The HVAC subcontract welder/scissor lift operator and spotter did not see any damage to the cable and did not report the arcing condition. They cleaned up the area and plugged the scissor lift into an electrical outlet to charge the battery</p> <p>At approximately 0715 hours on 10/08/2009 another HVAC subcontract welder noticed that the electrical cable looked like it had a bulge and cordoned off the area and notified management of a possible damaged cord. Inspection of the cord showed that about 2 inches of the outer covering had been scraped away and about 1 inch of the covering on the neutral wire was missing exposing bare wire. The scissor lift had an arc burn mark.</p> <p>The DOE facility representative (FR) was notified at 0857 and the event was classified as a near miss at 0940 since it had the potential for exposure to electrical energy. The FR concurs with the classification as Group 10, Sequence (3), Significance Category 3 - A near-miss where no barrier or only one barrier prevented an event from having a reportable consequence. The near miss is Group 2, Sequence (5), Significance Category 3 - Personnel exposure to chemical, biological, or physical hazards above limits established by the OSHA (refer to 20 CFR Part 1910) or American Conference of Government Industrial Hygienists.</p> <p>A fact finding was held at 1100 hours on 10/08/2009 to determine the facts that led up to the event and the break down in reporting.</p>		
Cause Description:			

Operating Conditions:	The weather conditions were partially cloudy, with wind around 15 miles per hour.
Activity Category:	Construction
Immediate Action(s):	<ol style="list-style-type: none"> 1. A barricade was placed around the electrical cord and scissor lift by the HVAC subcontract employee that found the damaged electrical cord. 2. HVAC subcontract employees initiated a step-back until the cable could be inspected. 3. HVAC subcontract employees notified HVAC subcontract safety and site manager 4. HVAC subcontract site manager notified the URS-WD-C safety manager 5. HVAC subcontract site manager notified the URS-WD-C electrical superintendent 6. URS-WD-C construction manager took the scissor lift, electrical cable, and breaker box out of service 7. URS-WD-C construction manager inspected the construction site for the condition of the other scissor lifts, power cables and breaker boxes 8. URS-WD-C construction manager issued a formal stop work for the HVAC sub contractor 9. HVAC sub contractor conducted a safety stand down for all personnel to review safety procedures and policies 10 IRB held at 1100 hours on 10/08/2009
FM Evaluation:	The HVAC subcontract employees were not familiar with the JSA that had been identified for the work package by URS-WD-C. They did not understand the need to report incidents and problem as they occurred. Communication of construction managements expectation need to be reiterated to subcontract employees and management.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes.</p> <p>Before Further Operation? Yes</p> <p>By Whom: URS-WD-C Construction Mgr</p> <p>By When: 10/15/2009</p>
Division or Project:	Integrated Waste Treatment Unit
Plant Area:	IWTU
System/Building/Equipment:	IWTU Offgas Area
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)

	01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process Deficiency								
HQ Summary:	On October 7, 2009, a scissor lift used for welding to HVAC ducting contacted a temporary 240V electrical cable with a resulting arc but no electrical shock to personnel. The HVAC subcontract welder/scissor lift operator had finished his work for the day and was lowering the scissor lift when the lift contacted the cable. The HVAC subcontract welder/scissor lift operator and spotter did not see any damage to the cable and did not report the arcing condition. On October 8, 2009, another HVAC subcontract welder noticed that the electrical cable looked like it had a bulge and cordoned off the area. Management notifications were made. Inspection of the cord showed that about two inches of the outer covering had been scraped away and about one inch of the covering on the neutral wire was missing exposing bare wire. The scissor lift had an arc burn mark. HVAC subcontract employees initiated a step-back until the cable could be inspected. A fact finding meeting was held. HVAC subcontractor management conducted a safety stand down for all personnel to review safety procedures and policies.								
Similar OR Report Number:									
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>Benner, Archie M</td> </tr> <tr> <td>Phone</td> <td>(208) 520-4964</td> </tr> <tr> <td>Title</td> <td>Operations/Facility Manager</td> </tr> </table>	Name	Benner, Archie M	Phone	(208) 520-4964	Title	Operations/Facility Manager		
Name	Benner, Archie M								
Phone	(208) 520-4964								
Title	Operations/Facility Manager								
Originator:	<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								
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA
Date	Time	Person Notified	Organization						
NA	NA	NA	NA						
Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>10/08/2009</td> <td>09:57 (MTZ)</td> <td>Brad Davis</td> <td>DOEID</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	10/08/2009	09:57 (MTZ)	Brad Davis	DOEID
Date	Time	Person Notified	Organization						
10/08/2009	09:57 (MTZ)	Brad Davis	DOEID						
Authorized Classifier(AC):	Casteel, Michael S Date: 10/08/2009								

3)Report Number:	EM-RL--CPRC-CENTPLAT-2009-0008 After 2003 Redesign
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site

Facility Name:	Central Plateau Remediation Project		
Subject/Title:	Exposed Electrical Hazard -- ARRA		
Date/Time Discovered:	10/01/2009 11:00 (PTZ)		
Date/Time Categorized:	10/01/2009 11:00 (PTZ)		
Report Type:	Notification		
Report Dates:	Notification	10/05/2009	16:11 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:			
Subcontractor Involved:	No		
Occurrence Description:	<p>On the morning of Friday September 11, 2009 at 0944 hours a Service Disconnect panel (H8X898 DS-2 service disconnect switch for PP-ARRA-2), located behind MO-2319 in the 200 West area, was discovered open with energized wiring exposed. The door is secured by two latches and two screws that fasten the panel door closed. Since the panel was energized with exposed electrical wires, it was closed to preclude potential exposure to workers.</p> <p>The panel is a Service Disconnect Switch, 800A/600VAC 120/240V 1PH 800A. The concern was that the panel door was secured and later left open. The individual responsible for opening the energized panel is unknown and no work had occurred or been authorized since the time the panel was made operational on August 6, 2009.</p>		
Cause Description:			
Operating Conditions:	Does not apply		
Activity Category:	Construction		
Immediate Action(s):	<ol style="list-style-type: none"> 1) The panel was closed and the door secured via the two latches and screws. 2) CHPRC Management was notified. 3) On Monday September 14, 2009, two locks were placed on the panel to ensure that the door could not open accidentally. 4) On October 5, 2009, an investigation was conducted to try to gather 		

	more information about the possible reason the door was in an open position while remaining energized.						
FM Evaluation:							
DOE Facility Representative Input:							
DOE Program Manager Input:							
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: By When:						
Division or Project:	CHPRC/Balance of Site S&M						
Plant Area:	200 West Area						
System/Building/Equipment:	Near MO-2319 /						
Facility Function:	Environmental Restoration Operations						
Corrective Action:							
Lessons(s) Learned:							
HQ Keywords:	08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 13H--Management Concerns - American Recovery and Reinvestment Act (ARRA) 14E--Quality Assurance - Work Process Deficiency						
HQ Summary:	On September 11, 2009, a Service Disconnect panel, located behind MO-2319 in the 200 West Area, was discovered open with energized wiring exposed. The door is secured by two latches and two screws that fasten the panel door closed. The panel is a Service Disconnect Switch, 800A/600VAC 120/240V 1PH 800A. The concern was that the panel door was secured and later left open by an unknown individual. No work had occurred or been authorized since the time the panel was made operational on August 6, 2009. The panel was closed with the two latches and screws and later with two locks. An investigation is being conducted.						
Similar OR Report Number:							
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>D. L. Romine</td> </tr> <tr> <td>Phone</td> <td>(509) 376-1880</td> </tr> <tr> <td>Title</td> <td>Manager, Balance of Site S&M Operations</td> </tr> </table>	Name	D. L. Romine	Phone	(509) 376-1880	Title	Manager, Balance of Site S&M Operations
Name	D. L. Romine						
Phone	(509) 376-1880						
Title	Manager, Balance of Site S&M Operations						
Originator:	<table border="1"> <tr> <td>Name</td> <td>Morris, Karen R</td> </tr> <tr> <td>Phone</td> <td>(509) 373-5152</td> </tr> <tr> <td>Title</td> <td>OPERATIONS SPECIALIST</td> </tr> </table>	Name	Morris, Karen R	Phone	(509) 373-5152	Title	OPERATIONS SPECIALIST
Name	Morris, Karen R						
Phone	(509) 373-5152						
Title	OPERATIONS SPECIALIST						
HQ OC Notification:	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> </table>	Date	Time	Person Notified	Organization		
Date	Time	Person Notified	Organization				

	NA	NA	NA	NA	
Other Notifications:	Date	Time	Person Notified	Organization	
	10/01/2009	11:00 (PTZ)	R.E. Wilkinson	BOS S&M	
	10/01/2009	11:00 (PTZ)	L.E. Harville	BOS S&M	
	10/01/2009	11:01 (PTZ)	R.V. Johnson	DOE-RL	
Authorized Classifier(AC):					

4)Report Number:	NA--LASO-LANL-ADOADMIN-2009-0004 After 2003 Redesign		
Secretarial Office:	National Nuclear Security Administration		
Lab/Site/Org:	Los Alamos National Laboratory		
Facility Name:	ADO Administration		
Subject/Title:	Near Miss: Worker Discovers Uncontrolled Electrical Energy while Working on Ladder		
Date/Time Discovered:	10/01/2009 01:15 (MTZ)		
Date/Time Categorized:	10/02/2009 08:00 (MTZ)		
Report Type:	Notification		
Report Dates:	Notification	10/06/2009	15:50 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	<p>2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.</p> <p>10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)</p>		
Cause Codes:			
ISM:			
Subcontractor Involved:	Yes Austin Commercial, Rosedin Electric, Chamberlin		
Occurrence Description:	Management Synopsis: At 0115 on October 1, 2009, a Chamberlin worker		

pushed two electrical wires into a metal electrical box mounted approximately 8 feet above the ground. The wires (277v/20 amp) made contact with the metal box and arced. The worker was startled but did not fall off the ladder. The box contained a single phase conductor with hot, neutral, and ground wires. The wires had been cut and were not stripped. The box did not have a metal cover plate and the wires did not have wire nuts. The worker, a painter who was taping over electrical boxes, switches, and outlets, was not wearing electrical personal protective equipment (PPE). The painting task does not require the use of electrical PPE as the workers are not expected to be exposed to an electrical hazard. The National Electric Code prohibited shock boundary for the electrical condition was 3 feet. During an extent of condition walk down, a second electrical box, with tape applied over it, was found to be energized. The wires in the second electrical box had been cut, not stripped, and did not have wire nuts installed.

An electrical severity score of 200 has been calculated for the event. The score is based on the worker being within the NFPA 70E defined restricted approach boundary of 1 foot to zero inches for this voltage system with no PPE, and electrical hazard factor of 50, and that there was no injury to the worker.

The event was identified to the CMRR safety and management during the evening of 1 October (after most of the electrical contractor staff had departed). A preliminary evaluation was made of the work areas scheduled for painting that evening to ensure safe conditions to precede. Facts were gathered during the evening of 1 October and the morning of 2 October.

The event was preliminarily categorized at 0804 on October 2, 2009, as a Group 2C(2). At the critique, the Facility Operations Director (FOD) determined the event also met the Group 10(3) Near Miss to an electrical shock.

Background: The Radiological Laboratory Utility Office Building (RLUOB) is currently under construction. The work is predominantly occurring inside the facility where electrical wiring is being performed by the Austin Commercial subcontractor Rosendin Electric. On October 1, 2009, a Chamberlin worker noticed wiring protruding from an electrical box mounted on a wall. He stated he stepped onto the first rung of the ladder and proceeded to push the wiring into the electrical box by hand so he could apply tape over the box to protect it during painting. The Chamberlin Foreman stated the worker had performed the same activity on two prior occasions without incident. The worker stated he had taken the Chamberlin non-energized worker training. The Rosendin Superintendent stated the electrical line in the room had been abandoned when a design

	change resulted in the planned line being re-routed. It is unknown when the line was energized by removal of the lock out/tag out (LO/TO) or why the wire nuts and a box cover were not in place. The room where the event occurred was not walked down prior to work being performed.
Cause Description:	
Operating Conditions:	Construction
Activity Category:	Construction
Immediate Action(s):	<p>1) The worker made immediate notification to his Superintendent, who promptly notified Austin Commercial. Notification to LANL was at approximately 1600 on October 1, 2009.</p> <p>2) The Chamberlin Superintendent paused work in the room.</p> <p>3) The electrical circuit was de-energized by LO/TO. Wire nuts and a cover plate were installed.</p> <p>4) An extent of condition walk down was performed in the same room and a second electrical box was discovered energized, without wire nuts or a cover plate. This box was also placed in a safe configuration by LO/TO. Wire nuts and a cover plate were installed.</p> <p>5) Rosendin Electric performed an extent of condition throughout the entire RLUOB facility on Friday October 2, 2009 and found no other similar occurrences.</p> <p>6) Tuesday October 6, 2009, All employees shall receive training for electrical hazard identification for non-electrical personnel and this training will be conducted at the all hands safety meeting. Attendance will be taken.</p> <p>7) Site Orientation Training will be changed the week of October 5th to include hazard identification for non-electrical personnel.</p>
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes.</p> <p>Before Further Operation? No</p> <p>By Whom: CAO-PF</p> <p>By When: 11/19/2009</p>
Division or Project:	CMRR-RLUOB
Plant Area:	RLUOB
System/Building/Equipment:	electrical wiring
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration

	Management/Control 01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance 01F--Inadequate Conduct of Operations - Training Deficiency 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14B--Quality Assurance - Training and Qualification Deficiency 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency								
HQ Summary:	<p>On October 1, 2009, a subcontractor painter pushed two energized electrical wires into a metal electrical box mounted approximately 8 feet above the ground. The 277V/20 amp wires made contact with the metal box and arced. The worker did not receive an electrical shock. The box did not have a metal cover plate and the wires did not have wire nuts. The painter was taping over electrical boxes, switches, and outlets. The painter was not wearing electrical personal protective equipment (PPE). The painting task does not require the use of electrical PPE as the workers are not expected to be exposed to an electrical hazard. During an extent of condition walk down, a second electrical box, with tape applied over it, was found to be energized. The wires in the second electrical box had been cut, not stripped, and did not have wire nuts installed. An electrical severity score of 200 has been calculated for the event. A fact finding meeting was held. All workers will receive Electrical Hazard Identification training for non-electrical personnel.</p>								
Similar OR Report Number:									
Facility Manager:	<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								
Originator:	<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								
HQ OC Notification:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table>	Date	Time	Person Notified	Organization	NA	NA	NA	NA
Date	Time	Person Notified	Organization						
NA	NA	NA	NA						

Other Notifications:	Date	Time	Person Notified	Organization
	10/02/2009	11:15 (MTZ)	Ron Fontana	NNSA

Authorized Classifier(AC): Susan J. Voss Date: 10/06/2009

5)Report Number:	NA--LASO-LANL-MATSCCMPLX-2009-0002 After 2003 Redesign		
Secretarial Office:	National Nuclear Security Administration		
Lab/Site/Org:	Los Alamos National Laboratory		
Facility Name:	Materials Science Complex		
Subject/Title:	Management Concern: Lockout/Tagout Discrepancy Identified with Equipment Removal		
Date/Time Discovered:	10/22/2009 15:30 (MTZ)		
Date/Time Categorized:	10/22/2009 17:30 (MTZ)		
Report Type:	Notification		
Report Dates:	Notification	10/26/2009	20:49 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)		
Cause Codes:			
ISM:			
Subcontractor Involved:	Yes Field Electron and Ion Technology Company		
Occurrence Description:	MANAGEMENT SYNOPSIS: On October 22, 2009, at 1530, as the project manager and the Science and Technology Operations (STO) operations manager were walking through Room C135 of Technical Area 3, Building 1698, they discovered a piece of programmatic equipment had been disconnected without the proper lockout and tagout in place. As part of the re-modification project in Room C135 for the Materials Technology Metallurgy Group (MST-6), the Field Electron and Ion Technology Company (FEI) personnel were tasked to disassemble and remove the equipment after the facility electricians had locked and tagged out the associated circuit breaker. The MST-6 person-in-charge (PIC) had		

	<p>informed the FEI personnel the electrician was contacted on October 20, 2009, to perform the disconnect. However, no lockout or tagout was completed before the equipment was disconnected. Upon discovery, the STO operations manager paused the work to lock and tag out the equipment. After the equipment was locked and tagged out, the work was resumed. There was no impact to the safety of personnel, the facility, or operations.</p> <p>At 1730, the STO Facility Operations Director Designee declared a management concern relative to the lockout/tagout discrepancy with the equipment removal.</p>
Cause Description:	
Operating Conditions:	Equipment Removal
Activity Category:	Construction
Immediate Action(s):	<p>1. The STO operations manager paused the work to lock and tag out the equipment. After the equipment was locked and tagged out, work resumed on the project.</p> <p>2. The MST-6 person-in-charge (PIC) re-iterated to the FEI personnel to only take work direction and guidance from the MST-6 PIC.</p>
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes. Before Further Operation? No By Whom: MST-DO, STO-DO & CAO-PF By When: 12/04/2009</p>
Division or Project:	Materials Science and Technology Division
Plant Area:	TA-3-1698-C135
System/Building/Equipment:	TA-3-1698-C135
Facility Function:	Laboratory - Research & Development
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	<p>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</p>
HQ Summary:	On October 22, 2009, as the project manager and the Science and Technology Operations (STO) operations manager were walking through

Room C135 of Technical Area 3, Building 1698, they discovered a piece of programmatic equipment had been disconnected without the proper lockout and tagout in place. As part of the re-modification project in Room C135, personnel were tasked to disassemble and remove the equipment after the facility electricians had locked and tagged out the associated circuit breaker. However, no lockout or tagout was completed before the electricians disconnected the equipment. The STO operations manager stopped the work to lock and tag out the equipment. After the equipment was locked and tagged out, the work was resumed. There was no impact to the safety of personnel, the facility, or operations.

Similar OR Report Number:

Facility Manager:	Name	Rick Alexander
	Phone	(505) 665-7020
	Title	STO Facility Operations Director Designee

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

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

Other Notifications:	Date	Time	Person Notified	Organization
	10/22/2009	17:40 (MTZ)	Ed Christie	NNSA
	10/22/2009	17:42 (MTZ)	Susan Stewart	NNSA

Authorized Classifier(AC): Linda Collier Date: 10/26/2009

6)Report Number: [NA--LSO-LLNL-LLNL-2009-0034](#) **After 2003 Redesign**

Secretarial Office: National Nuclear Security Administration

Lab/Site/Org: Lawrence Livermore National Lab.

Facility Name: Lawrence Livermore Nat. Lab. (BOP)

Subject/Title: Worker Receives Electric Shock When Finger Enters Into Broken Light Switch Casing in Building 235 Kitchen

Date/Time Discovered: 10/22/2009 09:15 (PTZ)

Date/Time Categorized: 10/22/2009 11:00 (PTZ)

Report Type: Notification

Report Dates:	Notification	10/23/2009	17:45 (ETZ)
	Initial Update		
	Latest Update		
	Final		

Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	<p>On October 22, 2009, at 0915 in Building 235, Room 1091 Kitchen, a Defense Technologies Engineering Division (DTED) worker attempted to turn on the lights with the light switch and received an electrical shock.</p> <p>The DTED worker was sitting at a table in the kitchen working. A second worker recommended the DTED worker use more light. The DTED worker went to the motion sensor light switch assembly on the wall and attempted to flip the manual switch (located on the bottom of the assembly) to the "Auto" position. The toggle switch was missing and the DTED worker's finger went up into the switch case opening and the DTED worker received a shock. The DTED worker was taken to Health Services as a precaution and received first aid. There were no signs of burns or abrasion to the DTED worker's finger. The DTED worker returned to work without restrictions. The broken motion sensor assembly was secured and then replaced within one hour. Electricians confirmed the circuit was 277 volts and 20 amps. The Electrical Safety Subject Matter Expert calculated the Electrical Severity Measurement Tool score to be 1650, which is in the 'high' range.</p>
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	The DTED worker was taken to Health Services and received first aid. The broken motion sensor assembly was secured and then replaced within one hour.
FM Evaluation:	<p>The Final Report is due to the ORO by 12/3/2009.</p> <p>The Final Report is due for entry into ORPS by 12/6/2009.</p>
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No

	By Whom: Brad Thomson By When: 12/03/2009															
Division or Project:	O&B															
Plant Area:	Site 200															
System/Building/Equipment:	Building 235 Rm 1091 Light Switch															
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)															
Corrective Action:																
Lessons(s) Learned:																
HQ Keywords:	01O--Inadequate Conduct of Operations - Inadequate Maintenance 07E--Electrical Systems - Electrical Equipment Failure 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08D--OSHA Reportable/Industrial Hygiene - Injury 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															
HQ Summary:	On October 22, 2009, a Defense Technologies Engineering Division worker attempted to turn on the lights with the light switch in Building 235, Room 1091 Kitchen, and received an electrical shock. While attempting to flip the manual switch on the bottom of a motion sensor light switch to the "Auto" position, the worker's finger entered the switch casing because the toggle switch was missing, resulting in the shock. The worker was taken to Health Services as a precaution and received first aid. There were no signs of burns or abrasion to the worker's finger. The worker returned to work without restrictions. The broken motion sensor assembly in the 277-volt, 20-amp, lighting circuit was secured and then replaced within an hour. The Electrical Safety Subject Matter Expert calculated the Electrical Severity Measurement Tool score to be 1650, which is in the 'high' range.															
Similar OR Report Number:																
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">Harold Conner</td> </tr> <tr> <td>Phone</td> <td colspan="3">(925) 422-5786</td> </tr> <tr> <td>Title</td> <td colspan="3">Associate Director, Facilities and Infrastructure</td> </tr> </table>				Name	Harold Conner			Phone	(925) 422-5786			Title	Associate Director, Facilities and Infrastructure		
Name	Harold Conner															
Phone	(925) 422-5786															
Title	Associate Director, Facilities and Infrastructure															
Originator:	<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		
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Phone	(925) 424-6787															
Title	OCCURRENCE REPORTING															
HQ OC Notification:	<table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </table>				Date	Time	Person Notified	Organization	NA	NA	NA	NA				
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NA	NA	NA	NA													
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Date	Time	Person Notified	Organization													

10/22/2009	10:55 (PTZ)	Craig Wuest	LEDO
10/22/2009	10:57 (PTZ)	Tracey Simpson	ESH TL
10/22/2009	11:00 (PTZ)	Heather Larson	NNSA/LSO

Authorized Classifier(AC): Paul L. Chrzanowski Date: 10/23/2009

7)Report Number: [NA--SS-SNL-NMFAC-2009-0008](#) **After 2003 Redesign**

Secretarial Office: National Nuclear Security Administration

Lab/Site/Org: Sandia National Laboratories - SS

Facility Name: SNL NM Site-wide F & M

Subject/Title: Subcontractor Electrician Receives Electrical Shock while Performing Drywall Operations in Bldg. 898

Date/Time Discovered: 10/08/2009 11:20 (MTZ)

Date/Time Categorized: 10/08/2009 11:20 (MTZ)

Report Type: Notification

Report Dates:	Notification	10/08/2009	18:26 (ETZ)
	Initial Update		
	Latest Update		
	Final		

Significance Category: 2

Reporting Criteria: 2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.

Cause Codes:

ISM:

Subcontractor Involved: Yes
Enterprise Electric (sub to MV Industries)

Occurrence Description: At approximately 11:00 am, on Thursday, October 8, a subcontract electrician, with 20 years of experience, received an electrical shock to the left arm while performing work above the ceiling in Building 898. The electrician was working on an FMOC project to remodel an existing basement area into lab and office space.

The electrician was using a hand saw to cut a 3" x 10" hole into the sheetrock wall above the drop ceiling. While performing the work task, the electrician's left forearm came in contact with an energized #12, 277 volt, 20 amp conductor and the metal ceiling grid, which resulted in the shock. The conductor was hanging from a 4" x 4" j-box located above and to the

	<p>left of where the electrician was cutting the hole. The conductor had been installed as part of the remodel project and terminated in electrical distribution panel, BBH1 Circuit #33, prior to being spliced in the j-box.</p> <p>The electrician was not performing work on electrical conductors or systems at the time of the event. The electrician was wearing a short sleeve shirt, hard hat, safety glasses, and steel-toed shoes, appropriate PPE for the work task being performed.</p> <p>The electrician reported the event and was taken to medical and released back to work. A follow-up was requested by medical.</p> <p>Preliminary Electrical Severity score, based on dry conditions with no arc flash hazard (only one wire), and contact with a single 277 volt conductor with no injury, is 550</p>
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Construction
Immediate Action(s):	<p>Subcontractor notified FMOC Construction Observer</p> <p>Area was placed in a safe condition</p> <p>Electrician was taken to Sandia Medical for evaluation and released back to work</p> <p>Walkthrough of work area was conducted to identify any similar conditions (one additional location found and remediated)</p> <p>Electrical work was suspended and meeting held to discuss event with all electrical workers on site</p>
FM Evaluation:	EOC #13653
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes.</p> <p>Before Further Operation? No</p> <p>By Whom: Causal Analysis Team</p> <p>By When: 11/20/2009</p>
Division or Project:	4000/898 Basement Remodel Project
Plant Area:	Tech Area I
System/Building/Equipment:	277volt lighting circuit/Bldg. 898, basement
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)

Corrective Action:																									
Lessons(s) Learned:																									
HQ Keywords:	08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency																								
HQ Summary:	On October 8, 2009, a subcontract electrician received an electrical shock to the left arm while performing work above the ceiling in Building 898. The electrician was working to remodel an existing basement area into lab and office space. The electrician's left forearm came in contact with an energized #12, 277V, 20 amp conductor and the metal ceiling grid, which resulted in the shock. The electrician was not performing work on electrical conductors or systems at the time of the shock. The electrician reported the event and was taken to medical and released back to work. A follow-up was requested by medical. Preliminary Electrical Severity score, based on dry conditions with no arc flash hazard (only one wire), and contact with a single 277V with no injury, is 550. Management notifications were made. Work was suspended and a meeting held with all construction site electricians.																								
Similar OR Report Number:																									
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>Carla Lamb</td> </tr> <tr> <td>Phone</td> <td>(505) 844-1753</td> </tr> <tr> <td>Title</td> <td>ES&H Coordinator - Facilities Management & Ops</td> </tr> </table>	Name	Carla Lamb	Phone	(505) 844-1753	Title	ES&H Coordinator - Facilities Management & Ops																		
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Phone	(505) 844-1753																								
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Originator:	<table border="1"> <tr> <td>Name</td> <td>LUCERO, JEWELLEE A</td> </tr> <tr> <td>Phone</td> <td>(505) 845-4727</td> </tr> <tr> <td>Title</td> <td>REPORTING ADMINISTRATOR</td> </tr> </table>	Name	LUCERO, JEWELLEE A	Phone	(505) 845-4727	Title	REPORTING ADMINISTRATOR																		
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Authorized Classifier(AC):	John Zavadil Date: 10/08/2009																								

8)Report Number:	SC--AMSO-AMES-AMES-2009-0003 After 2003 Redesign		
Secretarial Office:	Science		
Lab/Site/Org:	Ames Laboratory		
Facility Name:	Ames Laboratory (BOP)		
Subject/Title:	Electric Shock		
Date/Time Discovered:	10/07/2009 15:00 (CTZ)		
Date/Time Categorized:	10/08/2009 13:25 (CTZ)		
Report Type:	Notification		
Report Dates:	Notification	10/19/2009	15:35 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:	A1B4C02 - Design/Engineering Problem; Design Verification / Installation Verification LTA; Testing of design/installation LTA		
ISM:	2) Analyze the Hazards		
Subcontractor Involved:	No		
Occurrence Description:	A researcher in the Iowa State University, Center for Sustainable Environmental Technologies (CSET) program was re-assembling a biomass auger reactor when he experienced a mild shock to his arms. He was seated on the floor at the time, and he scooted back away from the framework. The shocked employee was escorted to the Occupational Medicine department, where an initial evaluation was made. No entry or exit wounds or marks were identified, and pulse, respiration, blood pressure and EKG readings were normal. The site physician recommended that the employee go to the emergency room at the local hospital for additional testing, and he was driven to the ER by his safety coordinator. On Thursday, October 8, 2009, the employee reported that the findings at the emergency room were also normal.		
Cause Description:	Employee came into contact with heating band conductive junction resulting from missing or inadequate insulation.		
Operating Conditions:	Reassembling the equipment to perform another experiment.		
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)		

Immediate Action(s):	System deenergized. Employee escorted to Occupational Medicine for evaluation. Equipment locked out until further evaluation could be performed by Laboratory Electrical Safety Inspector.		
FM Evaluation:	The equipment involved in the incident is part of an Iowa State University program utilizing Ames Laboratory space through a rental agreement. The activity was approved through the Laboratory's Readiness Review Program and associated staff received appropriate training. Additional precautions could have been applied to the conductor connection by applicant of secured insulation. Additional equipment reviews by Ames Laboratory Electrical Safety Specialist should ensure continued safe equipment operation.		
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	Iowa State University		
Plant Area:	Metals Development		
System/Building/Equipment:	Biomass Auger Reactor		
Facility Function:	Laboratory - Research & Development		
Corrective Action 01:	<table border="1"> <tr> <td>Target Completion Date:01/19/2010</td> <td>Actual Completion Date:</td> </tr> </table> <p>All connections will be insulated or isolated.</p>	Target Completion Date: 01/19/2010	Actual Completion Date:
Target Completion Date: 01/19/2010	Actual Completion Date:		
Corrective Action 02:	<table border="1"> <tr> <td>Target Completion Date:01/19/2010</td> <td>Actual Completion Date:</td> </tr> </table> <p>A double pole switch will be installed</p>	Target Completion Date: 01/19/2010	Actual Completion Date:
Target Completion Date: 01/19/2010	Actual Completion Date:		
Corrective Action 03:	<table border="1"> <tr> <td>Target Completion Date:01/19/2010</td> <td>Actual Completion Date:</td> </tr> </table> <p>Grounding will be corrected and confirmed by the Electrical Safety Inspector.</p>	Target Completion Date: 01/19/2010	Actual Completion Date:
Target Completion Date: 01/19/2010	Actual Completion Date:		
Corrective Action 04:	<table border="1"> <tr> <td>Target Completion Date:01/19/2010</td> <td>Actual Completion Date:</td> </tr> </table> <p>The SOP is being rewritten and users are being retrained to SOP.</p>	Target Completion Date: 01/19/2010	Actual Completion Date:
Target Completion Date: 01/19/2010	Actual Completion Date:		
Lessons(s) Learned:			
HQ Keywords:	01G--Inadequate Conduct of Operations - Inadequate Procedure 07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11F--Other - Inadequate Design 11J--Other - Tenants on DOE Property 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14F--Quality Assurance - Design Deficiency 14H--Quality Assurance - Inspection and Acceptance Testing Deficiency		

HQ Summary: On October 7, 2009, an Iowa State University, Center for Sustainable Environmental Technologies program researcher was re-assembling a biomass auger reactor when he experienced a mild shock to his arms. He was seated on the floor at the time, and he scooted back away from the framework. The researcher's shock resulted from contact with a heating band conductive junction that was not adequately insulated. The researcher was escorted to the Occupational Medicine department, where an initial evaluation was made. No entry or exit wounds or marks were identified, and vital signs were normal. The site physician recommended that the researcher go to the local hospital emergency room for additional testing. On October 8, 2009, the researcher reported that the emergency room test findings were also normal. The system was de-energized and locked out until further evaluation could be performed by the Laboratory Electrical Safety Inspector.

Similar OR Report Number: 1. None

Facility Manager:	Name	WESSELS, TOM E
	Phone	(515) 294-2153
	Title	ESH&A Manager

Originator:	Name	NELSON, SHAWN A
	Phone	(515) 294-9769
	Title	INDUSTRIAL SAFETY SPECIALIST

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

Other Notifications:	Date	Time	Person Notified	Organization
	10/07/2009	15:45 (CTZ)	Mike Saar	AMSO

Authorized Classifier(AC):

9)Report Number: [SC--BSO-LBL-OPERATIONS-2009-0008](#) After 2003 Redesign

Secretarial Office: Science

Lab/Site/Org: Lawrence Berkeley Laboratory

Facility Name: Operations Division

Subject/Title: Live 277-v Wire Cut in B. 77 - No Injuries

Date/Time Discovered: 10/05/2009 08:00 (PTZ)

Date/Time Categorized: 10/05/2009 09:00 (PTZ)

Report Type: Notification

Report Dates:	Notification	10/07/2009	13:59 (ETZ)
	Initial Update		

	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:	1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls		
Subcontractor Involved:	Yes Janus Construction		
Occurrence Description:	<p>On Saturday 10/03/2009 at approximately 0745, a subcontractor worker cut a live wire in Building 77. There were no injuries.</p> <p>The subcontractor worker was part of the crew tasked to remove light fixtures and clean up debris in Building 77, Room 156. They were working on an elevated temporary deck near the ceiling. Most of the light fixtures had already been cut free of their mounts and wiring and were on the temporary deck, waiting to be removed. One worker proceeded to disconnect the connector to a light fixture that had not been previously cut free, exposing the wires, and began to cut them with a bolt cutter. The wires turned out to be live 277-volt circuit wires powered by an emergency circuit. The wires shorted and created a hole in the cutter. The worker did not receive any shock. The bolt cutter had plastic handles; the tool was not rated as insulated for voltage.</p>		
Cause Description:			
Operating Conditions:	Indoors, lighted, dry		
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)		
Immediate Action(s):	- All work was stopped. - An LBNL electrician came to the Lab, capped the wires and put a cover on the junction box. - The electrician restored normal power to B-77 and B-31 at approximately 1100 on 10/03/2009.		
FM Evaluation:	- The subcontractor workers had thought that all of the lighting power had		

	<p>been de-energized and isolated.</p> <p>- The live 277-volt wires were powered by an emergency circuit.</p>		
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	<p>Yes.</p> <p>Before Further Operation? No</p> <p>By Whom: Facilities and EH&S</p> <p>By When:</p>		
Division or Project:	Facilities Division		
Plant Area:	B.77 R156		
System/Building/Equipment:	B. 77 Room 156 - Air Handling Unit (AHU) Replacement		
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)		
Corrective Action:			
Lessons(s) Learned:			
HQ Keywords:	<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>11G--Other - Subcontractor</p> <p>12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)</p> <p>14E--Quality Assurance - Work Process Deficiency</p>		
HQ Summary:	<p>On October 3, 2009, a subcontractor worker cut an energized 277V wire in Building 77, there was no personnel electrical shock. The subcontractor worker was part of the crew tasked to remove light fixtures and clean up debris in Building 77. Most of the light fixtures had already been cut free of their mounts and wiring and were awaiting removal. One worker proceeded to disconnect the connector to a light fixture that had not been previously cut free, exposing the wires, and began to cut them with a bolt cutter. The wires were energized 277V circuit wires powered by an emergency circuit. The wires shorted and created a hole in the cutter. The bolt cutter had plastic handles and was not rated as an insulated electrical tool. All work was stopped pending an investigation. A LBNL electrician capped the wires and put a cover on the junction box.</p>		
Similar OR Report Number:			
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td>Jennifer Ridgeway</td> </tr> </table>	Name	Jennifer Ridgeway
Name	Jennifer Ridgeway		

	Title	Division Director		
Originator:	Name	MOU, FLORENCE P.		
	Phone	(510) 486-7872		
	Title	SENIOR ADMINISTRATOR		
HQ OC Notification:	Date	Time	Person Notified	Organization
	NA	NA	NA	NA
Other Notifications:	Date	Time	Person Notified	Organization
	10/05/2009	09:20 (PTZ)	Duty Officer	BSO
	10/05/2009	09:20 (PTZ)	Kevin Hartnett	BSO
Authorized Classifier(AC):				

10)Report Number:	SC--BSO-LBL-OPERATIONS-2009-0009 After 2003 Redesign		
Secretarial Office:	Science		
Lab/Site/Org:	Lawrence Berkeley Laboratory		
Facility Name:	Operations Division		
Subject/Title:	Energy Control Process Not Followed During Fan Replacement Project in B.50A - No Injuries		
Date/Time Discovered:	10/05/2009 13:59 (PTZ)		
Date/Time Categorized:	10/05/2009 14:02 (PTZ)		
Report Type:	Notification		
Report Dates:	Notification	10/07/2009	20:16 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:	3) Develop and Implement Hazard Controls 4) Perform Work Within Controls		
Subcontractor Involved:	Yes Cal/Neva		

Occurrence Description:	On Friday, 10/02/2009 at approximately 1330, temperature alarms in Bldg. 050A, Room 151 sounded. This alerted an IT technician who went to the room to investigate. The IT technician discovered that a subcontractor was performing electrical work on an energized Field Processing Unit (FPU) panel. The FPU panel is low voltage except for a single 120V circuit which was not barricaded prior to start of work. In addition to the FPU panel work, the 208V three-phase VFD (variable frequency drive) panel was open. No work was being done on this panel; it was open for inspection prior to startup - the fans were running on manual controls at the time. All power cable work and low voltage control circuit connections in the VFD had been done before the drive was energized. There were no hazardous energy contact nor injuries.
Cause Description:	
Operating Conditions:	Indoors, Lighted, Dry
Activity Category:	Construction
Immediate Action(s):	- Work was stopped and EH&S personnel was notified. EH&S electrical safety engineer evaluated the situation and reiterated LBNL's electrical safety policies and procedures to the subcontractor. - All electrical work on the project has been stopped pending investigation of this safety deficiency.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Facilities and EH&S By When:
Division or Project:	Facilities Division
Plant Area:	B50A-Room 0151
System/Building/Equipment:	Building 50A Fan Replacement - Blowers 3 and 4
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 11G--Other - Subcontractor

	12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency															
HQ Summary:	On October 2, 2009, an IT technician investigated temperature alarms in Bldg. 050A, Room 151 and discovered that a subcontractor was performing unauthorized electrical work. The work was being performed on an energized Field Processing Unit (FPU) panel. The FPU panel is low voltage except for a single 120V circuit which was not barricaded prior to start of work. In addition to the FPU panel work, the 208V three-phase VFD (variable frequency drive) panel was open. No work was being done on this panel. The panel was open for inspection prior to startup. The fans were running on manual controls at the time. All power cable work and VFD low voltage control circuit connections were done before the drive was energized. There was no hazardous energy contact or injuries. All area work was stopped pending an investigation.															
Similar OR Report Number:																
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Phone	(510) 486-7872															
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Authorized Classifier(AC):																

11)Report Number:	SC--PNSO-PNNL-PNNLBOPER-2009-0017 After 2003 Redesign								
Secretarial Office:	Science								
Lab/Site/Org:	Pacific Northwest National Laboratory								
Facility Name:	Energy Research Programs (PNNL)								
Subject/Title:	Subcontractor Receives Shock while Installing HVAC Diffuser								
Date/Time Discovered:	10/05/2009 08:45 (PTZ)								
Date/Time Categorized:	10/05/2009 10:45 (PTZ)								
Report Type:	Update								
Report Dates:	<table border="1"> <tr> <td>Notification</td> <td>10/06/2009</td> <td>15:15 (ETZ)</td> </tr> <tr> <td>Initial Update</td> <td>10/30/2009</td> <td>13:27 (ETZ)</td> </tr> </table>			Notification	10/06/2009	15:15 (ETZ)	Initial Update	10/30/2009	13:27 (ETZ)
Notification	10/06/2009	15:15 (ETZ)							
Initial Update	10/30/2009	13:27 (ETZ)							

	Latest Update	10/30/2009	13:27 (ETZ)
	Final		
Significance Category:	2		
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.		
Cause Codes:			
ISM:	5) Provide Feedback and Continuous Improvement		
Subcontractor Involved:	Yes Apollo Sheet Metal, Inc.		
Occurrence Description:	On Monday, October 5, 2009, at approximately 0820 hours, a subcontractor worker received an electrical shock and saw an arc flash. The subcontractor was working in lab 1509 installing HVAC flex ducting to a lab diffuser at the new 3430 building and brushed his arm against a metal clad cable feeding 277V power to an adjacent light fixture, resulting in a short to ground and a visible arc. There were no injuries.		
Cause Description:			
Operating Conditions:	Indoors/dry		
Activity Category:	Construction		
Immediate Action(s):	The worker was taken to the on-site nurse, examined and returned to work without restriction. The light fixture was locked out and tagged and a subcontractor electrician was called to troubleshoot the problem. Work was suspended in the interstitial space above the ceiling grid and the second floor mechanical area until all light fixtures were verified to not represent similar conditions. A critique was scheduled and held October 5, 2009.		
FM Evaluation:	<<< 10/30/09 Update in Lieu of Final >>> A causal analysis has been chartered and the report is due out by 11/11/09. Development of the corrective action plan will necessarily delay the Final occurrence report beyond the current 45 day due date (11/19/09). The target date is no 12/11/09. ~RAP		
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: By When:		

Division or Project:	Strategic Projects Division / Operational Systems														
Plant Area:	PNNL Site														
System/Building/Equipment:	3430 Bldg (PSF Construction Site)														
Facility Function:	Laboratory - Research & Development														
Corrective Action:															
Lessons(s) Learned:															
HQ Keywords:	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														
HQ Summary:	On October 5, 2009, a subcontractor worker received an electrical shock and saw an arc flash. The subcontractor was working in lab 1509 installing HVAC flex ducting to a lab diffuser at the new 3430 building and brushed his arm against a metal clad cable feeding 277V power to an adjacent light fixture, resulting in a short to ground and a visible arc. The worker was examined by site medical staff and released with no restrictions. Work in the area was suspended. A critique was held.														
Similar OR Report Number:															
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">Pittman, J. P.</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 371-7056</td> </tr> <tr> <td>Title</td> <td colspan="3">PM, Physical Sciences Facility Construction</td> </tr> </table>			Name	Pittman, J. P.			Phone	(509) 371-7056			Title	PM, Physical Sciences Facility Construction		
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Phone	(509) 371-7056														
Title	PM, Physical Sciences Facility Construction														
Originator:	<table border="1"> <tr> <td>Name</td> <td colspan="3">POLLARI, ROGER A</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 371-7700</td> </tr> <tr> <td>Title</td> <td colspan="3"></td> </tr> </table>			Name	POLLARI, ROGER A			Phone	(509) 371-7700			Title			
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Phone	(509) 371-7700														
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Other Notifications:	<table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>10/05/2009</td> <td>10:57 (PTZ)</td> <td>Christ, Josef</td> <td>PNSO</td> </tr> </tbody> </table>			Date	Time	Person Notified	Organization	10/05/2009	10:57 (PTZ)	Christ, Josef	PNSO				
Date	Time	Person Notified	Organization												
10/05/2009	10:57 (PTZ)	Christ, Josef	PNSO												
Authorized Classifier(AC):	Pollari, R. A. Date: 10/30/2009														

12)Report Number:	SC--PNSO-PNNL-PNNLNUCL-2009-0005 After 2003 Redesign
Secretarial Office:	Science
Lab/Site/Org:	Pacific Northwest National Laboratory
Facility Name:	PNNL Nuclear Facilities
Subject/Title:	Noncompliance with Hazardous Energy Controls
Date/Time Discovered:	10/28/2009 11:30 (PTZ)

Date/Time Categorized:	10/30/2009 10:55 (PTZ)		
Report Type:	Notification		
Report Dates:	Notification	11/03/2009	17:05 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:	4) Perform Work Within Controls		
Subcontractor Involved:	Yes Kone, Inc.		
Occurrence Description:	On October 30, 2009, at 0910 hours, the Building Manager for the Radiochemical Processing Laboratory (RPL) was notified that PNNL electricians, while working in the RPL elevator penthouse, had recently discovered that a cover for the elevator control cabinet was not in place, exposing energized circuits in the work area. The electricians did not come in contact with the hazardous energy.		
Cause Description:			
Operating Conditions:	Indoor/dry		
Activity Category:	Maintenance		
Immediate Action(s):	The Building Manager immediately inspected the control cabinet and restricted access to the penthouse. The condition was reported to the PNNL single point of contact at 0945 hours. The cover was reinstalled by 1100 hours, per the PNNL hazardous energy control process, and the access restriction was removed. A critique was scheduled for Monday, November 2, 2009.		
FM Evaluation:			
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	Nuclear Operations Div / Operational Systems Dir		

Plant Area:	300 Area														
System/Building/Equipment:	RPL Facility (325)														
Facility Function:	Laboratory - Research & Development														
Corrective Action:															
Lessons(s) Learned:															
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01Q--Inadequate Conduct of Operations - Personnel error 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														
HQ Summary:	On October 30, 2009, the Building Manager for the Radiochemical Processing Laboratory (RPL) was notified that PNNL electricians, while working in the RPL elevator penthouse, discovered that a cover for the elevator control cabinet was not in place, exposing energized circuits in the work area. The electricians did not come in contact with the hazardous energy. The Building Manager immediately inspected the control cabinet and restricted access to the penthouse. A critique was scheduled.														
Similar OR Report Number:															
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">Kooiker, C. A.</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 376-5746</td> </tr> <tr> <td>Title</td> <td colspan="3">Building Manager, Radiochemical Processing Laborat</td> </tr> </table>			Name	Kooiker, C. A.			Phone	(509) 376-5746			Title	Building Manager, Radiochemical Processing Laborat		
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Phone	(509) 376-5746														
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Date	Time	Person Notified	Organization												
10/30/2009	11:15 (PTZ)	Davies, T.	PNSO												
Authorized Classifier(AC):	Pollari, R. A. Date: 11/03/2009														

13)Report Number:	SC-ORO--ORNL-X10WEST-2009-0004 After 2003 Redesign
Secretarial Office:	Science
Lab/Site/Org:	Oak Ridge National Laboratory
Facility Name:	ORNL West Complex
Subject/Title:	Wall Penetration Results in Electrical Panel Trip

Date/Time Discovered:	10/05/2009 10:35 (ETZ)		
Date/Time Categorized:	10/07/2009 10:03 (ETZ)		
Report Type:	Notification		
Report Dates:	Notification	10/09/2009	07:36 (ETZ)
	Initial Update		
	Latest Update		
	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:			
Subcontractor Involved:	No		
Occurrence Description:	<p>On October 5, 2009, at approximately 1035 hours, pipefitters were installing a compressed gas cylinder bracket onto a 7-inch deep, metal stud wall located in Building 1060 (Room 111). A cordless drill and a combination of toggle bolts (for sheetrock) and 4-inch self-tapping screws (for metal studs) were being used for the installation. The work was authorized under a Grade 4 work package and did not require a penetration permit. The pipefitters were wearing the required personnel protective equipment, which included safety glasses and did not require gloves. As the self-tapping screw penetrated what was expected to be metal wall studs, the lights in the immediate and adjacent laboratory went out. In addition, a loss of power indicator light for a local area fire alarm panel was noted. The pipefitters stopped work, placed the work area in a safe condition and notified their craft supervision.</p> <p>There was no immediate indication such as a spark or noise that an energized circuit had been contacted, other than the loss of lighting in the area. No injury or shock to the pipefitters occurred as result of this event.</p> <p>Background</p> <p>On October 5, 2009, pipefitters were installing a compressed gas cylinder bracket to the sheetrock wall in room 111. No electrical outlets near the wall work surface were observed. The pipefitters began installing toggle bolts and self-tapping screws into the 7-inch wall cavity using a cordless drill, without having first inspected the opposite side of the wall. That wall</p>		

	<p>contained a recessed 120/208 volt 3-phase electrical panel.</p> <p>During the penetration of the wall, one 4-inch screw came into contact with a metal surface that at that time was thought to be a metal wall stud. However, the screw actually entered the back of the recessed electrical panel and made contact with the energized copper buss. As a result, the circuit breaker tripped.</p> <p>The electrical panel was appropriately grounded which enabled the self-tapping screw to be bonded to the panel housing. Due to the grounding feature of the electrical panel, the pipefitters were not exposed to a potential electrical shock. No injury or shock to the pipefitters occurred as result of this event.</p>
Cause Description:	
Operating Conditions:	Cylinder bracket installation
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	<p>On October 5, 2009, the compressed gas cylinder bracket installation was halted following the electrical panel penetration. Craft supervision and West Complex Facility Management were notified.</p> <p>On October 5, 2009, at 1138 hours, the Laboratory Shift Superintendent (LSS) was notified of the 120/208 volt electrical panel trip.</p> <p>On October 5, 2009, at 1215 hours, the West Complex Facility Manager notified Facility and Operations Directorate management of the electrical panel penetration and the resulting breaker trip. An inspection of the electrical panel verified that no damage had occurred. After the Fire Department cleared the loss of power indication on the local fire alarm panel, power was restored to the area.</p> <p>As further information was obtained regarding the event, a critique was scheduled for October 7, 2009. Based on the information learned during the critique, at 1003 hours, the event was categorized as a 2C(2) - Hazardous Energy Control occurrence.</p>
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	<p>Yes. Before Further Operation? No By Whom: FMD By When: 11/23/2009</p>

Division or Project:	Facilities Management Division															
Plant Area:	Bldg 1060															
System/Building/Equipment:	Electrical Panel, Building 1060, Room 111															
Facility Function:	Balance-of-Plant - Offices															
Corrective Action:																
Lessons(s) Learned:																
HQ Keywords:	01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 03A--Fire Protection and Explosives Safety - Fire Protection Equip Degradation 07C--Electrical Systems - Power Outage 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency															
HQ Summary:	<p>On October 5, 2009, while pipefitters were installing a compressed gas cylinder bracket onto a 7-inch deep, metal stud wall located in Building 1060 (Room 111), a 4-inch, self-tapping, screw entered the back of a recessed 120/208-volt 3-phase electrical panel and hit the energized copper buss, causing the circuit breaker to trip. The pipefitters were using a cordless drill but failed to inspect the other side of the wall before drilling. The work was authorized under a Grade 4 work package and did not require a penetration permit. The pipefitters were wearing the required personnel protective equipment, which included safety glasses and did not require gloves. When the circuit breaker tripped, the lights in the immediate and adjacent laboratory went out and a loss of power indicator light for a local area fire alarm panel was noted. The pipefitters stopped work, placed the work area in a safe condition and notified their craft supervision. A critique was performed.</p>															
Similar OR Report Number:																
Facility Manager:	<table border="1"> <tr> <td>Name</td> <td colspan="3">Ann R. Bryant</td> </tr> <tr> <td>Phone</td> <td colspan="3">(865) 576-8689</td> </tr> <tr> <td>Title</td> <td colspan="3">West Complex Facility Manager</td> </tr> </table>				Name	Ann R. Bryant			Phone	(865) 576-8689			Title	West Complex Facility Manager		
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Date	Time	Person Notified	Organization													

10/07/2009	11:46 (ETZ)	Michele Branton	DOE-ORO
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Authorized Classifier(AC):

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