October 2008 Electrical Safety Occurrences

There were 6 electrical safety occurrences for October 2008:

- 1 resulted in an electrical shock
- 1 involved cutting an electrical conduit with a saw
- 4 involved lockout/tagout
- 3 involved electrical workers and 3 involved non-electrical workers
- 2 occurrences involved subcontractors

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

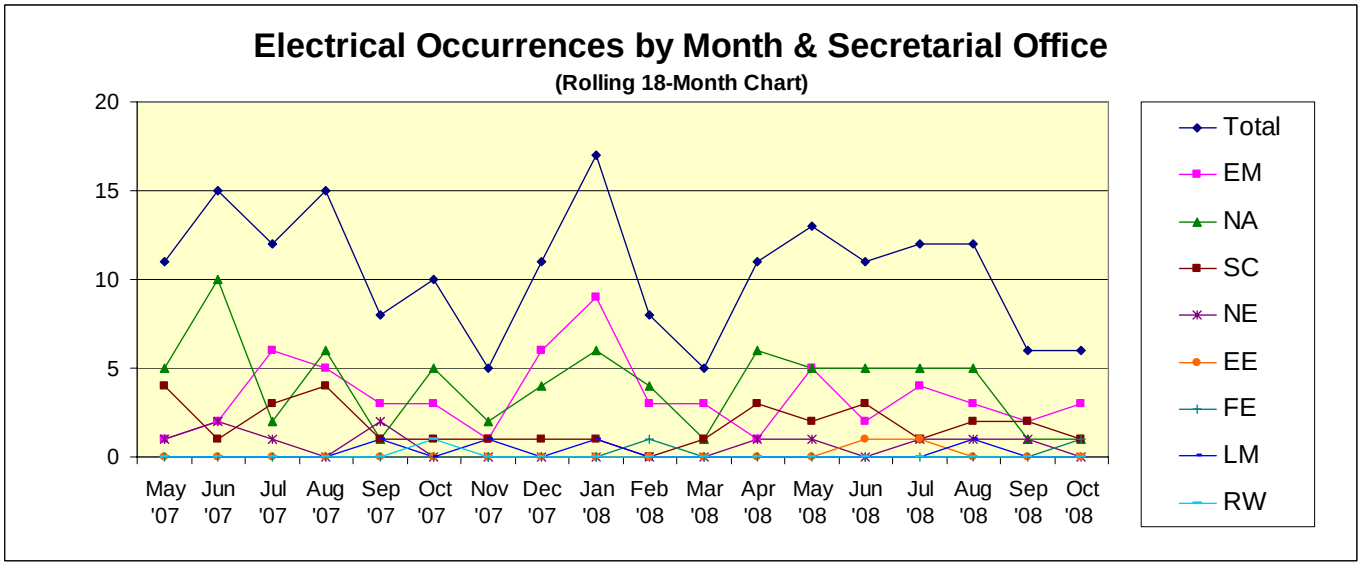
01K – Lockout/Tagout Electrical, 01M – Inadequate Job Planning (Electrical),
08A – Electrical Shock, 08J – Near Miss (Electrical), 12C – Electrical Safety

The initial search yielded 6 occurrences and a review of these determined none needed to be culled out.

Below is the current summary of 2008 electrical safety occurrences:

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
Jan-08	17	7	0	0
Feb-08	8	3	0	0
Mar-08	5	1	0	0
Apr-08	11	1	0	0
May-08	13	1	1	0
Jun-08	11	4	0	0
Jul-08	12	1	0	0
Aug-08	12	4	0	0
Sep-08	6	1	0	0
Oct-08	6	1	0	0
2008 total	101 (avg. 10.1/month)	24	1	0
2007 total	140 (avg. 11.7/month)	25	2	0
2006 total	166 (avg. 13.8/month)	26	3	0
2005 total	165 (avg. 13.8/month)	39	5	0
2004 total	149 (avg. 12.4/month)	25	3	1

The average rate of electrical safety occurrences in 2008 is 10.1 per month, which is less than the average rate of 11.7 per month experienced in 2007.



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

Electrical Safety Occurrences – October 2008

No	Report Number	Subject/Title	EW[1]	N-EW[2]	SUB[3]	SHOCK	BURN	ARCF[4]	LOTO[5]	EXCAV[6]	CUT/D[7]	VEH[8]
1	EM-ORO--ISOT-3019A-2008-0005	Failure to Follow Work Package results in LOTO Violation	X		X				X			
2	EM-RL--CPRC-PFP-2008-0001	Identified 110 Volt Source of Power After Safe Condition and Safe to Work Checks	X						X			
3	EM-RP--BNRP-RPPWTP-2008-0018	Extension Cord has Two Male End Caps		X								
4	FE--NETL-GOPE-NETLALBANY-2008-0002	Unexpected Discovery of Hazardous Energy Source		X	X				X		X	
5	NA--LASO-LANL-BOP-2008-0014	Worker Receives a Mild Electrical Shock While Plugging a Refrigerator into a Wall Outlet		X		X						
6	SC-ORO--ORNL-X10EAST-2008-0003	Work Processes Not Followed in Electrical Circuit Breaker Replacement	X						X			
	TOTAL		3	3	2	1			4		1	

Key

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

ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 53973 OR(s) with 57291 occurrences(s) as of 11/24/2008 6:37:20 AM
Query selected 6 OR(s) with 6 occurrences(s) as of 11/24/2008 2:00:36 PM

Download this report in Microsoft Word format.

1)Report Number:	EM-ORO--ISOT-3019A-2008-0005 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Oak Ridge National Laboratory
Facility Name:	3019A Complex
Subject/Title:	Failure to Follow Work Package results in LOTO Violation
Date/Time Discovered:	10/10/2008 10:00 (ETZ)
Date/Time Categorized:	10/10/2008 11:50 (ETZ)
Report Type:	Notification
Report Dates:	Notification: 10/13/2008 16:52 (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 TN Associated Electrical
Occurrence Description:	On October 10, 2008 it was determined that a Lock Out Tag Out (LOTO) violation occurred on Monday, October 6, 2008 during the installation of an electrical outlet in support of a HVAC unit being installed in Building 3017. Installation of the outlet was not within the approved work package scope of the work. The electrician completing the installation opened the breaker (approximately 10 feet away from the work) for the wiring being disconnected in the junction box and verified that the circuit had been de-energized. The junction box was about 10 feet off of the floor and above a drop ceiling grid from which the ceiling tiles had been removed. While the worker's view of the panel box was unobstructed, he was not able to clearly

	view the actual breaker where energy had been isolated. Another individual supporting the activity was posted at the breaker panel to ensure no one operated the breaker. The practice did not comply with Isotek's procedure ISO-OSH-218, Control of Hazardous Energy, which only allows energy isolation "under personnel control" where the authorized employee has exclusive control of the energy isolation.
Cause Description:	
Operating Conditions:	All areas in Standby
Activity Category:	Maintenance
Immediate Action(s):	The work actvitiy was suspended and a critique held.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: QA, Root Cause Analysis By When: 10/27/2008
Division or Project:	U233 Material Downblending and Disposition Proj.
Plant Area:	Building 3017
System/Building/Equipment:	Building Air Conditioning System
Facility Function:	Special Nuclear Materials Storage
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	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
HQ Summary:	On October 6, 2008, a Lockout/Tagout (LOTO) violation occurred during the installation of an electrical outlet in support of a HVAC unit being installed in Building 3017. Installation of the outlet was not within the approved work package scope of the work because an electrician opened the circuit breaker (approximately 10 feet away from the work) and did not install a LOTO. While the electrician’s view of the panel box was unobstructed, he was not able to clearly view the actual breaker where energy had been isolated. This practice did not comply with Isotek's procedure ISO-OSH-218, Control of Hazardous Energy, which only allows energy isolation "under personnel control" where the authorized employee has exclusive control of the energy isolation. The work activity was suspended and a critique held.
Similar OR Report Number:	

Facility Manager:	Name: SZOZDA, ROBERT M Phone: (865) 576-8524 Title: OPERATIONS MANAGER
Originator:	Name: GILPIN, LINDA L Phone: (865) 241-8654 Title: NUCLEAR CRITICALITY SAFETY ENGINEER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/10/2008 11:55 (ETZ) Gary Riner DOE 10/10/2008 13:45 (ETZ) Andrea Perkins DOE 10/10/2008 13:45 (ETZ) Jay Mullis DOE 10/10/2008 13:45 (ETZ) Robert Goldsmith DOE 10/10/2008 13:45 (ETZ) Brian DeMonia DOE
Authorized Classifier(AC):	Linda Gilpin Date: 10/13/2008

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2)Report Number:	EM-RL--CPRC-PFP-2008-0001 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	Plutonium Finishing Plant
Subject/Title:	Identified 110 volt source of power after safe condition and safe to work checks
Date/Time Discovered:	10/24/2008 14:45 (PTZ)
Date/Time Categorized:	10/24/2008 16:24 (PTZ)
Report Type:	Notification
Report Dates:	Notification: 10/28/2008 16:18 (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:	On October 23, 2008 while performing modifications per work package 2Z-07-05525, to disconnect and abandon in place the Room 306A Fire System a 110 volt source of power was identified by the Authorized Worker on a relay in the room 308 Uninterrupted Power Supply (UPS) Cabinet. The power was discovered during the safe condition and safe to work checks, but was believed to not impact the work. During the course of the work it was discovered that the 110v power was present where work was to be done. With the information presented at the critique meeting held on 10/24/2008, management determined the event to be reportable. At no time did personnel contact electrical energy.
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Facility Decontamination/Decommissioning
Immediate Action(s):	1. Work was stopped and management was notified. 2. Limited system restoration was completed to supply power to fire systems. 3. Work package was suspended pending further investigation and completion of the critique process. 4. Issued an Operating Instruction requiring Electrical Engineering review of all tagout authorizations.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: CAM By When:
Division or Project:	Plutonium Finishing Plant Closure Project
Plant Area:	200 West
System/Building/Equipment:	Fire Detection Sys/ Bldg 234-5Z/ Rm 308 UPS
Facility Function:	Plutonium Processing and Handling
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) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 23, 2008, while performing modifications to disconnect and abandon in place the Room 306A Fire System, the Authorized Worker identified a 110-volt source of power on a relay in the room 308 Uninterrupted Power Supply Cabinet. The power was discovered during the safe condition and safe to work checks, but was believed to not impact the work. During the course of the work it was discovered that the 110-volt power was present where work was to be done. The work package was suspended pending further investigation and completion of the critique process.
Similar OR Report Number:	
Facility Manager:	Name: MA CROCKER Phone: (509) 373-0600 Title: PFP CLOSURE MANAGER
Originator:	Name: PRIOR, GREGORY P Phone: (509) 373-3456 Title: CORRECTIVE ACTION MANAGEMENT REPRESE
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 10/24/2008; Time: 14:45 (PTZ); Person Notified: JE Spets; Organization: DOE-RL
Authorized Classifier(AC):	NA Date: 10/24/2008

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3)Report Number:	EM-RP--BNRP-RPPWTP-2008-0018 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	RPP Waste Treatment Plant
Subject/Title:	Extension cord has two male end caps
Date/Time Discovered:	10/09/2008 13:10 (PTZ)
Date/Time Categorized:	10/09/2008 13:25 (PTZ)
Report Type:	Final
Report Dates:	Notification: 10/09/2008 19:23 (ETZ)

	Latest Update	11/24/2008	13:26 (ETZ)
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:	A2B3C02 - Equipment/ material problem; Inspection/ testing LTA; Inspection/ testing LTA A2B6C02 - Equipment/ material problem; Defective, Failed or Contaminated; Defective or failed material A3B1C01 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Check of work was LTA -->couplet - NA		
ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls		
Subcontractor Involved:	No		
Occurrence Description:	A Pipefitter at the Hanford Tank Waste Treatment and Immobilization Plant (WTP) construction site checked out a 50-ft extension cord from the T-52 Tool Room and traveled to the Fire Water Pump House (Building 84 & 84B). The Pipefitter rolled out the extension cord and plugged one end into a spider box. The Pipefitter then discovered that the other end of the cord also had a male cord end. The discovery was made when he was preparing to plug the other end into a portable pump. The Pipefitter stopped work and immediately disconnected the cord from the spider box. He then contacted the Superintendent and delivered the extension cord to a Safety Representative in the T-1 Building.		
Cause Description:	The methodology used to determine the causal codes for this uncontrolled hazardous energy discovery occurrence was the Causal Analysis Tree, Rev. 0 as documented in DOE G 231.1-2, Occurrence Reporting Causal Analysis Guide. On October 9, 2008 at approximately 0720 hours, BNI Maintenance Pipefitters checked out 2 extension cords and 2 sump pumps from the T-52 Warehouse Tool Crib. The 50 foot 12/3 cords and pumps were needed at the Fire Water Pump Houses (84A & 84B) to drain the sump pits. The extension cords displayed the current quarterly color coded inspection indicator. Each		

quarter has a different color to specify the inspection period and indicate to the end user the cord has been inspected for use.

Around 0800 hours, the Pipefitters completed setting up the first pump and cord in 84A and proceeded to drain the sump pit without incident. At approximately 0810, the Pipefitters proceeded to the next pump house to establish the second setup. As with the first setup, the Pipefitters plugged the extension cord in to a GFCI protected electrical plug spider box and proceeded to uncoil the cord until reaching the second pump. It was at this time, the Pipe Fitter discovered the extension cord had a second male end cord cap.

The Pipefitter stopped immediately, returned to the spider box and unplugged the second cord from the spider box. Work activities in the pump house were stopped and notifications made to Supervision of the situation. The Pipefitter delivered the defective cord to Safety Assurance where it was removed from service. There were no other documented reports of similar cord discoveries reported to Safety Assurance or the Tool Crib.

There was no clear indication from the investigation the Pipefitters had performed the required visual inspection of construction extension cord as required before any use.

The cord was inspected by Construction Site electrical professionals and they discovered one end had been modified by an unqualified person. The wires were reversed and the connections were 'un-workman like' for an Electrician. Another finding was the cord had a distinctive blue strip marking which BNI had once established for distinguishing the cords for Subcontractor use.

A3B1C03 - Equipment/Material Problem - Inspection/Testing LTA. In accordance with procedure 24590-WTP-GPP-SIND-024, Rev 3 General Safe Work Practices, every extension cord on the Construction Site is to be inspected quarterly and marked with the tape color designation for the new time period by an authorized worker. The procedure further states 'Tagged items that are returned to the tool room shall be checked by an authorized worker to be repaired, returned to the manufacturer, or destroyed as determined by the Responsible Discipline Superintendent. No taping of extension cords shall be permitted as repair.'

Either there was a lack of attention to detail on the part of the authorized worker to perform a thorough visual inspection of the cord during the inspection period or the modified cord was re-introduced into the Tool Crib inventory without the knowledge of the attendants. An immediate inspection of the remaining extensions cords in each of the Tool Cribs on the site after the initial discovery of the occurrence revealed no similar cord

	configurations. A3B1C03 - Equipment/Material Problem - Defective or failed material. The defective extension cord did not meet the construction criteria as defined in procedure 24590-WTP-GPG-CON-3314, Rev 0 Labeling, Routing, and Supporting of Construction Power Cords, 'Flexible electrical power extension cord sets (cord sets) referred to in this guide contain an equipment ground conductor, one male and one female connector body, and are for hard or extra hard usage....' No qualified Electrician would assemble a construction site extension cord in this 'un-workman like' manner. A3B1C01 - Human Performance LTA - Check of work LTA. The Pipefitters did not follow the requirements for performing a visual inspection of extension cords before use as prescribed in procedure 24590-WTP-GPP-SIND-024, Rev 3 General Safe Work Practices; 'Inspection and Repair - Extension cords and cords on power tools are to be inspected before each use by the workers using the cords. An item found with defects shall be tagged: DANGER - DEFECTIVE TOOL/EQUIPMENT DO NOT USE, and returned to the tool room' and/or procedure 24590-WTP-GPP-CON-2301, Rev 2 Construction Tool and Equipment Inspection; '... Electrical cords and plugs will also be inspected for cuts, cracks and bent plugs.' If this inspection had been performed prior to plugging the cord into the spider box, the uncontrolled hazardous energy discovery would not have occurred.
Operating Conditions:	Construction
Activity Category:	Construction
Immediate Action(s):	Work stopped. The extension cord was removed from circulation. An investigation has been initiated
FM Evaluation:	The event illustrates the importance of taking the time to properly assess the conditions of the work site versus the intended task, to ensure that potentially hazardous conditions are identified and addressed with workers prior to the start of work. Management policy is to reinforce processes known to mitigate or otherwise eliminate hazards.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Waste Vitrification and Treatment Plant
Plant Area:	600
System/Building/Equipment:	Fire Water Pump House (Building 84 & 84B).
Facility Function:	Nuclear Waste Operations/Disposal

Corrective Action 01:	**Target Completion Date:**12/04/2008 / **Tracking ID:**24590-WTP-PIER-MGT-08-1927
	PIER submitted to identify and initiate corrective actions. These corrective actions will than be entered into the system for tracking and closure purposes.
Lessons(s) Learned:	This occurrence illustrates the importance of compliance with procedures and the controls (administrative or engineered) in place when dealing with a hazardous energy source. However innocuous the activity may be, these controls are in place to protect the worker from hazards both realized and potential.
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	After plugging one end of an extension cord into a spider box, a pipe fitter discovered that the other end of the cord also had a male cord end. Work stopped. The extension cord was removed from circulation. An investigation has been initiated
Similar OR Report Number:	1. N/A

Facility Manager:

Name	Ojeda, Miguel
Phone	(509) 373-8629
Title	ISSUES MANAGEMENT COORDINATOR

Originator:

Name	READDY, MICHAEL A
Phone	(509) 373-8300
Title	OCCURRENCE REPORT COORDINATOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
10/09/2008	13:10 (PTZ)	Mike Hood	BNI/ Con
10/09/2008	13:10 (PTZ)	Max Hammond	BNI/ Con
10/09/2008	13:10 (PTZ)	Dave Leeth	BNI/ Con
10/09/2008	13:10 (PTZ)	Miles Stuffer	BNI/ SA
10/09/2008	13:10 (PTZ)	Jeff Bruggeman	DOE/FR
10/09/2008	14:50 (PTZ)	Ken Davis	ONC

Authorized Classifier(AC):

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4)Report Number: FE--NETL-GOPE-NETLALBANY-2008-0002 **After 2003 Redesign**

Secretarial Office:	Fossil Energy
Lab/Site/Org:	National Energy Technology Laboratory
Facility Name:	NETL - Albany
Subject/Title:	Unexpected Discovery of Hazardous Energy Source
Date/Time Discovered:	10/27/2008 16:30 (ETZ)
Date/Time Categorized:	10/28/2008 08:15 (ETZ)
Report Type:	Final
Report Dates:	Notification 11/07/2008 13:45 (ETZ) Initial Update 11/07/2008 15:08 (ETZ) Latest Update 11/07/2008 15:08 (ETZ) Final 11/07/2008 15:08 (ETZ)
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	A3B3C04 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; LTA review based on assumption that process will not change -->couplet - A2B3C03 - Equipment/ material problem; Inspection/ testing LTA; Post-maintenance/Post-modification testing LTA
ISM:	1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls 5) Provide Feedback and Continuous Improvement
Subcontractor Involved:	Yes Safety and Ecology Corporation
Occurrence Description:	A contractor crew performing a partial facility demolition was removing a wooden exhaust duct located directly below a metal electrical raceway as part of the beryllium cleanup project. The crew used a saws-all fitted with a 4 inch torch blade to remove the wooden duct when a spark was noticed. The work crew then immediately stopped work to determine the source of the spark. Upon inspection, it was determined that the contractor had cut through a de-energized electrical line located inside the metal raceway that was now exposed by an unexpected opening in the raceway. Further investigation revealed that there was also a second energized 480 volt circuit inside the raceway. Due to the presence of these unexpected openings, the contractors could have easily contacted the energized 480 volt circuit had the contractors not stopped working when they did.

Cause Description:	The team responsible for de-energizing the hazardous electrical energy to the demolition project ensured that the expected hazardous energy sources were de-energized and locked out prior to authorizing work. This included performing several zero energy checks and de-energizing additional lines prior to starting the demolition work. The electrician knew that there were other energized lines in the building, but did not communicate this information to the demolition crew because the lines were known to be encased in a steel raceway and these lines were not considered to be accessible to the demolition crews. The electrician did not realize that the steel raceway had several holes in it that provided unimpeded access to wiring in the raceway, including an energized 480 volt circuit. The electrician and demolition crew did not know about the holes because they were covered by the plywood duct that was being demolished. It is unclear why the holes were not plugged prior to being covered with the plywood duct sometime in the distant past. The potential for exposure to the energized source was not discovered until materials covering the metal raceway containing the energized source were removed and the holes exposed. The conclusion is that the primary cause of this event is the unexpected discovery of holes in the steel raceway encasing the energized 480 volt hazardous energy source. A contributing factor is a failure in communication between the electrician and the demolition crew to identify the presence and location of any remaining live hazardous energy in the area.
Operating Conditions:	Beryllium Demolition and Disposal Activities
Activity Category:	Facility Decontamination/Decommissioning
Immediate Action(s):	All work on the project was halted immediately. An investigation into the project revealed the presence of a formerly unidentified hazardous energy source. At no time was this unidentified energy source breached. Work was stopped before the contractor made contact with the hazardous energy source.
FM Evaluation:	Due to the quick thinking by the demolition contractor, all work was halted on this project until all danger was identified and removed.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Remediation Project
Plant Area:	Building 28
System/Building/Equipment:	Building 28 Room 001
Facility Function:	Environmental Restoration Operations
Corrective Action 01:	**Target Completion Date:** 11/14/2008 **Actual Completion Date:**
	Implement a review process to ensure all hazardous energy sources are

	identified and communicated to the appropriate personnel prior to performing demolition activities on Building 28 Room 001 demolition project.
Lessons(s) Learned:	The nature of a demolition activity frequently involves exposure to changing and unexpected situations. In this case, the information communicated between the electrician and the demolition crew seemed reasonable considering the scope of the demolition at the time the communication was made. However, unexpected conditions created a potential for exposure to hazardous energy that had not existed at the time the team communicated the information about the electrical hazards present. The holes in the metal raceway should never have been left unplugged and then covered with plywood. This created an unacceptable hazard. At the same time, it is important to communicate the presence and location of all hazardous energy sources in an area prior to starting a demolition project.
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 01S--Inadequate Conduct of Operations - Incorrect/Inadequate Installation 07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency 14H--Quality Assurance - Inspection and Acceptance Testing Deficiency
HQ Summary:	A contractor crew was using a “saws-all” to remove a wooden exhaust duct located directly below a metal electrical raceway, when they unexpectedly cut through a de-energized electrical line located inside the metal raceway. Further investigation revealed that there was also an energized 480-volt line inside the raceway (which was not contacted by the saw). All work on the project was halted immediately.
Similar OR Report Number:	1. FE--NETL-GOPE-NETLALBANY-2008-0001
Facility Manager:	Name: LAUTERBACH, PAUL D Phone: (412) 386-5811 Title: FACILITY MANAGER
Originator:	Name: LAUTERBACH, PAUL D Phone: (412) 386-5811 Title: FACILITY MANAGER

HQ OC Notification:	

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:	

Date	Time	Person Notified	Organization
10/27/2008	16:30 (ETZ)	Hector Rodriguez	NETL
10/27/2008	16:30 (ETZ)	Nancy Comstock	NETL

Authorized Classifier(AC):	

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5)Report Number:	NA--LASO-LANL-BOP-2008-0014 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	"at large" or Balance of Plant
Subject/Title:	Worker Receives a Mild Electrical Shock While Plugging a Refrigerator into a Wall Outlet
Date/Time Discovered:	10/08/2008 14:15 (MTZ)
Date/Time Categorized:	10/09/2008 14:42 (MTZ)
Report Type:	Update
Report Dates:	

Notification	10/14/2008	18:11 (ETZ)
Initial Update	11/21/2008	11:55 (ETZ)
Latest Update	11/21/2008	11:55 (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:	2) Analyze the Hazards
Subcontractor Involved:	No
Occurrence Description:	UDPATE (11/21/08): The completion of this report is being extended to allow for additional time to negotiate and finalize the corrective actions. The new completion date is December 8, 2008. The NNSA Facility Representative Team Leader has been notified of the extension. MANAGEMENT SYNOPSIS: On October 8, 2008, at Technical Area 69, Building 33, Room 224, at 1415, while unplugging an equipment cord from a power strip, an Emergency Operations Division worker (W1) received a

	mild electrical shock to his left hand. W1 indicated he felt a sensation in his left hand and immediately reported the event to his supervisor. He was taken to the LANL occupational medicine facility for evaluation and released back to work with no restrictions. Following notification, the Institutional Facilities and Central Services (IFCS) operations personnel secured the area pending further review.
Cause Description:	
Operating Conditions:	Normal Operations
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	1. W1 was taken to the LANL occupational medicine facility for evaluation and released back to work with no restrictions. 2. The IFCS operations personnel secured the area pending further review. They removed the refrigerator from service and had a division electrical safety officer (DESO) inspect the power strip. The DESO removed the power strip from service.
FM Evaluation:	The completion of this report is being extended to allow for additional time to negotiate and finalize the corrective actions. The new completion date is December 8, 2008. The NNSA Facility Representative Team Leader has been notified of the extension.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: BOP, I/HS-DO & ESH-IO By When: 12/08/2008
Division or Project:	Emergency Operations Division
Plant Area:	TA69-33-224
System/Building/Equipment:	120-Volt Wall Outlet
Facility Function:	Balance-of-Plant - Offices
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
HQ Summary:	On October 8, 2008, while plugging a refrigerator into a wall outlet at Technical Area 69, Building 33, Room 224, an Emergency Operations Division worker received a mild electrical shock to his right hand. The worker had unplugged the refrigerator from a surge protector before plugging it into the 120-volt wall outlet. The worker immediately reported the event to his supervisor and was taken to the LANL occupational

	medicine facility for evaluation. He was released back to work with no restrictions. Following notification, the Institutional Facilities and Central Services operations personnel secured the area pending further review.
Similar OR Report Number:	
Facility Manager:	Name: Judith Huchton Phone: (505) 665-2272 Title: IFCS Facility Operations Director
Originator:	Name: YAZZIE, ALVA M Phone: (505) 664-0666 Title: OCCURRENCE INVESTIGATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/09/2008 16:35 (MTZ) Notification Line NNSA 11/20/2008 15:34 (MTZ) Ed Christie NNSA
Authorized Classifier(AC):	Mark Hunsinger Date: 11/21/2008

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6)Report Number:	SC-ORO--ORNL-X10EAST-2008-0003 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Oak Ridge National Laboratory
Facility Name:	ORNL East Complex
Subject/Title:	Work Processes Not Followed in Electrical Circuit Breaker Replacement
Date/Time Discovered:	10/20/2008 17:30 (ETZ)
Date/Time Categorized:	10/20/2008 18:30 (ETZ)
Report Type:	Update
Report Dates:	Notification: 10/22/2008 21:21 (ETZ) Initial Update: 11/24/2008 11:55 (ETZ) Latest Update: 11/24/2008 11:55 (ETZ) Final:
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary

	investigations made before work is authorized to begin.
Cause Codes:	
ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On Wednesday, October 15, 2008, an ORNL Facility Manager's Maintenance Supervisor was notified of a computer room air conditioning (AC) problem. The supervisor authorized electricians to troubleshoot the problem. The electricians determined a need to replace a 480 volt circuit breaker. The breaker was replaced without deenergizing the associated electrical service and without following the accepted ORNL work control processes for working on energized equipment which includes senior management approval. The electricians used the appropriate Personnel Protective Equipment (PPE) and tools for energized work had the work been approved. No one was injured during the execution of this work. On October 20, the Complex Facility Manager was informed of a possible electrical work control noncompliance. At approximately 1730 hours the Complex Facility Manager determined that appropriate electrical work controls had not been implemented. The event was categorized as a 2C(2) occurrence, i.e., failure to follow a prescribed hazardous energy control process. An investigation surrounding the circumstances of the circuit breaker replacement is underway. UPDATE 11/24/2008: The occurrence precipitated NTS-ORO--ORNL-X10BOPLANT-2008-0003. On 11/24/2008, the DOE Facility Representative granted approval to revise the Final occurrence report due date to match the NTS corrective action plan due date in ACTS, i.e., move to 1/7/2009.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	In the evening of 10/20/2008, the ORNL Complex Facility Manager, in conjunction with associated engineers and electricians, determined that the breaker had been replaced without following ORNL electrical work processes. The Complex Facility Manager arranged for a critique of the event to occur on Tuesday, October 21, 2008. The critique was completed which led to the conclusion that further interviews and investigation was required. Those interviews and investigation is underway. Appropriate disciplinary action will be administered upon completion of the investigation.
FM Evaluation:	UPDATE 11/24/2008: The occurrence precipitated NTS-ORO--ORNL-

	X10BOPLANT-2008-0003. On 11/24/2008, the DOE Facility Representative granted approval to revise the Final occurrence report due date to match the NTS corrective action plan due date in ACTS, i.e., move to 1/7/2009.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Facilities Management Div. By When: 01/07/2009
Division or Project:	Facilities Management Division
Plant Area:	Bldg 5600
System/Building/Equipment:	Electrical breaker, Bldg 5600, Rm D110
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) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 07E--Electrical Systems - Electrical Equipment Failure 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 15, 2008, an ORNL Facility Manager's Maintenance Supervisor was notified of a computer room air conditioning (AC) problem. The supervisor authorized electricians to troubleshoot the problem. The electricians determined a need to replace a 480 volt circuit breaker. The breaker was replaced without de-energizing the associated electrical service and without following the accepted ORNL work control processes for working on energized equipment, which includes senior management approval. The electricians used the appropriate Personnel Protective Equipment (PPE) and tools for energized work had the work been approved. No one was injured during the execution of this work. On October 20, 2008, the ORNL Complex Facility Manager, in conjunction with associated engineers and electricians, determined that the breaker had been replaced without following ORNL electrical work processes. An investigation surrounding the circumstances of the circuit breaker replacement is underway.
Similar OR Report Number:	

Facility Manager:	Name: Steffon Riser Phone: (865) 574-4243 Title: East Complex Facility Manager
Originator:	Name: STORMER, R WAYNE Phone: (865) 574-6999 Title: EVENT REPORTING GROUP
HQ OC Notification:	Date: NA, Time: NA, Person Notified: NA, Organization: NA
Other Notifications:	10/20/2008 17:30 (ETZ) Lab Shift Superintendent ORNL-LSS 10/20/2008 20:18 (ETZ) Michele Branton DOE-ORO 10/20/2008 20:18 (ETZ) Johnny Moore DOE-ORO
Authorized Classifier(AC):	