April 2007 Electrical Safety Occurrences

There were 18 electrical safety occurrences for April 2007:

- 3 resulted in shocks to workers (4 workers received shocks)
- 1 resulted in a minor burn to a worker
- 4 involved lockout/tagout
- 5 involved cutting/drilling "electrical intrusions"
- 8 involved electrical workers and 10 involved non-electrical workers.
- 8 involved subcontractors.

In compiling the monthly totals, the search initially looked for occurrence discovery dates in this month, and for the following ORPS "HQ keywords":

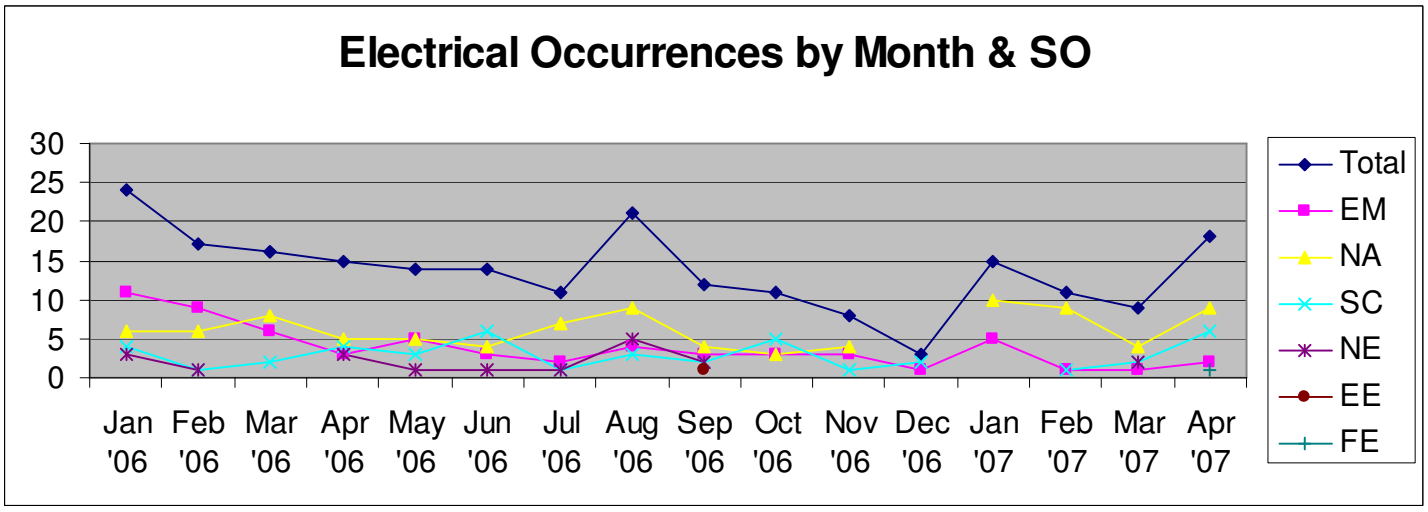
01K – Lockout/Tagout Electrical, 01M - Inadequate Job Planning (Electrical),
08A – Electrical Shock, 08J – Near Miss (Electrical), 12C – Electrical Safety

The initial search yielded 20 occurrences. However, one report (EM-RP--BNRP-RPPWTP-2007-0007) involved recurring occurrences, which should not be counted twice. Another (NA--SS-SNL-NMFAC-2007-0004) involved LOTO issues, but its description implies that there was never an electrical hazard. Culling out these two reports yields 18 electrical safety occurrences for the month.

The rolling summary of 2007 electrical safety occurrences is now:

period	Elec. Safety Occurrences	Shocks	Burns	Fatalities
1/07	15	1	0	0
2/07	11	3	0	0
3/07	9	1	0	0
4/07	18	3	1	0
2007 total	53	8	1	0
2006 total	166	26	3	0
2005 total	165	39	5	0
2004 total	149	25	3	1

The average rate of occurrences in 2007 is now 13 per month, which is less and the average rate of 14 per month experienced in 2006.



Electrical Safety Occurrences – April 2007

No	Report Number	Subject / Title	ew	n-ew	sub	shock	burn	arcf	loto	excav	cut/d	veh
1	EM-RP--BNRP-RPPWTP-2007-0004	Lock-Out/Tag-Out Issue Involving Subcontractor Work on HVAC Unit at Subcontractor Trailer	x		x				x			
2	EM-RP--BNRP-RPPWTP-2007-0005	Subcontractor Vendor Failure to Apply Hazardous Energy Controls While Working on Dehumidifier at the +48 Level of LAW Building	x		x							
3	FE--NETL-GOPE-NETLPIT-2007-0001	Hazardous Energy Exposure Caused by Improper Alignment of Power Strip Receptacles		x								
4	NA--LASO-LANL-ACCCOMPLEX-2007-0004	Accidental Electrical Conduit Penetration		x	x						x	
5	NA--LSO-LLNL-LLNL-2007-0020	Electrical line cut during repair of emergency lighting.	x									
6	NA--LSO-LLNL-LLNL-2007-0023	Near Miss, Electrical Conduit Hit at Building 112		x	x						x	
7	NA--NVSO-NST-NLV-2007-0002	Electrical Conduit Concealed in Concrete Penetrated		x							x	
8	NA--PS-BWXP-PANTEX-2007-0046	Key Control Concern for Lockout/Tagout	x		x				x			
9	NA--PS-BWXP-PANTEX-2007-0048	Unexpected Discovery of Hazardous Energy, 110 Volts	x								x	
10	NA--SS-SNL-6000-2007-0001	Worker (USAF) Receives Electrical Shock from Electrical Cord from Air Force Trailer plugged in to Sandia power in Building 820		x	x	x	x					
11	NA--SS-SNL-6000-2007-0002	Unauthorized Work on Energized System	x									
12	NA--SS-SNL-6000-2007-0003	Discovery of Uncontrolled Hazardous Energy Source and Safety Issue with Knife at the Randolph Building during a Self-Assessment		x								
13	SC--ASO-ANLE-ANLEAPS-2007-0001	Improper Removal of Electrical Plug Results in Short to Ground		x								
14	SC--ASO-ANLE-ANLEFMS-2007-0006	Employee Reports Electrical Shock While Replacing Fluorescent Light Tube into Fixture		x		x						
15	SC--BSO-LBL-MSD-2007-0002	Management Concern involving vendor working on electrically energized equipment	x		x				x			
16	SC--PNSO-PNNL-PNNLBOPER-2007-0003	Noncompliance with Hazardous Energy Control Procedure	x						x			
17	SC--SSO-SU-SLAC-2007-0006	Ground Rod Penetration of Utility Tunnel		x	x						x	
18	SC--TJSO-JSA-TJNAF-2007-0001	Management Concern Associated With Potential Minor Electrical Shock ("Tingle") Report		x		x						
	Total		8	10	8	3	1		4		5	

Key

ew= electrical worker, n-ew = non-electrical worker, sub = subcontractor, arcf = significant arc flash, excav = excavation, cut/d = cutting or drilling, veh = vehicle event

ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 53213 OR(s) with 56531 occurrences(s) as of 5/22/2007 10:31:59 AM
Query selected 18 OR(s) with 18 occurrences(s) as of 5/22/2007 11:48:32 AM

Download this report in Microsoft Word format.

1)Report Number:	EM-RP--BNRP-RPPWTP-2007-0004 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	RPP Waste Treatment Plant
Subject/Title:	Lock-Out/Tag-Out Issue Involving Subcontractor Work on HVAC Unit at Subcontractor Trailer
Date/Time Discovered:	04/05/2007 14:00 (PTZ)
Date/Time Categorized:	04/05/2007 14:15 (PTZ)
Report Type:	Notification
Report Dates:	Notification 04/10/2007 16:55 (ETZ) Initial Update Latest Update Final
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes Quality Inspection Services Incorporated
Occurrence Description:	At approximately 1400 hrs on April 5, 2007, an employee of the subcontractor company Quality Inspection Services Incorporated (QISI) was observed performing work in apparent violation of Waste Vitrification and Treatment Plant (WTP) Lock-out/Tag-out (LO/TO) processes. A heat pump panel, covering electrical components and labeled "Do Not Remove," had been removed by the subcontractor in order to perform work inside the panel. There were no WTP postings on the panel.
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Construction
Immediate Action(s):	Work was stopped immediately when it was noted that the heat pump electrical panel label had been inappropriately removed without application of a LO/TO control. The area was cleared of personnel and then barricaded to prevent access

	to the equipment. Management initiated an investigation regarding the conditions at the incident site, and of decisions and conditions leading to the event. At 1450 hrs, the investigation determined that the label was a manufacturer label, not a WTP label. The manufacturer label reads, in part, "Disconnect all remote electrical power before opening any unit panels."
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Bill Lung By When:
Division or Project:	Waste Vitrification and Treatment Plant
Plant Area:	600 Area
System/Building/Equipment:	Balance of Facilities (Subcontractor Trailer)
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Conduct of Operations - Lockout/Tagout (Electrical) 01M--Conduct of Operations - Inadequate Job Planning (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process
HQ Summary:	At the Hanford Waste Vitrification and Treatment Plant, a subcontractor removed a heat pump panel covering electrical components, and labeled "Do Not Remove," without applying lock-out/tag-out controls. When this was observed, the area was cleared of personnel and barricaded to prevent access to the equipment, and an investigation was initiated.
Similar OR Report Number:	
Facility Manager:	Name: BOND, SHAWN L Phone: (509) 371-2117 Title: SAFETY OPERATIONS SPECIALIST
Originator:	Name: BOND, SHAWN L Phone: (509) 371-2117 Title: SAFETY OPERATIONS SPECIALIST

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/05/2007	14:10 (PTZ)	Grant Ceffalo	FSA
04/05/2007	14:10 (PTZ)	Hank Gorski	RS

04/05/2007	14:15 (PTZ)	Mike Lewis	CON(FAM)
04/05/2007	14:20 (PTZ)	Jim Navaro	DOE-FR
04/05/2007	15:29 (PTZ)	Jeff Bruggeman	DOE-FR
04/05/2007	15:31 (PTZ)	Jim Navaro	DOE-FR
04/05/2007	15:48 (PTZ)	Ron Smithwick	ONC

Authorized Classifier(AC):

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2)Report Number: EM-RP--BNRP-RPPWTP-2007-0005 **After 2003 Redesign**

Secretarial Office: Environmental Management

Lab/Site/Org: Hanford Site

Facility Name: RPP Waste Treatment Plant

Subject/Title: Subcontractor Vendor Failure to Apply Hazardous Energy Controls While Working on Dehumidifier at the +48 Level of LAW Building

Date/Time Discovered: 04/17/2007 12:35 (PTZ)

Date/Time Categorized: 04/17/2007 14:37 (PTZ)

Report Type: Notification

Report Dates:

Notification	04/19/2007	18:49 (ETZ)
Initial Update		
Latest Update		
Final		

Significance Category: 3

Reporting Criteria: 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

Cause Codes:

ISM:

Subcontractor Involved: Yes
Clayton Coatings

Occurrence Description: On Tuesday, April 17, 2007, at approximately (0930 hrs), an equipment supplier (Dryco Co.) for a Waste Vitrification and Treatment Plant (WTP) construction subcontractor (Clayton Coatings) serviced an energized dehumidifier without satisfying all the requirements of the WTP hazardous energy control process.

Clayton Coatings requested that a supplier representative come to the WTP Construction site to deliver parts. The supplier representative arrived on site with a visitor badge and trip ticket issued by the Marshaling Yard for delivery of filters and an indicator light for a rented dehumidifier. Upon arriving at the site at gate 23, a security officer released the supplier representative to a Clayton Coatings employee for escort, in addition to notifying the Clayton Coatings subcontractor coordinator that a delivery was being made of a small package. While at the site, Clayton Coatings requested that the supplier representative

	attempt to troubleshoot and restart a dehumidifier located at the LAW on the east side of EL. +48 that had shut down due to a power loss over the weekend and could not be restarted. A Safety Task Analysis Risk Reduction Talk (STARRT) card had been created for the work activity by Clayton Coatings, however it did not address hazardous energy controls. The subcontractor representative decided he needed access to the dehumidifer electrical panel. The door to the panel could not be opened with the dehumidifier power switch in the on-position. Before opening the panel, the power was turned off by the supplier representative using the panel-mounted power switch, after which he opened the panel door to access reset buttons. However, utilizing the panel-mounted power switch to de-energized the panel still left the load side of the power switch energized with 480 Volts in violation of hazardous energy controls. The supplier representative was not informed of policy to require implementation of a hazardous energy control process during prior to beginning work. A BNI craft person witnessed the supplier representative working inside the electrical panel and subsequently questioned if the representative was an electrician. The representative stated that he was not an electrician, after which the BNI craft person proceeded to notify his superintendent.
Cause Description:	
Operating Conditions:	Dehumidifier was powered by a 3-phase 480 Volt supply. All other parameters were normal.
Activity Category:	Construction
Immediate Action(s):	The WTP worker informed his general foreman, who contacted the electrical general foreman, who contacted the LAW electrical superintendent, who subsequently investigated the activity. Upon investigation, the electrical superintendent determined that the vendor had not applied BNI hazardous energy controls to the dehumidifier prior to performing work. Clayton Coatings has been notified that they will not perform work on any energized equipment until processes are in place to prevent recurrence of hazardous energy control violation. Clayton Coatings is required to submit an action plan to correct the identified deficiencies. Once approved by BNI Construction Management, the plan will be implemented. An additional notice was sent to all subcontractors and service providers, restricting them from performing work activities involving hazardous energies until further notice. A notice of advisement has been included in the site general STARRT card that visitors are required to review, acknowledge, and comply with hazardous energy work restrictions identified in the subject notice prior to gaining access to the site. An investigation is currently underway and has not yet determined whether or not the scope of work was delivery only or delivery and troubleshoot.
FM Evaluation:	
DOE Facility Representative Input:	

DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Bill Lung By When:
Division or Project:	Waste Vitrification and Treatment Plant
Plant Area:	600
System/Building/Equipment:	Low Activity Waste (LAW) Building
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Conduct of Operations - Conduct of Operations (miscellaneous) 01K--Conduct of Operations - Lockout/Tagout (Electrical) 01O--Conduct of Operations - Maintenance 01P--Conduct of Operations - Communication 01R--Conduct of Operations - Management issues 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process
HQ Summary:	An equipment supplier representative for a construction subcontractor arrived at the WTP construction site to deliver parts. A subcontractor coordinator asked him to troubleshoot and restart a dehumidifier while he was onsite. The supplier representative opened an electrical panel to access the dehumidifier's reset button. He turned the power off using the panel-mounted power switch; however, the load side of the power switch remained energized at 480v. The supplier has been requested to provide a corrective action plan before doing any further work on energized systems. An additional notice was sent to all subcontractors and service providers, restricting them from performing work activities involving hazardous energy until further notice. An investigation has been initiated.
Similar OR Report Number:	
Facility Manager:	Name: BOND, SHAWN L Phone: (509) 371-2117 Title: SAFETY OPERATIONS SPECIALIST
Originator:	Name: BOND, SHAWN L Phone: (509) 371-2117 Title: SAFETY OPERATIONS SPECIALIST

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/17/2007	12:35 (PTZ)	Facility Area Manager	WTP
04/17/2007	14:47 (PTZ)	DOE On-Call FR	DOE

Authorized Classifier(AC):	

3)Report Number:	FE--NETL-GOPE-NETLPIT-2007-0001 **After 2003 Redesign**
Secretarial Office:	Fossil Energy
Lab/Site/Org:	National Energy Technology Laboratory
Facility Name:	NETL - Pittsburgh
Subject/Title:	Hazardous Energy Exposure Caused by Improper Alignment of Power Strip Receptacles
Date/Time Discovered:	04/13/2007 09:00 (ETZ)
Date/Time Categorized:	04/16/2007 12:49 (ETZ)
Report Type:	Final
Report Dates:	Notification 04/18/2007 13:29 (ETZ) Initial Update 05/02/2007 09:54 (ETZ) Latest Update 05/02/2007 09:54 (ETZ) Final 05/02/2007 09:54 (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:	A1B4C02 - Design/Engineering Problem; Design Verification / Installation Verification LTA; Testing of design/installation LTA A3B3C06 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Individual underestimated the problem by using past events as basis -->couplet - A2B3C01 - Equipment/ material problem; Inspection/ testing LTA; Startup 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:	No
Occurrence Description:	Due to the improper installation of a GA Series Plugmold assembly (UL Issue No. 2426) manufactured by the Wiremold Company, the safety ground on a three prong, single insulated power tool became fully energized. Consequently, the metal tip of the power tool became "hot" and shorted-out when it made contact with the electrically grounded optical table, creating an electrical arc between the heat gun and the optical table and causing the circuit breaker to trip. The individual using the heat gun made no contact with the hazardous electical energy.
Cause Description:	During installation, an internal conductor wire fell from a retainer that maintained proper wiring alignment within a commercially supplied power strip. This allowed the ground stabbing pin for one of the receptacles to penetrate the

	insulation of a hot conductor, bringing the ground of that particular receptacle to a potential of 120 Volts AC.
Operating Conditions:	Routine DOE maintenance operations in a laboratory involving use of a heat gun.
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	The energy sources were locked-out and the receptacle power strip was inspected to discover the source of the ground fault. Once the source was confirmed, the entire power strip was electrically disconnected and then physically removed from service.
FM Evaluation:	Personnel involved in discovery and correction of this concern acted swiftly and prudently to ensure that it was eliminated safely. They are to be commended for providing this useful information to the benefit of others using similar electrical equipment.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Energy System Dynamics Division
Plant Area:	R&D Plataeu
System/Building/Equipment:	Building 84, Room 117
Facility Function:	Laboratory - Research & Development
Corrective Action 01:	**Target Completion Date:** 12/31/2007 **Actual Completion Date:**
	Inspect all plugmolding on-site to determine the existence of all GA series units. GA series units can be determined by removing the cover on the termination box and determining whether the ground wire terminated at the box (GA series) or if the ground wire continued into the plugmold (GBA series and beyond). Wherever the GA series is identified, it will be marked and a qualified inspector will then test every receptacle in the plugmold to ensure that all receptacles are functioning properly. Any defective receptacles that are found will be immediately removed from service. An inventory will be maintained of all GA series receptacles, their location, and whether any are determined to be defective.
Lessons(s) Learned:	The manufacture of Wiremold Multi-Outlet Plugmode 2000 GA series was discontinued between 1987 and 1988 and replaced with the GBA series, and then followed by other series subsequently. The newer GBA series, and all subsequent series after that have been modified with continuous hardwired ground wire between receptacles to preclude this type of ground fault from occurring during installation. Once the GA series plugmold is installed, there is no way to visually inspect the wiring. Because the ground fault only affected a single receptacle and did not cause a fault until a grounded plug was used, there was no way to have detected the ground fault without individually using/testing each receptacle. It is not known whether the ground fault receptacle was used since it was installed , but unless the grounded plug was engaged in this single ground faulted receptacle, it would not have shorted. The only way to prevent this type of unexpected hazardous energy exposure would be to have tested each receptacle individually after completion of the installation, and prior to use.

HQ Keywords:	01A--Conduct of Operations - Conduct of Operations (miscellaneous) 01Q--Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 11F--Other - Inadequate Design 12C--EH Categories - Electrical Safety 13E--Management Concerns - Facility Call Sheet 14E--Quality Assurance - Work Process 14F--Quality Assurance - Design 14H--Quality Assurance - Inspection and Acceptance Testing
HQ Summary:	Improper installation of a Plugmold assembly in NETL Building 84 caused the metal tip of an insulated heat gun to short out when it made contact with an electrically grounded table, tripping a circuit breaker. Energy sources were locked out and an inspection found that the receptacle power strip was the source of the ground fault. The power strip was physically removed from service.
Similar OR Report Number:	1. DP-SR--WSRC-RMAT-1993-0020

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
04/13/2007	17:36 (ETZ)	Daniel Maloney	NETL
04/16/2007	14:13 (ETZ)	William Lowry	NETL
04/16/2007	14:13 (ETZ)	Anthony Cugini	NETL
04/16/2007	14:13 (ETZ)	Joseph Parise	NETL
04/16/2007	14:13 (ETZ)	Eric Saab	NETL
04/16/2007	14:13 (ETZ)	Michael Monahan	NETL

Authorized Classifier(AC):

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4)Report Number:	NA--LASO-LANL-ACCCOMPLEX-2007-0004 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	Accelerator Complex
Subject/Title:	Accidental Electrical Conduit Penetration
Date/Time Discovered:	04/17/2007 13:15 (MTZ)
Date/Time Categorized:	04/18/2007 07:44 (MTZ)
Report Type:	Notification

Report Dates:

Notification	04/19/2007	18:30 (ETZ)

	Initial Update		
	Latest Update		
	Final		

Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes New Mexico Concrete Cutting
Occurrence Description:	Management Synopsis: A New Mexico Concrete Cutting worker was using a hammer drill to drill a pilot hole in the 14 inch concrete slab roof of the Lujan center. The worker unexpectedly drilled into a conduit containing live 120 Volt single phase wire. The worker realized that he hit the conduit when it sparked. He immediately stopped work and made the appropriate notifications. The worker was not injured. Background: The HVAC system at the Lujan Center is being upgraded as part of a Facility and Infrastructure Recapitalization Program (FIRP) project. The scope of the project includes the installation of a concrete equipment pad, relocation of a fence, installation of duct support piers, demolition and removal of a cooling tower and related water line removal. A New Mexico Concrete Cutting worker was drilling pilot holes from the roof in order that duct work could be installed from below when the conduit was penetrated. The worker knew from as-built drawings that a conduit was in the area but believed it was located in a region different than where he was working. Two methods of detecting electrical hazard associated with the conduit were used to determine where the conduit was located: Ground Penetrating Radar (GPR) and an Induction meter. Facility as-built drawings were also consulted. A pre-job briefing was conducted and the worker did not deviate from the IWD including the use of Lockout/Tagout (LOTO) for the electrical circuit in the conduit that was known to be in the area. It was later discovered that an additional circuit other than the one locked out was in the conduit. In addition to an approved IWD there was an Excavation/Soil disturbance Permit and a Penetration Permit. The worker was wearing appropriate electrical PPE. A qualified Electrical Safety Officer rated this event at a severity index 10 which means the electrical hazard to personnel safety was evaluated to be non-existent or very low during this event.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Construction

Immediate Action(s):	1) Work was stopped immediately and work site put in a safe condition 2) After LOTO, the wire in the conduit was pulled to allow workers to continue the HVAC upgrade without the presence of any electrical hazard.
FM Evaluation:	The subcontractor was authorized by the FOD to restart work after the electrical wire was de-energized and all wiring removed from the conduit and a pre-evolution meeting was held. Work was performed per the approved IWD. The pre-evolution briefing was attended by the site safety officer. The subcontractor workers were knowledgeable on the hazards, controls and actions to take on unexpected discoveries.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	HVAC Up-grades
Plant Area:	1L Service Area Roof
System/Building/Equipment:	TA-53 MPF-7
Facility Function:	Accelerators
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Conduct of Operations - Configuration Management/Control 07D--Electrical Systems - Electrical Wiring 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records 14E--Quality Assurance - Work Process
HQ Summary:	A subcontractor worker was using a hammer drill to drill a pilot hole in the 14-inch concrete slab roof of the Lujan Center and unexpectedly drilled into a conduit containing a live 120-volt single-phase wire. The worker realized that he hit the conduit when he saw sparks. He immediately stopped work and made the appropriate notifications. The worker was not injured.
Similar OR Report Number:	1. NA--LASO-LANL-ACCCOMPLEX-2006-0001
Facility Manager:	Name: Dan Seely Phone: (505) 665-8363 Title: Facility Operations Director (FOD-4)
Originator:	Name: TALLARICO, ANTONIA Phone: (505) 665-6988 Title: OCCURRENCE INVESTIGATOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/18/2007	07:12 (MTZ)	Notification line	NNSA

Authorized Classifier(AC):	Antonia Tallarico Date: 04/19/2007

5)Report Number:	NA--LSO-LLNL-LLNL-2007-0020 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Lawrence Livermore National Lab.
Facility Name:	Lawrence Livermore Nat. Lab. (BOP)
Subject/Title:	Electrical line cut during repair of emergency lighting.
Date/Time Discovered:	04/04/2007 11:00 (PTZ)
Date/Time Categorized:	04/04/2007 15:30 (PTZ)
Report Type:	Update
Report Dates:	Notification 04/05/2007 17:05 (ETZ) Initial Update 05/21/2007 11:18 (ETZ) Latest Update 05/21/2007 11:18 (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:	
Subcontractor Involved:	No
Occurrence Description:	On Saturday March 31, 2007, two Electricians were performing repairs on emergency lighting in Building 481. The Electricians first Locked Out & Tagged Out (LOTO) the emergency lighting circuit and verified absence of voltage. The Electricians proceeded with work and cut the neutral wire on the ballast of the emergency lights. In doing so, they noticed the normal lighting going off in their work area. At that time the Electricians immediately stopped their work, identified the normal power circuit, performed LOTO, and verified absence of voltage. They then checked the wiring circuits and discovered a shared neutral between the emergency power and the normal power circuits. Since performing further work on the circuits would be beyond the approved scope of work, the Electricians immediately returned the emergency lights to their original state and re-energized the lighting. On April 2, the electricians notified the building Facility Point of Contact (FPOC) and line management supervision. No injuries (shock) occurred during this event. The electricians performed work within required work procedures and wore the prescribed PPE. The incident is under review.
Cause Description:	
Operating Conditions:	Normal

Activity Category:	Maintenance
Immediate Action(s):	1. The Electricians immediately stopped work. 2. The Electricians performed LOTO and absence of voltage on the normal circuit for lighting in the work area. 3. The Electricians returned the emergency lighting to its original state and re-energized lighting in the area. 4. The Electricians notified the Building 481 FPOC and line management supervision about the incident.
FM Evaluation:	Final Report Due 5/18/07
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Jon Sjoberg By When:
Division or Project:	LSD
Plant Area:	Site 200
System/Building/Equipment:	Building 481 Emergency Lighting
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Conduct of Operations - Configuration Management/Control 01M--Conduct of Operations - Inadequate Job Planning (Electrical) 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14D--Quality Assurance - Documents and Records 14E--Quality Assurance - Work Process
HQ Summary:	While performing repairs on emergency lighting in Building 481, two electricians cut the neutral wire on a ballast, and then noticed the normal lighting going off in their work area. The electricians discovered a shared neutral between the emergency power and the normal power circuits. Since performing further work on the circuits would be beyond the approved scope of work, the Electricians immediately returned the emergency lights to their original state, re-energized the lighting, and made notifications. No injuries or shock occurred during this event. The electricians performed work within required work procedures and wore the prescribed PPE. The incident is under review.
Similar OR Report Number:	
Facility Manager:	Name: Pam Smith Phone: (925) 422-9263 Title: Associate Director
Originator:	Name: ECCHER, BARBARA A

	Phone: (925) 422-9332 Title: OCCURRENCE REPORTING OFFICER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 04/04/2007; Time: 16:32 (PTZ); Person Notified: Lois Marik; Organization: NNSA/LSO
Authorized Classifier(AC):	

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6)Report Number:	NA--LSO-LLNL-LLNL-2007-0023 **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:	Near Miss, Electrical Conduit Hit at Building 112
Date/Time Discovered:	04/23/2007 14:00 (PTZ)
Date/Time Categorized:	04/23/2007 16:00 (PTZ)
Report Type:	Notification
Report Dates:	Notification: 04/24/2007 19:01 (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 Partition Specialties Inc
Occurrence Description:	On April 23, 2007, at approximately 1330, a LLNL construction subcontractor penetrated an embedded electrical conduit in Building 112, containing an energized 277 volt lighting circuit with a Hilti TE 6-S drill. The subcontract worker was installing computer floor support pedestals in the concrete floor. He was drilling anchor holes (1/4 inch diameter by about 3 inch deep) to secure each pedestal base. Each pedestal required four holes. The embedded metal rebar and electrical utilities in the concrete floor had previously been scanned and marked by LLNL utility locators. The electrical circuit was immediately Locked and Tagged Out (LOTO). The result of this event, was a loss of power to the immediate circuit and another circuit supplying overhead lighting. The worker was wearing the appropriate

	PPE and was not injured (i.e. shocked) during this event. A critique is being conducted.
Cause Description:	
Operating Conditions:	NA
Activity Category:	Construction
Immediate Action(s):	1. The drilling of anchor holes was immediately discontinued. 2. The damaged circuit was Locked and Tagged Out. 3. LLNL Management was notified and immediately responded to the job site. 4. LLNL Management is reviewing the vendor's safety documentation. 5. LLNL initiated a critique to further investigate the incident and the cause.
FM Evaluation:	Final Report due 6/6/07.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Jon Sjoberg By When: 06/06/2007
Division or Project:	LSD
Plant Area:	Site 200, Block 100
System/Building/Equipment:	112
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07C--Electrical Systems - Power Outage 07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process
HQ Summary:	While installing computer floor support pedestals in the concrete floor in LLNL Building 112, a construction worker drilled into an embedded electrical conduit containing an energized 277 volt lighting circuit. Embedded metal rebar and electrical utilities in the concrete floor had previously been scanned and marked by LLNL utility locators, however the circuit was apparently missed. The event caused a loss of power to the immediate circuit and another circuit supplying overhead lighting. The worker was wearing the appropriate PPE and was not injured. The damaged circuit was locked and tagged out and a critique was initiated.
Similar OR Report Number:	
Facility Manager:	Name: Pamela Smith Phone: (925) 422-9263

	Title: Associate Director- Laboratory Services
Originator:	Name: ECCHER, BARBARA A Phone: (925) 422-9332 Title: OCCURRENCE REPORTING OFFICER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 04/23/2007; Time: 16:30 (PTZ); Person Notified: John Retelle; Organization: NNSA/LSO
Authorized Classifier(AC):	

7)Report Number:	NA--NVSO-NST-NLV-2007-0002 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Las Vegas Office
Facility Name:	North Las Vegas
Subject/Title:	Electrical Conduit Concealed in Concrete Penetrated
Date/Time Discovered:	04/27/2007 11:15 (PTZ)
Date/Time Categorized:	04/27/2007 12:00 (PTZ)
Report Type:	Notification
Report Dates:	Notification: 04/27/2007 18:14 (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:	A National Security Technologies, LLC (NSTec) maintenance crew was drilling a pilot hole into a concrete floor to install conduit in the A-13 facility. They drilled through a 3/4-inch electrical conduct that was energized. The electrical line had 120 volts / 20 amps and did trip the breaker when incident occurred. The crew was using proper personal protective equipment and using a double insulated drill. No injuries or damage occurred.
Cause Description:	
Operating Conditions:	Does Not Apply

Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	Work suspended, lockout/tagout put into place for affected circuits. Notifications made to NSTec and NNSA/Nevada Site Office line management. Critique scehduled for this afternoon.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Zone 3 Manager By When: 06/11/2007
Division or Project:	Zone 3 Maintenance
Plant Area:	NLV - A-13
System/Building/Equipment:	NLVF A-13 Facilitly
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01M--Conduct of Operations - Inadequate Job Planning (Electrical) 07C--Electrical Systems - Power Outage 07D--Electrical Systems - Electrical Wiring 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process
HQ Summary:	As a maintenance crew was installing conduit in the Las Vegas A-13 Facility, they drilled through an electrical conduit in the concrete floor. The conduit held an energized 120 volts/20 amp line. The circuit breaker tripped. The crew was wearing proper personal protective equipment, used a double-insulated drill, and there were no injuries. Work was suspended and affected circuits were locked and tagged out. A critique was scheduled.
Similar OR Report Number:	1. DP-NVOO--BN-NLV-2003-0003
Facility Manager:	Name: Richard Schmidt Phone: (702) 295-3625 Title: Manager, Zone 3
Originator:	Name: GILE, ANDREA L Phone: (702) 295-7438 Title: PROJECT OPERATIONS SPEC.
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date | Time | Person Notified | Organization

04/27/2007	11:45 (PTZ)	Duty Manager	SOC
04/27/2007	12:15 (PTZ)	Dennis Armstrong	NSO/FR
04/27/2007	13:00 (PTZ)	Daniel Rivas	NSO

Authorized Classifier(AC): Harold Begley Date: 04/27/2007

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8)Report Number: NA--PS-BWXP-PANTEX-2007-0046 **After 2003 Redesign**

Secretarial Office: National Nuclear Security Administration

Lab/Site/Org: Pantex Plant

Facility Name: Pantex Plant

Subject/Title: Key Control Concern for Lockout/Tagout

Date/Time Discovered: 04/10/2007 19:30 (CTZ)

Date/Time Categorized: 04/11/2007 15:30 (CTZ)

Report Type: Final

Report Dates:

Notification	04/13/2007	08:44 (ETZ)
Initial Update	05/15/2007	13:11 (ETZ)
Latest Update	05/15/2007	13:11 (ETZ)
Final	05/15/2007	13:11 (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: A3B1C02 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Step was omitted due to distraction
-->couplet - NA
A3B1C03 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Incorrect performance due to mental lapse
-->couplet - NA

ISM: 4) Perform Work Within Controls

Subcontractor Involved: Yes
Noresco

Occurrence Description: BWXT Electricians were performing an electrical lockout/tagout (LO/TO) in support of an outside contract. During the LO/TO process, lockout keys were not placed in the lock box as specified in the LO/TO procedure. Applicable circuits had been de-energized, locked and tagged. No work performed on energized electrical circuits.

There were no injuries to personnel or damage to equipment or the environment as a result of this event.

Cause Description: CAUSE CODE: A3B1C02 - HUMAN PERFORMANCE LTA, SKILL BASED ERROR, Step was omitted due to distraction

	CAUSE CODE: A3B1C03 - HUMAN PERFORMANCE LTA, SKILL BASED ERROR, Incorrect performance due to mental lapse The BWXT Pantex Electricians, who executed the LO/TO, placed the lockout keys on a convenient surface in the area where they were installing lockout devices. Upon completion of locking out all affected circuits, the Electricians inadvertently failed to pick up the keys and place them in the group lockout box. The Craft Supervisor and four Electricians involved in the incident will review the LO/TO procedures to reinforce their knowledge of the LO/TO process and, in particular, the requirements for control of lockout keys. (Corrective Action 1) A factor related to the human performance error was the distracting work environment that existed during the lockout activity. Besides the Craft Supervisor and Electricians, the Project Subcontract Technical Representative (PSTR) and Subcontractor personnel were in the immediate area, talking, which created congestion and distractions for the Electricians. Maintaining an orderly and formal work environment allows workers to focus on the job tasks and supports consistent performance. The Craft Supervisor will document the details of this event and related lessons learned, focusing on the importance of maintaining formality of operations at the work site and being attentive to minimizing work site distractions and interruptions. The lesson learned will also discuss the benefits of covering roles and responsibilities for control of keys and other critical steps in complex lockouts to enhance situational awareness. The lesson learned will be disseminated to all BWXT Pantex Craft Supervisors, Craft Workers, and construction and maintenance PSTRs. (Corrective Action 2)
Operating Conditions:	Normal
Activity Category:	Maintenance
Immediate Action(s):	The Plant Maintenance Department Manager suspended new LO/TOs in support of Subcontractor work pending critique results. A critique was held on April 11, 2007, and the event was categorized as 2C(2) S/C 3, Personnel Safety and Health,Hazardous Energy Control, Failure to follow a prescribed hazardous energy control process.
FM Evaluation:	The personnel involved in this event were aware of the requirement to control the lockout keys, but forgot to place the keys in the lockbox. Corrective actions focus on reinforcing the importance of maintaining formality at the work site and effectively using the pre-job discussion to enhance awareness of workers of critical steps and error prone situations, especially when multiple personnel are involved in a complex lockout. Corrective actions will be tracked through the Issues Management System on PER-2007-0425.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is	No

Required:	
Division or Project:	Maintenance Division
Plant Area:	Zone 11
System/Building/Equipment:	11-28
Facility Function:	Balance-of-Plant - Site/outside utilities
Corrective Action 01:	**Target Completion Date:**04/13/2007 **Actual Completion Date:**04/13/2007
	The Craft Supervisor and four Electricians involved in the incident will review the LO/TO procedures to reinforce their knowledge of the LO/TO process and, in particular, the requirements for control of lockout keys. Point of Contact: Jimmy Phillips, Plant Maintenance, (806) 477-3313
Corrective Action 02:	**Target Completion Date:**06/15/2007 **Actual Completion Date:**
	The Craft Supervisor will document the details of this event and related lessons learned, focusing on the importance of maintaining formality of operations at the work site and being attentive to minimizing work site distractions and interruptions. The lesson learned will be disseminated to all BWXT Pantex Craft Supervisors, Craft Workers, and construction and maintenance PSTRs. Point of Contact: Jimmy Phillips, Plant Maintenance, (806) 477-3313
Lessons(s) Learned:	
HQ Keywords:	01A--Conduct of Operations - Conduct of Operations (miscellaneous) 01K--Conduct of Operations - Lockout/Tagout (Electrical) 01Q--Conduct of Operations - Personnel error 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process
HQ Summary:	While performing an electrical lockout/tagout (LO/TO) in support of an outside contract at Pantex, BWXT electricians failed to place lockout keys in the lock box, as required by procedure. No work had been performed on energized electrical circuits. The Plant Maintenance Department Manager suspended new LO/TOs. A critique was held and corrective actions will be tracked.
Similar OR Report Number:	1. None

Facility Manager:

Name	E. D. Stapp
Phone	(806) 477-3247
Title	Plant Maintenance Department Manager

Originator:

Name	HALL, BEVERLY J
Phone	(806) 477-3222
Title	

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization

	04/10/2007	21:17 (CTZ)	Robert Asbury	BWXT
Authorized Classifier(AC):	Don Gerber Date: 05/15/2007			

9)Report Number:	NA--PS-BWXP-PANTEX-2007-0048 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Pantex Plant
Facility Name:	Pantex Plant
Subject/Title:	Unexpected Discovery of Hazardous Energy, 110 Volts
Date/Time Discovered:	04/17/2007 16:30 (CTZ)
Date/Time Categorized:	04/18/2007 13:45 (CTZ)
Report Type:	Notification
Report Dates:	Notification 04/19/2007 17:03 (ETZ) Initial Update Latest Update Final
Significance Category:	2
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 2 occurrence)
Cause Codes:	
ISM:	4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On April 17, 2007, at approximately 1630 hours, Craft Workers were in the process of installing a work platform in Building 12-68, Machine Shop. Holes were being drilled in the floor for anchoring the equipment. A battery operated Hilti drill with a mechanical stop set at 2-inches was being used. The floor had been ferro-scanned (Hilti Model RV10), marked for ferrous objects, and a penetration permit issued. While drilling the fifth hole, the drill bit encountered a more dense material and Craft Workers noted the vacuum unit used for dust control had stopped. Craft Workers did not experience electrical shock or observe sparks. The drill had penetrated a metal duct encased less than 1 3/4-inches from the floor surface (standard depth is 2-inches) and contacted energized electrical conductors (110 Volts). Circuit Breaker #1 in Panel RB, feeding the table located in the area where drilling was being performed, had tripped. Craft Workers notified their Craft Supervisor and placed the area in a safe configuration. The Craft Supervisor notified Electricians to lock and tag out the circuit. There was no injury to personnel, impact to the environment or degradation of a safety system as a result of this event.
Cause Description:	
Operating Conditions:	Does Not Apply
Activity Category:	Maintenance

Immediate Action(s):	Craft Workers notified their Craft Supervisor and placed the area in a safe configuration. Metal Shop Craft Supervisor notified Electricians to lock and tag out the circuit. Plant Maintenance Section Manager notified the Operations Center (OC). A critique was conducted on April 18, 2007, and the event was categorized as 10(3) S/C 2, Management Concerns/Issues, a near miss, where only one barrier prevented an event from having a reportable consequence.
FM Evaluation:	An investigation will be conducted and corrective actions will be tracked through the Issues Management System on PER-2007-0445.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: Maintenance Division By When: 06/15/2007
Division or Project:	Maintenance Division
Plant Area:	Zone 12 North
System/Building/Equipment:	Building 12-68
Facility Function:	Balance-of-Plant - Machine shops
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Conduct of Operations - Configuration Management/Control 01M--Conduct of Operations - Inadequate Job Planning (Electrical) 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 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) 14D--Quality Assurance - Documents and Records 14E--Quality Assurance - Work Process
HQ Summary:	Craft workers, in the process of installing a work platform in the Building 12-68 Machine Shop, drilled into a metal duct and contacted energized electrical conductors, tripping a 110-volt circuit breaker. The duct was approximately 1¾" below the floor surface. The workers notified their supervisor and placed the area in a safe configuration. There was no injury to personnel, impact to the environment, or degradation of a safety system as a result of this event. A critique was held.
Similar OR Report Number:	
Facility Manager:	Name: Dale Stapp Phone: (806) 477-3247 Title: Plant Maintenance Department Manager

Originator:	Name: HALL, BEVERLY J Phone: (806) 477-3222 Title:
HQ OC Notification:	Date: NA, Time: NA, Person Notified: NA, Organization: NA
Other Notifications:	04/18/2007 08:22 (CTZ) Earl Burkholder PXSO 04/18/2007 08:22 (CTZ) Alonza Campbell BWXT
Authorized Classifier(AC):	Robert A. Barr Date: 04/19/2007

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10)Report Number:	NA--SS-SNL-6000-2007-0001 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Sandia National Laboratories - SS
Facility Name:	SNL Division 6000
Subject/Title:	Worker (USAF) Receives Electrical Shock from Electrical Cord from Air Force Trailer plugged in to Sandia power in Building 820
Date/Time Discovered:	04/10/2007 16:20 (MTZ)
Date/Time Categorized:	04/10/2007 18:20 (MTZ)
Report Type:	Update
Report Dates:	Notification 04/11/2007 18:51 (ETZ) Initial Update 04/16/2007 14:49 (ETZ) Latest Update 05/17/2007 12:26 (ETZ) Final
Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes US Air Force (visitor, Work for Others)
Occurrence Description:	On 4/10/07, at approximately 1620, a Team of Sandia and U.S. Air Force (USAF) workers were working on a USAF trailer in Building 820, High Bay E. The electrical cord supplied with the trailer was plugged into a Sandia 208V electrical switch, #H1-17. While describing some issues with the electrical cord and connector to the team, a USAF worker (a technical sergeant) reached out and touched the connector. The USAF worker received a small burn and shock sensation. Connector was very warm. Sandia co-workers transported Air Force worker to Sandia Medical. Medical released the worker with no restrictions or medications recommended.

	Switch H1-17 was switched off and locked out and tagged out. Air Force cord was unplugged.
Cause Description:	
Operating Conditions:	Trailer electrical cord plugged into building electrical switch
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	1.Shocked individual transported to Sandia Medical. 2. Electrical switch turned off, cable unplugged. 3. Safety officer locked out and tagged out switch. "Danger, do not use" signs were applied to the cable. 4. Sandia line personnel, line management, and Safety Engineering were notified. 5. SSO/FR notifications were made and the occurrence was categorizated. 6. The Safety Engineering investigation was initiated.
FM Evaluation:	Early Notification Dates and Times: EOC 4/10/07, 16:26 FR - Gary Schmidtke, 4/10/07, 17:50 UPDATE 4/16/07 Significance Category was changed from 2C(2) to 2C(1). (Changes this from SC3 to a SC2). END OF UPDATE UPDATE 5/17/07: Extension granted by FR, Veronica Martinez to 6/1/07, closely linked to OR 6000-2007-0002 and will be Final at the same time. END OF UPDATE
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Causal Analysis Team By When: 06/01/2007
Division or Project:	6000/PTIII Trailer Upgrade
Plant Area:	Tech Area I
System/Building/Equipment:	US Air Force Trailer/Bldg. 820/Highbay E
Facility Function:	Laboratory - Research & Development
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring

	08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08D--OSHA Reportable/Industrial Hygiene - Injury 12C--EH Categories - Electrical Safety 14L--Quality Assurance - None
HQ Summary:	While working on a U.S. Air Force (USAF) trailer in Building 820, a USAF technical sergeant touched a 208V connector to an electrical cord and received a small burn and shock sensation. The sergeant was transported to the Sandia Medical Facility and then released without restrictions. The switch to the connector was turned off and placed under lock and tag, and the cord was unplugged. An investigation was initiated.
Similar OR Report Number:	

Facility Manager:

Name	W. Larry King
Phone	(505) 845-3023
Title	ES&H Coordinator

Originator:

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

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/10/2007	16:20 (MTZ)	Jake Deuel	6451
04/10/2007	16:26 (MTZ)	Sue Collins	6006
04/10/2007	16:26 (MTZ)	Gerry Langwell	6402
04/10/2007	16:26 (MTZ)	Joe Roesch	6400
04/10/2007	16:30 (MTZ)	Les Shephard	6000
04/10/2007	18:20 (MTZ)	John Cormier	DOE/SSO
04/10/2007	18:20 (MTZ)	Gary Schmidtke	DOE/SSO
04/10/2007	18:40 (MTZ)	Les Shephard	6000

Authorized Classifier(AC): Steve Scott Date: 04/10/2007

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11)Report Number:	NA--SS-SNL-6000-2007-0002 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Sandia National Laboratories - SS
Facility Name:	SNL Division 6000
Subject/Title:	Unauthorized Work on Energized System
Date/Time Discovered:	04/19/2007 12:15 (MTZ)
Date/Time Categorized:	04/19/2007 13:04 (MTZ)
Report Type:	Update

Report Dates:

Notification	04/20/2007	13:11 (ETZ)

	Latest Update	04/24/2007	18:14 (ETZ)

Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	During the investigation of Occurrence NA-SS-SNL-6000-2007-0001, Worker (USAF) Receives Electrical Shock from Electrical Cord from Air Force Trailer plugged in to Sandia power in Building 820, an out-of-compliance issue was discovered. This out of compliance issue occurred on 4/10/2007 at approximately 1030 hours when a worker replaced a fuse in a disconnect switch without following Hot Work procedures.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	None
FM Evaluation:	Early Notification Dates and Times: EOC 4/19/07, 14:42 FR - John Cormier, 4/19/07, 12:30 UPDATE 4/24/07 Reporting Criteria has been changed from SC(2) to SC(3). END OF UPDATE
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: Electrical Safety By When: 06/01/2007
Division or Project:	6000/PTIII Trailer Upgrade
Plant Area:	Tech Area I
System/Building/Equipment:	US Air Force Trailer/Bldg. 820/Highbay E
Facility Function:	Laboratory - Research & Development
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01E--Conduct of Operations - Operations Procedures

	01K--Conduct of Operations - Lockout/Tagout (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process
HQ Summary:	An investigation of a previous occurrence (NA-SS-SNL-6000-2007-0001) in SNL Building 820 found that a worker had replaced a fuse in a disconnect switch without following hot work procedures. This is considered an out-of-compliance issue.
Similar OR Report Number:	

Facility Manager:

Name	W. Larry King
Phone	(505) 845-3023
Title	ES&H Coordinator

Originator:

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

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/19/2007	12:30 (MTZ)	Joe Roesch	6450
04/19/2007	12:30 (MTZ)	John Cormier, FR	DOE/SSO
04/19/2007	12:30 (MTZ)	Rebecca D. Horton	6420
04/19/2007	15:00 (MTZ)	Dennis Miyoshi	6400
04/19/2007	15:15 (MTZ)	Sue Collins	6006

Authorized Classifier(AC): Rebecca D. Horton Date: 04/19/2007

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12)Report Number:	NA--SS-SNL-6000-2007-0003 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Sandia National Laboratories - SS
Facility Name:	SNL Division 6000
Subject/Title:	Discovery of Uncontrolled Hazardous Energy Source and Safety Issue with Knife at the Randolph Building during a Self-Assessment
Date/Time Discovered:	04/23/2007 15:00 (MTZ)
Date/Time Categorized:	05/09/2007 14:11 (MTZ)
Report Type:	Update

Report Dates:

Notification	05/10/2007	19:31 (ETZ)
Initial Update	05/14/2007	18:29 (ETZ)
Latest Update	05/14/2007	18:29 (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. 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:	No
Occurrence Description:	On April 23, 2007, at 1500 an uncontrolled electrical source and a separate safety issue with a knife were discovered at the Randolph Building during a scheduled routine self-assessment. The Randolph Building is a Sandia National Laboratories leased space that is off-site. The self assessment team consisted of the group's ES&H Coordinator, an Industrial Hygienist, a Safety Engineer, an Environmental Coordinator, and some lab personnel. The assessment started with lab personnel briefing the group on operations performed in the building. Then the group began to go from lab to lab performing the assessment. While in the Southeast corner of the highbay behind the water flow network, an extension was noticed with the end removed and the three wires exposed. Upon following the cord, which was approximately eight feet long, it was noticed that the cord was plugged into a portable power strip. The portable power strip was plugged into an outlet. No one was working in the area at this time. The cord was then unplugged and removed from service. While in the Machine Shop area the team noticed that, in a vise attached to a workbench, a foldable knife was unfolded and clamped in a vise with the blade pointed up. No one was performing work in the Machine Shop at the time of the assessment. This presented a safety issue because someone walking by and not noticing the knife could cut themselves, possibly severely. The knife was removed from the vise and closed. On 4/25/2007 at 1243, work in the flow network and machine shop was paused by lab personnel until further review. Later, at 1739, the Sr. Manager stopped all work in the highbay until further review. On 5/2/2007, a meeting was held to discuss the events with personnel who work in the highbay. On 5/7/2007, the ES&H Coordinator and lab personnel inspected a separate area of the highbay, not near where the two events occurred and not the same personnel who work where the two events occurred, and allowed the individuals in this area to work only in their work area. No one is currently working in the areas where the two events occurred. This occurrence was categorized more than 2 hours after discovery because it didn't occur to us that this event might fit into one of the reportable criteria.

	Only after meetings and discussions of the electrical cord did we decide to investigate the reporting criteria and categorize the event.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	The electrical cord was unplugged and removed from service and the knife was removed from the vise. Work in the flow network and machine shoip was paused by lab personnel until further review.
FM Evaluation:	DOE/SSO Early Notification Date & Time: EOC - 5/9/07 - 16:11 FR - Bill Wechsler - 5/9/07 - 15:00
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: Causal Analysis Team By When: 06/22/2007
Division or Project:	6000/Water Flow Network
Plant Area:	Other
System/Building/Equipment:	Modified Ext. Cord & Knife in Vise/Randolph Bldg. Rm 121
Facility Function:	Laboratory - Research & Development
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Conduct of Operations - Conduct of Operations (miscellaneous) 01Q--Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process
HQ Summary:	During a scheduled routine self-assessment in the Randolph Building, the assessment team found an extension cord with the end removed and the three wires exposed. The other end of the cord was plugged into a portable power strip which was plugged into an outlet. The cord was unplugged and removed from service. The team also found an open foldable knife, clamped in a vice with the blade pointed up. The knife was removed from the vise and closed. Work in the area was paused by lab personnel until further review. No one was working in the areas where the two events occurred.
Similar OR Report Number:	
Facility Manager:	Name: Johnny Ethridge Phone: (505) 845-9295 Title: 6310/6340 ES&H/Sec. Coord. & 6310 Cyber Sec. Rep.
Originator:	Name: TOLENDINO, CHRISTINA D

	Phone: (505) 844-5996 Title: OCCURRENCE REPORTING PROJECT LEADER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	04/25/2007 13:06 (MTZ) John Merson 6310 04/25/2007 13:06 (MTZ) Ray Finley 6313 04/26/2007 09:00 (MTZ) Sue Collins 6006 05/02/2007 09:00 (MTZ) Les Shephard 6000 05/09/2007 15:00 (MTZ) William Wechsler, FR DOE/SSO
Authorized Classifier(AC):	Gregory Elbring Date: 05/10/2007

13)Report Number:	SC--ASO-ANLE-ANLEAPS-2007-0001 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Argonne National Laboratory East
Facility Name:	Advanced Photon Source
Subject/Title:	Improper Removal of Electrical Plug Results in Short to Ground
Date/Time Discovered:	04/04/2007 12:30 (CTZ)
Date/Time Categorized:	04/04/2007 13:20 (CTZ)
Report Type:	Final
Report Dates:	Notification 04/06/2007 17:44 (ETZ) Initial Update 05/09/2007 08:52 (ETZ) Latest Update 05/18/2007 15:31 (ETZ) Final 05/18/2007 15:31 (ETZ)
Significance Category:	3
Reporting Criteria:	10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)
Cause Codes:	A3B2C01 - Human Performance Less Than Adequate (LTA); Rule Based Error; Strong rule incorrectly chosen over other rules -->couplet - NA
ISM:	4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	At 1930 hours on April 3, 2007, a general user researcher generated a momentary 208 VAC short to ground between a prong of a damaged electrical plug and the grounded receptacle box while using a pair of needle nosed pliers to pry the damaged plug from the receptacle. No injuries or additional damage to equipment resulted. The short circuit was terminated by movement of the pliers before the circuit break could open.

	A pair of APS general user researchers were setting up their equipment and sample inside Experiment Station C on the 33BM beamline. The previous researchers to use that station had left behind a portable Displex compressor (used in temporary setup of a helium gas refrigeration cooling loop). The compressor was large enough to limit clear access to areas inside the experiment station so the two general user researchers decided to move the portable compressor outside the experiment station to obtain clearer access. The compressor was plugged into a 208 VAC receptacle. General user researcher "A" attempted to remove the plug by twisting it and pulling it straight out (proper motions to remove the type of plug). The plug hung up after being withdrawn about a 1/4". Researcher "A" then pulled harder on the plug housing. The plug housing and cable wiring to the compressor disconnected from the plug base leaving the base stuck in the receptacle with no attached wiring. At this point researcher "B" advised researcher "A" to leave the plug as it was and to report the situation to the beamline staff. Researcher "B" then left the experiment station to go unpacked various items the researchers had brought with them. Researcher "A" examined the plug base and decided to attempt removing it by using a pair of needle nosed pliers to pry the plug away from the receptacle. He was able to move the top part of the plug base, but not the bottom half. He repositioned the pliers to a different spot for further prying that unfortunately was not where he could clearly see the tip's location. Subsequently the pliers tip contacted one prong of the plug at the same time that another part of the pliers contacted the grounded receptacle plate. A momentary short circuit existed between the single prong and the receptacle plate that was abruptly terminated by further movement of the pliers. The researcher noted the resultant sparks, but also found the plug was now loose enough to pull out of the receptacle. The associated circuit breaker did not open due to the short duration of the short. Researcher "A" noted the damage to the prong from the short and showed it to researcher "B" later that evening. Researcher "A" waited until 0830 the next morning to report the incident to beamline staff as they were not present at the time of the event and the researcher did not think of locating any APS operating staff (either on the on shift floor coordinator or the main control room operators) or calling 911 to report the event.
Cause Description:	Two different aspects of the event were evaluated for causal factors as part of the event investigation: the plug disassembly and the decision by the general user to pry the base plug out of the receptacle. The damaged plug assembly and receptacle were carefully examined for any potential defects or assembly error. None were found. The damaged base plug was reattached to its housing using the existing screws, but the cable was not attached. A comparable plug assembly was acquired from stock to use as a reference. Both plug assemblies were repeatedly inserted, twisted to the locked position, pulled on to demonstrate the plug was locked, then untwisted from the locked position, and removed from the receptacle. No difficulties were experienced with the reference plug assembly. The damaged plug assembly was found to have slight inward spring to its prongs that made it fit tighter and to require more force to remove than with the reference plug assembly. However, the force required to remove it was not excessive and never was sufficient to

	result in separation of the base plug from its housing. It also was found that either plug assembly had to be completely rotated to the unlocked position to enable removal. When locked, i.e. not completely rotated and unlocked, neither plug assembly could be pulled away from the receptacle face. In summary APS personnel were not able to replicate the condition described by the general user in his written and verbal statements. The conclusion reached is the plug disassembly was not caused by a design, equipment, or material problem. APS personnel speculate that the general user thought he had completed rotated the plug assembly from its locked to unlocked position, but in fact he had not. He then exerted more force on the plug assembly to remove it than he realized and pulled the plug assembly apart. As pulling the plug assembly apart did not result in a reportable condition and it is not desirable to provide a causal factor based on speculation alone, no cause code has been assigned to this portion of the event. The general user admitted to being aware of the APS policy to contact APS staff when an unusual condition is encountered, but did not feel he needed to immediately contact any APS staff regarding the base plug being left in the receptacle. He repeatedly stated he had been certain he could remove the energized plug on his own without causing a short and did not feel he needed to contact APS staff to request this. He also did not feel it necessary to turn off the electrical power feed to the receptacle. He attributed the short to not being able to see where the pliers' tip was in relation to the prongs while prying on the non-visible side of the base plug. The general user was current in all required training, including beam line orientation and electrical safety awareness, and admitted to being aware of the relevant APS policies. The involved general user is a gradate student and graduate students are generally expected to demonstrate self-sufficiency with an emphasis on a "can do" attitude. Being able to handle a problem without help is continually reinforced by a "can do" attitude. In this case the attitude contributed to the individual deciding he was authorized and could remove the separated base plug on his own and he could remain "safe" by being careful in how he positioned the pliers. It is notable that the general user also chose to disregard the advice of a fellow general user to leave the plug alone and to let the beam line staff handle it at a later time. The cause code A3B2C01 was selected to represent the general user's belief the separated base plug was "no big deal" and that he would be able to safely remove it. Taking disciplinary action against the graduate student impresses on him the seriousness of the need to follow APS requirements in order to be permitted to perform experiments at APS.
Operating Conditions:	Normal operations
Activity Category:	Research
Immediate Action(s):	The beamline staff notified the XSD ESH coordinator, located and tagged out of service all Displex units at sector 33, and tagged out of service the receptacle. The XSD ESH coordinator obtained written statements from the two researchers and Sector 33 director and requested the building maintenance staff to lock out and tag the circuit breaker for the receptacle. He also obtained the damaged plug, the pliers used, and examined the receptacle plate. A small arc burn spot was found on the plate. He subsequently requested that the receptacle be replaced and the existing one examined for possible damage. The ORPS facility manager designee was informed of the event after returning from a morning long meeting and lunch (which accounts for the delay in categorizing the event).

	The DOE facility representative was notified at 1335 on 04/04/2007 of the event, the ORPS classification, and the immediate actions taken.
FM Evaluation:	Notification of incident was made to ORPS FM after morning meetings. 5/18/2007 Update: This event well illustrates that an individual can be provided required training, acknowledge the training, and still decide to take action contrary to the training based on a personal attitude or belief regarding a specific event. The reason this event has not been classed as being caused by a deliberate violation of requirements is the individual involved truly did not recognize the significance of his actions whereas he would have been aware of this in a deliberately conducted violation. Direct disciplinary action against the individual involved should impress on him the need to follow APS requirements in the future. From a more general perspective, the event serves as an excellent case to present to Argonne personnel and the user community as an example of what not to do and has already been used as such.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	APS X-Ray Science Division
Plant Area:	Experiment Hall
System/Building/Equipment:	Building 400, 33BM-C Experiment Station
Facility Function:	Accelerators
Corrective Action 01:	**Target Completion Date:**04/05/2007 **Actual Completion Date:**04/05/2007
	Prohibit general user from completing experiment
Corrective Action 02:	**Target Completion Date:**04/05/2007 **Actual Completion Date:**04/05/2007
	Notify associated faculty advisor of event
Corrective Action 03:	**Target Completion Date:**05/01/2007 **Actual Completion Date:**04/25/2007
	Remove and examine receptacle for material defects that would impair plug removal
Corrective Action 04:	**Target Completion Date:**05/18/2007 **Actual Completion Date:**05/15/2007
	Notify involved university of investigation results and request corrective action
Corrective Action 05:	**Target Completion Date:**06/15/2007 **Actual Completion Date:**
	Concur on university corrective action plan
Corrective Action 06:	**Target Completion Date:**06/15/2007 **Actual Completion Date:**
	Issue APS safety notice on electrical plug short incidents and prevention
Lessons(s) Learned:	
HQ Keywords:	01A--Conduct of Operations - Conduct of Operations (miscellaneous) 01Q--Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance

	08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11I--Other - Visiting Scientist/Researcher or Student Employee 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process
HQ Summary:	As two researchers were setting up their equipment in the Advanced Photon Source's Experiment Station C on the 33BM beamline, they tried to move a portable compressor plugged into a 208 VAC receptacle to obtain clearer access. In attempting to unplug the compressor, the plug hung up and its housing and cable wiring disconnected from the plug base. As one researcher tried to remove the plug base with needle-nosed pliers, the pliers created a short circuit and sparks. The associated circuit breaker did not open. After the researchers reported the incident the next morning, the receptacle, circuit breaker, and all similar compressor units were tagged out of service. The receptacle will be replaced.
Similar OR Report Number:	1. SC--ASO-ANLE-ANLEIPNS-2006-0002
Facility Manager:	Name: BARKALOW, THOMAS W Phone: (630) 252-9243 Title: SENIOR REGULATORY COMPLIANCE SPECIAL
Originator:	Name: Ridenour, Mary J Phone: (630) 252-6786 Title: ORPS COORDINATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	04/04/2007 13:30 (CTZ) John Houck ASO-DOE 04/04/2007 13:35 (CTZ) Mary Jo Ridenour ANL-EQO
Authorized Classifier(AC):	

14)Report Number:	SC--ASO-ANLE-ANLEFMS-2007-0006 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Argonne National Laboratory East
Facility Name:	Facility Management Services
Subject/Title:	Employee Reports Electrical Shock While Replacing Fluorescent Light Tube into Fixture
Date/Time Discovered:	04/26/2007 13:48 (CTZ)
Date/Time Categorized:	04/26/2007 15:30 (CTZ)
Report Type:	Notification/Final
Report Dates:	Notification 04/30/2007 17:06 (ETZ) Initial Update 04/30/2007 17:06 (ETZ) Latest Update 04/30/2007 17:06 (ETZ) Final 04/30/2007 17:06 (ETZ)
Significance Category:	4

Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)
Cause Codes:	
ISM:	3) Develop and Implement Hazard Controls
Subcontractor Involved:	No
Occurrence Description:	On April 26, 2007, while changing a 32 watt light bulb in a bathroom, an employee received what was described as a shock. Upon initial investigation of the area and light fixture it was noted that one end of the bulb only had one male pin inserted into the receiver; the other end was inserted correctly. Testing was performed to check for any circuit faults that could or may have existed, no faults were detected therefore it could not be determined as to whether the reported shock was from the electrical fixture, the tube, static, or a momentary pinched nerve to the individual. The system was verified as safe and returned to normal use. Controls will be reviewed via the existing Job Safety Analysis to determine if any unrecognized hazard exists that needs to be addressed. The individual was transported to Medical by the Argonne Fire Department paramedics for further evaluation. The employee was released and requested to report back to medical in the morning.
Cause Description:	
Operating Conditions:	Indoor work in restroom; normal ambient temp and humidity; lighting circuit energized.
Activity Category:	Maintenance
Immediate Action(s):	Employee was taken to on-site Medical Department and was evaluated. Employee was released to home to rest and requested to report in the AM for a follow-up evaluation. FMS Maintenance and safety representatives initiated an investigation. The lighting circuit is a 277 volt system. The ballast output is 120 volts to the lighting tube. Measurements determined that no stray voltage was present. The light bulb was a fluorescent tube of the energy-conserving type of 32 watts. One end was found to have only one of the two male pins inserted into the receiver. The other end was properly inserted. The stepladder the employee was working from was a fiberglass beam and metallic steps type with rubber shoes. No visible defects were noted during the inspection of it by the safety representative. From the position the stepladder was found in, the employee was working closest to the end of the tube that was inserted correctly. After testing, the circuit and tube were determined to be operating safely and the restroom was reopened for use.
FM Evaluation:	It is not determined as to whether the reported shock was from the electrical fixture, the tube, static, or a momentary pinched nerve to the individual.

	Controls will be reviewed via the existing Job Safety Analysis to determine if any unrecognized hazard exists that needs to be addressed. The system was verified as safe and returned to normal use.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Facilities Management & Services Division
Plant Area:	APS Area
System/Building/Equipment:	Lighting/Building 432/Restroom fixture
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01O--Conduct of Operations - Maintenance 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process
HQ Summary:	A worker reported receiving a shock while changing a 32-watt fluorescent light bulb in a bathroom in ANL Building 432. The Argonne fire department paramedics transported the worker to the on-site medical department, where the worker was evaluated and released. Testing for circuit faults in the light system found none, so the source of the reported shock could not be determined. The system was verified as safe and returned to normal use.
Similar OR Report Number:	
Facility Manager:	Name: BENKERT, JOHN J Phone: (630) 252-4335 Title: ES&H Safety Coordinator
Originator:	Name: COLGLAZIER, ROBIN ALAN Phone: (630) 252-8747 Title: SR REGULATORY COMPLIANCE SPECIALIST
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	04/26/2007 15:30 (CTZ) M. J. Ridenour ANL-EQO 04/26/2007 15:45 (CTZ) Eric Turnquest ASO-DOE 04/26/2007 16:09 (CTZ) G. Stine ANL-FMS
Authorized Classifier(AC):	

15)Report Number:	SC--BSO-LBL-MSD-2007-0002 **After 2003 Redesign**

Secretarial Office:	Science
Lab/Site/Org:	Lawrence Berkeley Laboratory
Facility Name:	Material Sciences Division
Subject/Title:	Management Concern involving vendor working on electrically energized equipment
Date/Time Discovered:	04/03/2007 14:00 (PTZ)
Date/Time Categorized:	04/04/2007 09:00 (PTZ)
Report Type:	Final
Report Dates:	Notification 04/06/2007 18:49 (ETZ) Initial Update 05/18/2007 18:44 (ETZ) Latest Update 05/18/2007 18:44 (ETZ) Final 05/18/2007 18:44 (ETZ)
Significance Category:	3
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)
Cause Codes:	A4B2C10 - Management Problem; Resource Management LTA; Means / method not provided for assuring adequate quality of contract services
ISM:	1) Define the Scope of Work
Subcontractor Involved:	Yes CHA Industries
Occurrence Description:	A vendor (CHA Industries-Fremont, California) was performing maintenance on an electron beam evaporator in the Center for X-Ray Optics in the Materials Sciences Division. While the technician was attempting to observe the connector type on an indicator light that needed replacement, he removed a panel from the machine while it was energized, which resulted in a short to ground and tripped the breaker. There was no shock to personnel and no injury.
Cause Description:	At the time of this event, screening of service vendor safety plans was inadequate. LBNL has since implemented its Guide for On-Site Subcontractor Safety Plans. This guide outlines requirements for subcontractor safety plans, and the EH&S Division review and approval processes.
Operating Conditions:	Normal, indoors
Activity Category:	Maintenance
Immediate Action(s):	The electrical safety subject matter expert was contacted, and he interviewed the maintenance technician and examined the equipment involved in this incident. He determined that vendor had not de-energized the equipment (lock out/tag out) and was working on it while energized (208 volt). The employee did not appear to be equipped or trained to work safely on energized equipment under NFPA 70E, "Standard for Electrical Safety in the Workplace." All electrical work by this vendor was suspended pending a meeting with responsible individuals from the company and verification of an appropriate

	electrical safety program. An e-mail was sent to all LBNL-based principal investigators in the Materials Sciences Division reminding of their responsibility for the safety of vendors performing electrical work on their equipment. A form was provided to each PI that is to be provided to each vendor working on electrical equipment that details the requirements for lock out/tag out and for working on energized electrical equipment. Vendors that indicate that they must work on energized equipment are routed to the Division EH&S Manager to initiate a review of their qualifications to do this type of work.
FM Evaluation:	Preliminary investigation indicates that the vendor's technician was neither equipped nor trained to work on energized electrical equipment in accordance with NFPA 70E, nor was such work expected. Further review of the vendors safety policies and practices is required before this vendor is allowed to perform electrical work in the Division. This does not effect the use of the e-beam evaporator for scientific work, however, just vendor maintenance. 5/17/07 Update: the vendor involved refused to provide written safety procedures. An alternate vendor with a satisfactory safety plan was identified.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Center for X-Ray Optics
Plant Area:	Bldg2, Rm137
System/Building/Equipment:	Electron beam evaporator
Facility Function:	Laboratory - Research & Development
Corrective Action 01:	**Target Completion Date:**05/16/2007 **Actual Completion Date:**05/16/2007
	Identify alternative vendor with an acceptable electrical safety plan.
Corrective Action 02:	**Target Completion Date:**05/16/2007 **Actual Completion Date:**05/16/2007
	Implement policy in MSD whereby electrical equipment procurements exceeding $5,000 that include a warranty or service contract require MSD EH&S manager approval.
Corrective Action 03:	**Target Completion Date:**05/16/2007 **Actual Completion Date:**05/16/2007
	Develop a warning label for all hard-wired electrical equipment in MSD, reminding service personnel of MSD and LBNL policy.
Corrective Action 04:	**Target Completion Date:**05/16/2007 **Actual Completion Date:**05/16/2007
	Develop poster describing the responsibilities of MSD staff oversight of vendors and post in ES&S Communications cabinets located in each building managed by MSD.
Corrective Action 05:	**Target Completion Date:**05/16/2007 **Actual Completion Date:**05/16/2007
	Present and discuss incident at MSD Safety Committee meeting in May.

Corrective Action 06:	**Target Completion Date:**04/09/2007 **Actual Completion Date:**04/09/2007
	LBNL implements its Guide for On-Site Subcontractor Safety Plans which details requirements for subcontractor safety plans and EH&S Division review and approval processes.
Corrective Action 07:	**Target Completion Date:**05/31/2007 **Actual Completion Date:**
	Prepare and disseminate an edition of Materials Safety. The bulletin will describe the incident, actions taken to prevent recurrence, and the responsibilities of scientists and technicians who oversee service vendors.
Lessons(s) Learned:	
HQ Keywords:	01A--Conduct of Operations - Conduct of Operations (miscellaneous) 01F--Conduct of Operations - Training 01K--Conduct of Operations - Lockout/Tagout (Electrical) 01O--Conduct of Operations - Maintenance 01R--Conduct of Operations - Management issues 08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14B--Quality Assurance - Training and Qualification 14E--Quality Assurance - Work Process 14G--Quality Assurance - Procurement
HQ Summary:	As a vendor employee was performing maintenance on an electron beam evaporator in the LBL Center for X-Ray Optics, he removed a panel from the machine while it was energized; resulting in a short to ground that tripped a circuit breaker. There was no shock or injury. An electrical safety subject matter expert concluded that vendor employee had not locked and tagged out the energized 208-volt equipment, and was not equipped or trained to work safely on energized equipment under NFPA 70E. All electrical work by this vendor has been suspended pending a meeting with responsible individuals from the company and verification of an appropriate electrical safety program. A form will be provided to each vendor working on electrical equipment that details the requirements for lock out/tag out and for working on energized electrical equipment.
Similar OR Report Number:	1. N/A
Facility Manager:	Name: Rick Kelly Phone: (510) 486-4088 Title: Facility and EHS Manager
Originator:	Name: Flynn, Michelle Phone: (510) 486-7073 Title: ES&H ASSURANCE PROGRAM MANGER
HQ OC Notification:	Date: NA, Time: NA, Person Notified: NA, Organization: NA

Other Notifications:	

Date	Time	Person Notified	Organization
04/04/2007	11:00 (PTZ)	Mary Gross	DOE BSO

Authorized Classifier(AC):	

16)Report Number:	SC--PNSO-PNNL-PNNLBOPER-2007-0003 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Pacific Northwest National Laboratory
Facility Name:	Energy Research Programs (PNNL)
Subject/Title:	Noncompliance with Hazardous Energy Control Procedure
Date/Time Discovered:	04/10/2007 14:00 (PTZ)
Date/Time Categorized:	04/12/2007 16:20 (PTZ)
Report Type:	Notification
Report Dates:	

Notification	04/16/2007	14:30 (ETZ)
Initial Update		
Latest Update		
Final		

Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On Tuesday, April 10, 2007, during a planned Lockout Tagout (LOTO) assessment, a field condition associated with two tags in the 318 Building was questioned. After further review it was determined that the tags had been improperly applied to two separate components. The condition was immediately corrected in the field and there was no exposure to any hazardous energy. On Thursday April 12, 2007, the Government Facilities Building Manager was made aware of this information and initially categorized the event as non-reportable at 1347 hours. After further review and discussion with the facility representative it was concluded the event represented a noncompliance with the prescribed hazardous energy control process and the event was re-categorized under criterion 2C(2), on Thursday, April 12, 2007 at 1620 hours.
Cause Description:	
Operating Conditions:	N/A
Activity Category:	Maintenance
Immediate Action(s):	The ongoing LOTO assessment activities will be completed and the objective will be expanded to include a 100 percent verification of all current LOTO evolutions on or before April 20, 2007. A critique was held Friday, April 13, 2007.

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:	Facilities & Operations
Plant Area:	300 Area
System/Building/Equipment:	318 Building
Facility Function:	Laboratory - Research & Development
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Conduct of Operations - Lockout/Tagout (Electrical) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 13E--Management Concerns - Facility Call Sheet 14E--Quality Assurance - Work Process 14H--Quality Assurance - Inspection and Acceptance Testing
HQ Summary:	A lockout tagout (LOTO) assessment at the PNNL 318 Building found that tags had been improperly applied to two separate components. The condition was immediately corrected in the field and there was no exposure to hazardous energy. The scope of the ongoing LOTO assessment activities will be expanded to include a 100 percent verification of all current LOTO evolutions.
Similar OR Report Number:	

Facility Manager:

Name	Rencken, J. D.
Phone	(509) 376-7012
Title	Building Manager, Government Facilities

Originator:

Name	POLLARI, ROGER A
Phone	(509) 376-2200
Title	

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
04/12/2007	16:54 (PTZ)	Higgins, R. L.	PNSO

Authorized Classifier(AC):	Pollari, R. A. Date: 04/16/2007

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17)Report Number:	SC--SSO-SU-SLAC-2007-0006 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Stanford Linear Accelerator Center
Facility Name:	Stanford Linear Accelerator Center

Subject/Title:	Ground Rod Penetration of Utility Tunnel
Date/Time Discovered:	04/17/2007 11:00 (PTZ)
Date/Time Categorized:	04/23/2007 11:30 (PTZ)
Report Type:	Notification
Report Dates:	Notification 04/24/2007 19:58 (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 Cupertino Electric
Occurrence Description:	During a walk-through for a future job, it was discovered that during a prior job task Cupertino Electric, a subcontractor under Turner Construction, had installed a grounding rod for the LCLS BTH construction project that penetrated into the Substation Research Area (RA) Extension tunnel under the Research Yard.
Cause Description:	
Operating Conditions:	Does not apply.
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	LCLS Construction Manager stopped all penetration activity by involved Subcontractor pending the outcome of the investigation. Turner Construction launched an incident investigation.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: SLAC Committee By When:
Division or Project:	Linac Coherent Light Source (LCLS)
Plant Area:	LCLS
System/Building/Equipment:	Beam Transfer Hall (BTH)
Facility Function:	Accelerators
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01M--Conduct of Operations - Inadequate Job Planning (Electrical) 05E--Mechanical/Structural - Structural Deficiencies/Failures

	08H--OSHA Reportable/Industrial Hygiene - Safety Compliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 13E--Management Concerns - Facility Call Sheet 14E--Quality Assurance - Work Process
HQ Summary:	A job walk-through discovered that a grounding rod for the Stanford Linear Accelerator Center Beam Transfer Hall construction project had penetrated into a tunnel housing electrical utilities under the Research Yard. This was a near miss to hitting an energized electrical conduit. The construction manager stopped all penetration activity pending the outcome of an investigation.
Similar OR Report Number:	
Facility Manager:	Name: WEISEND, JOHN Phone: (650) 926-5448 Title: FACILITY MANAGER DESIGNEE
Originator:	Name: JOHNSON, HOPE E Phone: (650) 926-4322 Title: FACILITY MANAGER ADMIN.
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	04/18/2007 15:10 (PTZ) Weisend, John SLAC 04/18/2007 15:13 (PTZ) Richards, Aundra DOE SSO
Authorized Classifier(AC):	

18)Report Number:	SC--TJSO-JSA-TJNAF-2007-0001 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Thomas Jefferson National Accelerator Site
Facility Name:	Thomas Jefferson Nat'l Accelerator
Subject/Title:	Management Concern Associated With Potential Minor Electrical Shock ("Tingle") Report
Date/Time Discovered:	04/04/2007 15:00 (ETZ)
Date/Time Categorized:	04/04/2007 16:30 (ETZ)
Report Type:	Notification/Final
Report Dates:	Notification 04/06/2007 16:48 (ETZ) Initial Update 04/06/2007 16:48 (ETZ) Latest Update 04/06/2007 16:48 (ETZ) Final 04/06/2007 16:48 (ETZ)
Significance Category:	4

Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence)
Cause Codes:	
ISM:	2) Analyze the Hazards
Subcontractor Involved:	No
Occurrence Description:	Two TJNAF (Jefferson Lab) technicians reported they felt they experienced a potential electrical shock (a "tingle") at ~1600 hours on Tuesday, April 3, 2007. Note - hazard verification activities found no measured evidence of a hazard. The Engineering Div. technicians were starting an Experimental Hall A beam cavity tuning procedure when technician #1 brushed his arm against a ground shield that covers a heater tape. He reported that he felt a "tingle" across his forearm. Technician #2 proceeded to disconnect the heater tape power. At that point, Technician #2 reported that he also felt a "tingle" across his right hand. All work stopped and they notified their supervisor.
Cause Description:	The event investigation noted the presence of a nick in the hot conductor of the heater tape circuitry. It could not be determined if the nick in the hot conductor occurred during connection termination activity or resulted from use.
Operating Conditions:	Normal operations
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	1. The two technicians stopped all work and notified their supervisor. The supervisor and the two technicians proceeded to investigate the concerned circuitry. With proper personal protective equipment (PPE), they conducted numerous voltage and resistive measurements throughout the circuitry. 2. No voltage potentials were measured and no high resistances were noted on any earth ground connections. The ground fault circuit-interrupter (GFCI) circuit was also tested and passed. The supervisor proceeded to disconnect the potential cables of concern, with no issues encountered. The supervisor could not verify that a potential hazard existed or had been present. As this investigation was negative in determining a source, there was no ES&H event reporting initiated. 3. As a precaution, the power source (120Vac) to the heater tape was removed and cavity tuning proceeded. Following tuning procedure completion, all power was restored to the heater tape and the system. 4. On Wednesday, April 4, additional measurements were performed and no grounding concerns were noted. Also, no voltage potentials were measured. In addition, the system's GFCI circuit was tested numerous times and passed. 5. Before completing the testing, the supervisor requested Technician #2 (with proper PPE) to provide extreme movement of the heater tape connection. At that time, a visible spark was seen at the heater tape connection point and the corresponding GFCI tripped. As a result, the system was made safe with power

	removed and the connector dissection ensued. 6. Notifications were made to management and ES&H staff at this time. The two workers were checked at the Lab's Occupational Medicine Clinic with no evidence of injury noted. Note - the time of the April 4 management notification is used as the event discovery time for ORPS report section #9, Date and Time Discovered. 7. An event investigation team composed of line supervision, the Lab Electrical Safety Engineer, and ES&H staff started on Wednesday afternoon, April 4. The team is to develop an event causal analysis, associated corrective actions, and lessons learned.
FM Evaluation:	1. The planned Extent of Condition (EOC) review for similar heater cable connectors is an appropriate measure. 2. The event investigation team's corrective actions will be entered into the Lab's Corrective Action Tracking System for tracking to completion. Note - this event is classified as a ORPS Significance Category 4 under Management Concern 10(2d). The presence of a functioning GFCI prevented the potential of a physiologically significant electrical shock to either worker.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Engineering Div., EES Department
Plant Area:	Experimental Hall A
System/Building/Equipment:	Beam Current Cavity, Experimental Hall A
Facility Function:	Accelerators
Corrective Action:	
Lessons(s) Learned:	1. The operating procedure is being changed to ensure that there is no AC power associated with the system during the tuning procedure. 2. All safety-related events and issues need to be reported immediately and prior to starting followup actions.
HQ Keywords:	01G--Conduct of Operations - Inadequate Procedure 07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records
HQ Summary:	Two Jefferson Lab technicians experienced potential electrical shocks ("tingles") as they contacted a heater tape in Experimental Hall A. The technicians stopped work and notified their supervisor. Initial investigative effort found no conclusive deficiencies.
Similar OR Report Number:	1. None
Facility Manager:	Name: FICKLEN, CARTER B

	Phone: (757) 269-7007 Title: FACILITY MANAGER DESIGNEE
Originator:	Name: FICKLEN, CARTER B Phone: (757) 269-7007 Title: FACILITY MANAGER
HQ OC Notification:	Date: NA, Time: NA, Person Notified: NA, Organization: NA
Other Notifications:	Date: NA, Time: NA, Person Notified: NA, Organization: NA
Authorized Classifier(AC):	