August 2008 Electrical Safety Occurrences

There were 12 electrical safety occurrences for August 2008:

- 4 resulted in an electrical shock
- 6 involved lockout/tagout
- 1 involved cutting energized conductors
- 1 involved excavation damage to a conduit and electrical line
- 1 involved a vehicle near miss to overhead power lines
- 6 involved electrical workers and 7 involved non-electrical workers
- 4 occurrences involved subcontractors

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

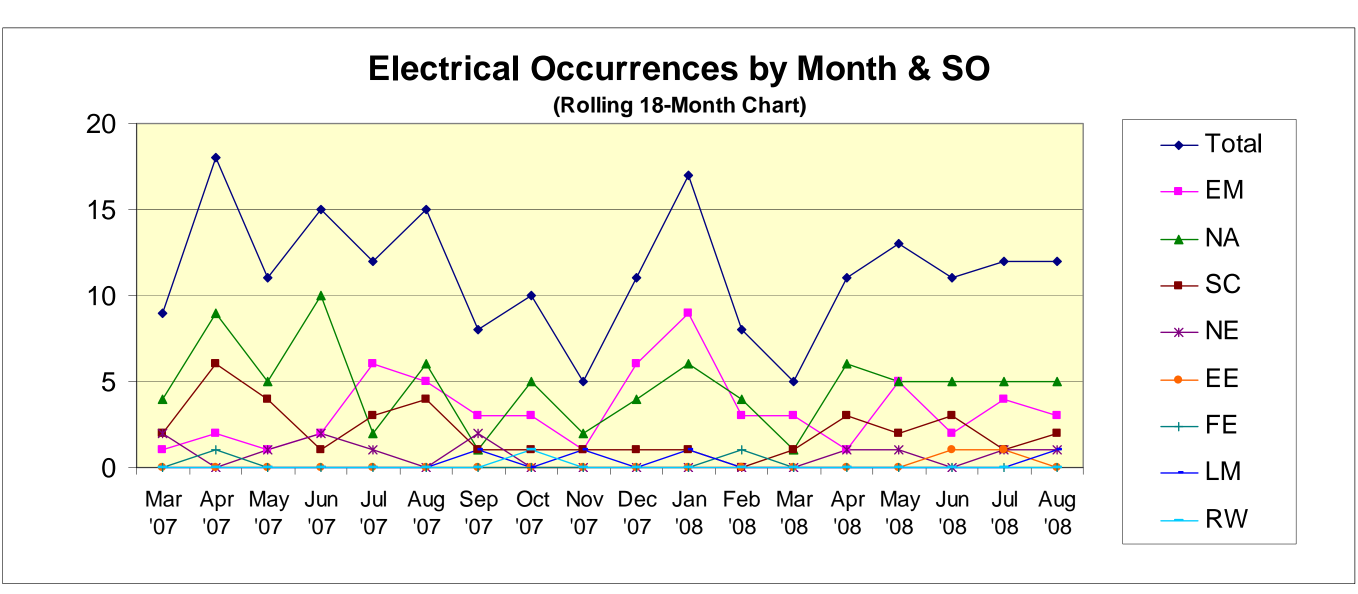
01K – Lockout/Tagout Electrical, 01M - Inadequate Job Planning (Electrical),
08A – Electrical Shock, 08J – Near Miss (Electrical), 12C – Electrical Safety

The initial search yielded 14 occurrences. However, one occurrence (EM-ID--BBWI-AMWTF-2008-0011) involved lockout/tagout administrative and training issues rather than an electrical hazard, and another (NE-ID--BEA-SMC-2008-0007) involved an open electrical cabinet door with no exposed electrical hazards. Culling out these two occurrences yielded 12 electrical safety occurrences for the month.

Below is the current summary of 2008 electrical safety occurrences:

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
Jan-08	17	7	0	0
Feb-08	8	3	0	0
Mar-08	5	1	0	0
Apr-08	11	1	0	0
May-08	13	1	1	0
Jun-08	11	4	0	0
Jul-08	12	1	0	0
Aug-08	12	4	0	0
2008 total	89 (avg. 11.1/month)	22	1	0
2007 total	140 (avg. 11.7/month)	25	2	0
2006 total	166 (avg. 13.8/month)	26	3	0
2005 total	165 (avg. 13.8/month)	39	5	0
2004 total	149 (avg. 12.4/month)	25	3	1

The average rate of electrical safety occurrences in 2008 is 11.1 per month, which is less than the average rate of 11.7 per month experienced in 2007.



Electrical Safety Occurrences – August 2008

No	Report Number	Subject/Title	EW[1]	N-EW[2]	SUB[3]	SHOCK	BURN	ARCF[4]	LOTO[5]	EXCAV[6]	CUT/D[7]	VEH[8]
1	EM-ID--CWI-LANDLORD-2008-0006	Cafeteria Grill Hazardous Energy Event	X	X		X			X			
2	EM-ORO--BJC-K25ENVRES-2008-0020	Near Miss Involving Damage to a Power Pole While Moving a Piece of Heavy Equipment		X								X
3	EM-RP--BNRP-RPPWTP-2008-0015	Potential Procedural Violation of 24590-WTP-GPP-CON-1202, Hazardous Energy Work Control		X	X				X			
4	LM---STOL-UTII-2008-0002	Unexpected Discovery of Non-Energized Power Line		X	X					X		
5	NA--LSO-LLNL-LLNL-2008-0032	Building 140 Electrical Shock Incident	X			X						
6	NA--PS-BWXP-PANTEX-2008-0091	Failure to Follow LO/TO Requirements		X					X			
7	NA--SS-SNL-NMFAC-2008-0016	Electricians Fail to Follow LOTO Requirements while Labeling Wires in De-energized 100 amp Electrical Disconnect in Bldg. 860	X		X				X			
8	NA--YSO-BWXT-Y12NUCLEAR-2008-0030	LOTO Discrepancy on 9204-2 House Vacuum Pump (U)	X						X			
9	NA--YSO-BWXT-Y12SITE-2008-0026	Environmental Protection Demolition - Near Miss		X							X	
10	NE-ID--BEA-ATR-2008-0022	Personnel Access to Damaged Electrical Components Without Proper PPE Prior to Accepting LO/TO	X						X			
11	SC--FSO-FNAL-FERMILAB-2008-0003	Technician Receives Mild Shock While Disconnecting Power Leads		X		X						
12	SC--PNSO-PNNL-PNNLNUCL-2008-0003	Subcontractor Electrician 120V Shock	X		X	X						
	TOTAL		6	7	4	4			6	1	1	1

Key

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

ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 53874 OR(s) with 57192 occurrences(s) as of 9/5/2008 7:59:30 AM
Query selected 12 OR(s) with 12 occurrences(s) as of 9/5/2008 10:50:34 AM

Download this report in Microsoft Word format.

1)Report Number:	EM-ID--CWI-LANDLORD-2008-0006 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Idaho National Laboratory
Facility Name:	ICP Landlord Activities
Subject/Title:	Cafeteria Grill Hazardous Energy Event
Date/Time Discovered:	08/11/2008 13:00 (MTZ)
Date/Time Categorized:	08/11/2008 14:30 (MTZ)
Report Type:	Update
Report Dates:	Notification: 08/12/2008 19:11 (ETZ) Initial Update: 08/25/2008 16:53 (ETZ) Latest Update: 08/25/2008 16:53 (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. 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls
Subcontractor Involved:	No
Occurrence Description:	On Thursday, August 7, 2008 an Idaho Nuclear Technology and Engineering Center (INTEC) cafeteria worker experienced an electrical shock while cleaning the grill surface. The employee was treated at CFA

	medical facilities and released with no restrictions. Later in the day of August 7, 2008 INTEC maintenance electricians installed a Level 1 (L1) Lock-Out / Tag-Out (LO/TO) on the grill to support evaluation of the grill to determine the source of the electrical shock experienced by the cafeteria worker. On Monday, August 11, 2008, while using tools to open the front end of the grill, one of the tools came into contact with an electrical terminal for a heating element on the left (west) side of the grill. When this happened, an electrical arc was observed between the metal shaft of the tool and the bottom of the grill. On Tuesday, August 12, 2008 a formal fact finding meeting was held to help determine the cause of the initial event and the unexpected discovery of hazardous energy during the evaluation of the grill by the electricians. INTEC personnel were assigned to initiate a formal investigation and cause analysis for the entire set of circumstances involved in this event. The formal investigation and cause analysis for this event is continuing.
Cause Description:	
Operating Conditions:	Routine Cafeteria Maintenance Activities
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	Supervision was notified. The employee was escorted to the CFA medical facility. Area access was posted / restricted around the grill. Employees were notified to stand clear of the grill. A L1 LO/TO was installed to support further evaluation of the grill. During evaluation of the grill under the L1 LO/TO, the metal shaft of a tool used in this effort was energized by contact with an electrical terminal for a heating element and an electrical arc was observed between the metal shaft of the tool and the bottom edge of the grill slab. The electricians immediately initiated a "step back", and work was stopped.
FM Evaluation:	Investigation to determine the cause of this event has been initiated and is on going.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Engineering and LO/TO Team By When: 08/28/2008
Division or Project:	INTEC Area Project

Plant Area:	CPP-652
System/Building/Equipment:	CPP-652 Cafeteria Grill
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
HQ Summary:	On August 7, 2008, a cafeteria worker experienced an electrical shock while cleaning the grill surface. The employee was treated at CFA medical facilities and released with no restrictions. Area access was restricted, and a LO/TO was installed to support an ongoing investigation of this event.
Similar OR Report Number:	
Facility Manager:	Name: Hobbes, Jeffrey J Phone: (208) 569-6965 Title: INTEC Maintenance Director
Originator:	Name: SWANEY, GEORGE P Phone: (208) 533-3328 Title: COMPLIANCE COORDINATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	08/11/2008, 14:50 (MTZ), Shawn A. Hill, DOE-ID 08/12/2008, 14:30 (MTZ), Shawn A. Hill, DOE-ID
Authorized Classifier(AC):	M. S. Casteel Date: 08/25/2008

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
08/11/2008	14:50 (MTZ)	Shawn A. Hill	DOE-ID
08/12/2008	14:30 (MTZ)	Shawn A. Hill	DOE-ID

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2)Report Number:	EM-ORO--BJC-K25ENVRES-2008-0020 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	East Tennessee Technology Park
Facility Name:	ETTP Facility D&D/K-25/K-27 Project
Subject/Title:	Near Miss Involving Damage to a Power Pole While Moving a Piece of Heavy Equipment
Date/Time Discovered:	08/27/2008 08:30 (ETZ)
Date/Time Categorized:	08/27/2008 10:30 (ETZ)
Report Type:	Notification
Report Dates:	Notification | 08/27/2008 | 16:18 (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:	2) Analyze the Hazards		
Subcontractor Involved:	No		
Occurrence Description:	At approximately 0815 hours, on 8-27-08, an equipment operator was relocating a track hoe on the east side of the K-25 building at the vault level near K-310-2. The equipment operator backed into a power pole breaking it at ground level. The power line attached to the pole did not come in contact with the equipment or structures.		
Cause Description:			
Operating Conditions:	Normal under Decontamination and Decommission		
Activity Category:	Facility Decontamination/Decommissioning		
Immediate Action(s):	Restricted the use of heavy equipment.		
FM Evaluation:			
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	No		
Division or Project:	K-25/K-27 D&D		
Plant Area:	Central		
System/Building/Equipment:	K-25 Facility west of K-305-4		
Facility Function:	Environmental Restoration Operations		
Corrective Action:			
Lessons(s) Learned:			
HQ Keywords:	05E--Mechanical/Structural - Structural Deficiency/Failure 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 08K--OSHA Reportable/Industrial Hygiene - Near Miss (Other) 10C--Transportation - Industrial Equipment Movement Incident 12K--EH Categories - Near Miss (Could have been a serious injury or fatality)		

	14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On August 27, 2008, an equipment operator backed a track hoe into a power pole, breaking it at ground level. The operator was relocating the track hoe on the east side of the K-25 building. The power line did not come in contact with the equipment or structures.
Similar OR Report Number:	
Facility Manager:	Name: Kevin OHara Phone: (865) 241-3602 Title: Facility Manager
Originator:	Name: SMITH, MILDRED L Phone: (865) 241-1703 Title: QUALITY ENGINEER

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
08/27/2008	11:00 (ETZ)	Dan Emch	DOE-FR
08/27/2008	11:00 (ETZ)	Jim Pemberton	BJC-PSS
08/27/2008	11:00 (ETZ)	Fred Fillers	BJC-QA
08/27/2008	11:00 (ETZ)	Kelly Trice	BJC-MOP
08/27/2008	11:00 (ETZ)	Edward Najmola	BJC
08/27/2008	11:00 (ETZ)	Jim Kopotic	DOE

Authorized Classifier(AC): Fred Fillers Date: 08/27/2008

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3)Report Number:	EM-RP--BNRP-RPPWTP-2008-0015 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	RPP Waste Treatment Plant
Subject/Title:	Potential procedural violation of 24590-WTP-GPP-CON-1202, Hazardous Energy Work Control
Date/Time Discovered:	08/06/2008 15:00 (PTZ)
Date/Time Categorized:	08/06/2008 15:30 (PTZ)
Report Type:	Notification

Report Dates:

Notification	08/07/2008	12:40 (ETZ)
Initial Update		

	Final		
Significance Category:	3		
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.		
Cause Codes:			
ISM:	3) Develop and Implement Hazard Controls 4) Perform Work Within Controls		
Subcontractor Involved:	Yes Sub-Sub-Contractor All Doors, Inc. to Sub-Contractor Apollo		
Occurrence Description:	On Wednesday, August 06, 2008 @ approximately 1100 hours, Subcontractor Apollo reported a potential procedural violation of 24590-WTP-GPP-CON-1202, Hazardous Energy Work Control by their subcontractor working in Building 87 Switchgear. Subcontractor All Doors, Inc. had commenced work on a roll-up door motor assembly before Apollo and the subcontractor had reported to the Lockout/Tagout (LO/TO) group to record the name(s) of the employee(s) working on the motor to the work package and to apply their locks to the LO/TO box. The motor assembly was not energized as BNI electricians had performed a zero energy check and verified no power to the motor after the LO/TO group had applied the LO/TOs to breaker switches No. 4 and No. 6 on panel LVE-PNL-87002A.		
Cause Description:			
Operating Conditions:	Construction		
Activity Category:	Construction		
Immediate Action(s):	Work on the motor assembly was stopped immediately upon the realization of the potential procedural violation by the Subcontractor. The work area was secured pending a Fact Finding meeting to ascertain the facts. An initial investigation into the occurrence was opened. Both the Apollo and All Doors, Inc. personnel involved with the evolution had the proper LO/TO training. Their were no injuries or property damage involved.		
FM Evaluation:			
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Mike Ojeda By When:		

Division or Project:	Waste Treatment Plant
Plant Area:	600
System/Building/Equipment:	Building 87 Switchgear
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On August 06, 2008, a subcontractor potentially violated Hazardous Energy Work Control procedure 24590-WTP-GPP-CON-1202 when work commenced on a motor assembly for a roll-up door before the names of their employees were recorded on the work package and before their locks were applied to the LO/TO box. The motor assembly had previously been de-energized and locked out by BNI electricians as part of the work package. Work on the motor assembly was immediately stopped upon realization of the potential procedural violation.
Similar OR Report Number:	1. EM-RP--BNRP-RPPWTP-2008-0004
	2. EM-RP--BNRP-RPPWTP-2008-0006
	3. EM-RP--BNRP-RPPWTP-2008-0009
	4. EM-RP--BNRP-RPPWTP-2008-0013

Facility Manager:

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

Originator:

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

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
08/06/2008	15:30 (PTZ)	Jim Navarro	DOE FR
08/06/2008	15:37 (PTZ)	David Leeth	BNI Con
08/06/2008	15:40 (PTZ)	Tony Bocca	BNI SA
08/06/2008	15:43 (PTZ)	Mike Hood	BNI Con
08/06/2008	16:10 (PTZ)	Bill Lung	BNI Con

Authorized Classifier(AC):	

4)Report Number:	LM---STOL-UTII-2008-0002 **After 2003 Redesign**
Secretarial Office:	Legacy Management
Lab/Site/Org:	Legacy Management Site
Facility Name:	UMTRA Title II Sites
Subject/Title:	Unexpected discovery of Non-energized power line
Date/Time Discovered:	08/26/2008 12:00 (MTZ)
Date/Time Categorized:	08/27/2008 13:00 (MTZ)
Report Type:	Update
Report Dates:	Notification — 08/28/2008 — 12:16 (ETZ) Initial Update — 09/04/2008 — 08:15 (ETZ) Latest Update — 09/04/2008 — 08:15 (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:	A1B3C02 - Design/Engineering Problem; Design / documentation LTA; Design/documentation not up-to-date
ISM:	
Subcontractor Involved:	Yes Silver State Construction Company
Occurrence Description:	The Tuba City site was using a backhoe to excavate a new utility trench from the Northwest corner of a building to a vacant area to the west. As excavation continued the trackhoe struck and severed a 120 volt, 20 amp electrical line and conduit. A subcontracted electrician had performed a line locate on 8/25/2008 and had identified a grounding wire that was perpendicular to the trench path and would be intersected by the trench a few feet from the building. The electrician identified no other lines in the area. After the area around the grounding wire was hand excavated per procedure, the backhoe was used to continue the trench. Approximately 24 inches west of the grounding wire, the backhoe excavated and broke the conduit that contained wires also perpendicular to the trench. The conduit had not been identified during the line locate and was not on as-built drawings being used on site to perform the excavation. The wires were originally thought not to be live because the circuit breaker was not tripped. A second survey by an

	electrician determined the wires were live.
Cause Description:	
Operating Conditions:	The Tuba City Water Treatment plant was operational at the tiime of the incident.
Activity Category:	Construction
Immediate Action(s):	The area around the conduit was examined enough to determine what the line powered. During the examination, it was found that the grounding wire and conduit were on the same plane, and that the red warning tape was in the incorrectly installed at the same level, between the wire and the conduit. Work activities around the conduit was stopped. Training records were reviewed to ensure the site safety supervisor had the appropriate training to identify a safety issue and stop work. The electrician was questioned about the equipment used to locate lines, to determine if it was sensitive enough, if the electrician understood how to use it, and if the electrician performed the line locate appropriately. An investigation into the root cause is being conducted
FM Evaluation:	to be determined after a full investigation
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Jim Siler By When:
Division or Project:	Office of Legacy Management
Plant Area:	water plant
System/Building/Equipment:	Construction of Utility trench
Facility Function:	Environmental Restoration Operations
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	The Tuba City site was using a backhoe to excavate a new utility trench from the Northwest corner of a building to a vacant area to the west when the backhoe struck and severed an electrical line and conduit. The conduit

	had not been identified during line locate activity, and it was not on as-built drawings being used on site. A survey by an electrician determined the wires were energized.
Similar OR Report Number:	
Facility Manager:	Name: Carl Jacobson Phone: (970) 248-6568 Title: Site Operations Systems Manager
Originator:	Name: MAVEAL, THOMAS M Phone: (970) 248-6150 Title: HEALTH & SAFETY MANAGER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 08/27/2008; Time: 06:44 (MTZ); Person Notified: Joe Desormeau; Organization: DOE-LM
Authorized Classifier(AC):	

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5)Report Number:	NA--LSO-LLNL-LLNL-2008-0032 **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:	Building 140 Electrical Shock Incident
Date/Time Discovered:	08/13/2008 10:00 (PTZ)
Date/Time Categorized:	08/13/2008 15:15 (PTZ)
Report Type:	Notification
Report Dates:	Notification: 08/14/2008 18:24 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	

ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On Wednesday August 13, 2008, an electrician was performing battery replacement activities on a Building 140 emergency exit lighting fixture when contact was made with an unprotected 120 volt conductor and a shock to the employee's middle finger was received. The electrician was performing a battery replacement activity when he opened the hinged cover to the emergency exit light. After the shock, an electrical conductor was noted as the cause of the exposed electrical source. Upon receiving the shock, the electrician proceeded to safe the situation by reconnecting the previously loose wire nut onto the exposed conductor. The electrician later reported to on site Health Services for evaluation and was released back to work with no injury or work restrictions.
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Maintenance
Immediate Action(s):	1. The electrician notified his line supervisor that he had received a shock. 2. The electrician reported to LLNL site Health Services for further evaluation and was released back to full duty. 3. Facilities and Infrastructure line management was notified of the shock event.
FM Evaluation:	The final Report is due by 9/27/2008.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Kevin Akey By When: 09/27/2008
Division or Project:	O&B F&I
Plant Area:	Site 200
System/Building/Equipment:	Building 140 Emergency Lighting fixture
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock

	08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14C--Quality Assurance - Quality Improvement Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On August 13, 2008, an electrician was performing battery replacement activities on a Building 140 emergency exit lighting fixture when he contacted an unprotected 120-volt conductor and received a shock to the middle finger. After the shock, an electrical conductor was noted as the cause of the exposed electrical source. The electrician placed the work area into a safe configuration and reported to on site health services for evaluation. He was released back to work with no injury or work restrictions.
Similar OR Report Number:	1. NA--LSO-LLNL-LLNL-2008-0017
	2. NA--LSO-LLNL-LLNL-2008-0012
	3. NA--LSO-LLNL-LLNL-2008-0011
	4. NA--LSO-LLNL-LLNL-2008-0004
	5. NA--LSO-LLNL-LLNL-2008-0001
	6. NA--LSO-LLNL-LLNL-2007-0050
	7. NA--LSO-LLNL-LLNL-2007-0038
	8. NA--LSO-LLNL-LLNL-2007-0020
	9. NA--LSO-LLNL-LLNL-2007-0004
Facility Manager:	Name: Harold Conner Phone: (925) 422-5786 Title: Facilities & Infrastructure Associate Director
Originator:	Name: FREEMAN, JEFFREY W Phone: (925) 424-6787 Title: OCCURRENCE REPORTING
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	see table below
Authorized Classifier(AC):	

Other Notifications:

Date	Time	Person Notified	Organization
08/13/2008	16:00 (PTZ)	Tracey Simpson	ESH TL
08/13/2008	16:02 (PTZ)	Scott McAllister	LEDO
08/13/2008	16:10 (PTZ)	Henry Rio	NNSA/LSO

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6)Report Number:	NA--PS-BWXP-PANTEX-2008-0091 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration

Lab/Site/Org:	Pantex Plant
Facility Name:	Pantex Plant
Subject/Title:	Failure to Follow LO/TO Requirements
Date/Time Discovered:	08/07/2008 14:30 (CTZ)
Date/Time Categorized:	08/07/2008 14:32 (CTZ)
Report Type:	Notification
Report Dates:	Notification 08/11/2008 11:53 (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 safety walkdown on 8/6/08 determined that a controller cabinet associated with the 5-axis fluid jet should not be opened by operations personnel due to potential electrical hazards. The cabinet had previously been evaluated and, based on the system configuration, access to the cabinet was approved for non-electrical workers. On 8/7/08, operations personnel opened the cabinet to install covers over the electrical connections of concern. The power was turned off to the controls but power coming into the cabinet had not been locked out and absence of energy was not verified.
Cause Description:	
Operating Conditions:	Normal Operation
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	The control cabinet was closed, and qualified electricians contacted to perform LO/TO of power to the cabinet. A critique was held 08/07/2008 at 1400 to gather information pertaining to the event. No injuries to personnel occurred as a result of this event.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	

Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: CA/MP Team By When:
Division or Project:	Applied Technology
Plant Area:	Zone 11
System/Building/Equipment:	Zone 11
Facility Function:	Balance-of-Plant - Machine shops
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	During a safety walk down on August 8, 2008, it was determined that a controller cabinet associated with the 5-axis fluid jet should not be opened by operations personnel due to potential electrical hazards. Access to the cabinet had been approved for non-electrical workers; however, it was discovered that power coming into the cabinet had not been locked out, and absence of energy was not verified.
Similar OR Report Number:	
Facility Manager:	Name: BAKER, CINDY L Phone: (806) 477-3525 Title: Facility Manager
Originator:	Name: BAKER, CINDY L Phone: (806) 477-3525 Title:
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 08/07/2008; Time: 14:52 (CTZ); Person Notified: Rob Intrater; Organization: PXSO
Authorized Classifier(AC):	WEATHERS, GEORGE Date: 08/08/2008

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7)Report Number:	NA--SS-SNL-NMFAC-2008-0016 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Sandia National Laboratories - SS
Facility Name:	SNL NM Site-wide F & M

Subject/Title:	Electricians Fail to Follow LOTO Requirements while Labeling Wires in De-energized 100 amp Electrical Disconnect in Bldg. 860
Date/Time Discovered:	08/04/2008 13:00 (MTZ)
Date/Time Categorized:	08/04/2008 13:10 (MTZ)
Report Type:	Notification
Report Dates:	Notification — 08/06/2008 — 18:19 (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 Del Rio Enterprises
Occurrence Description:	On August 4, 2008, at approximately 10:30am, a Facilities Management and Operations Center (FMOC) Construction Observer performing a field walkthrough, observed two FMOC Electrical Subcontract electricians in the limited approach boundary of an open 480 volt, 100 amp disconnect. The 100 amp disconnect was in a de-energized state and the Construction Observer questioned the electricians concerning LOTO. The Observer identified that although there was a LOTO lock on the buss duct switch that supplied power to the electrical disconnect, it did not belong to the electricians performing the work. The Construction Observer also determined that the electricians had performed a zero voltage test prior to performing work in the 100 amp disconnect, but did not wear required NFPA 70E PPE while performing the test. The Construction Observer suspended the work activity and followed the FMOC event notification process to report the NFPA 70E PPE and LOTO violations. Investigation: The conductors being labeled and terminated in the 100 amp disconnect were installed during a planned electrical outage on August 2, 2008. The LOTO lock that was on the buss duct switch at the time of the incident belonged to the Electrical Subcontractor's foreman and had been installed following the outage because the duct heater (load) had not been

	connected to the disconnect. The electricians were wearing safety glasses and hard hats at the time of the incident. This incident was not identified as a near miss because personnel were not exposed to electrical energy as a result of the LOTO violations.
Cause Description:	Critique/Fact Finding was performed 8/4/08
Operating Conditions:	Normal
Activity Category:	Construction
Immediate Action(s):	Work was suspended. Contractor was issued an FMOC Safety Deficiency.
FM Evaluation:	EOC #7443 Early Notification Dates and Times: EOC - 8/4/08 - 13:05 FR - Wayne Walker - 8/4/08, 13:12 This event was assessed by an SNL Electrical Safety SME using the EFCOG Electrical Severity Measurement Tool and scored in the non-reportable range because there was neither exposure to energized circuit parts nor injury to the worker.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Causal Analysis Team By When: 09/18/2008
Division or Project:	4000/Bldg. 860 North Amplifier Project
Plant Area:	Tech Area I
System/Building/Equipment:	Electrical Distribution/Bldg. 860/Hallway
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)

	14E--Quality Assurance - Work Process Deficiency
HQ Summary:	During a field walkthrough, a construction observer saw two electrical subcontract electricians in the limited approach boundary of an open 480-volt, 100-amp disconnect. The 100-amp disconnect was de-energized and locked out but the lockout/tagout did not belong to the electricians performing the work. The construction observer determined that the electricians had performed a zero voltage test before performing the work, but they did not wear the required NFPA 70E PPE while performing the test. The construction observer suspended the work activity and reported the violations.
Similar OR Report Number:	
Facility Manager:	Name: Carla Lamb Phone: (505) 844-1753 Title: ES&H Coordinator - Facilities Management & Ops Ctr
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
08/04/2008	13:00 (MTZ)	John Norwalk	4827
08/04/2008	13:12 (MTZ)	Wayne Walker, FR	DOE/SSO
08/04/2008	14:20 (MTZ)	Mike Hazen	4000
08/04/2008	13:10 (MTZ)	Jeff Quintenz	4800

Authorized Classifier(AC): John Norwalk Date: 08/06/2008

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8)Report Number:	NA--YSO-BWXT-Y12NUCLEAR-2008-0030 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Y12 National Security Complex
Facility Name:	Y12 Nuclear Operations
Subject/Title:	LOTO Discrepancy on 9204-2 House Vacuum Pump (U)
Date/Time Discovered:	08/18/2008 10:00 (ETZ)
Date/Time Categorized:	08/18/2008 11:20 (ETZ)
Report Type:	Notification
Report Dates:	Notification | 08/20/2008 | 12:58 (ETZ)

	Latest Update
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	2) Analyze the Hazards
Subcontractor Involved:	No
Occurrence Description:	On August 18, 2008, House Vacuum Pump 901-1 was to be removed so that it could be rebuilt. The Lockout/Tagout (LOTO) walk-down was conducted by the Issuing Authority and Service Supervisor, and the locks were applied by the craftsmen (Authorized Employees) on August 14, 2008. The mechanical locks consisted of the valves on pipes connected to the pump and the electrical lock consisted of the 440 V power supplying the motor. Removal of the pump began on August 18, 2008. The Electricians removed the wiring to the pump motor. Lack of voltage was confirmed prior to this electrical disconnect. One of the craftsmen asked the Electrician if the power was isolated from a soleniod on the oil circulation line. The solenoid was still warm and the Electrician confirmed with a proximity meter that the line was still energized. This solenoid received electrical power from a 110 volt power source separate from the 440 V breaker that had been locked out. The power supply for this solenoid was not identified during the LOTO walk-down.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	The job was immediately suspended. The FI&S 9204-2 Work Center Manager and Special Materials Production Manager were notified and conducted an immediate walk-down to confirm the equipment status. The Production Manager filed a 2C-2 Occurrence at approximately 11:20 a.m. on August 18, 2008.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No

	By Whom: B. G. Davis By When:
Division or Project:	Special Material Production
Plant Area:	Protected
System/Building/Equipment:	Building 9204-2
Facility Function:	Uranium Conversion/Processing and Handling
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	The electrical lockout/tagout (LOTO) performed to isolate house vacuum pump 901-1 for removal was discovered to be incomplete. Workers found a solenoid on the oil circulation line that was still energized. The solenoid was connected to a 110-volt power source separate from the 440-volt circuit breaker that had been locked out to isolate the vacuum pump motor. The power supply for this solenoid was not identified during the LOTO walk-down. The job was immediately suspended pending further investigation.
Similar OR Report Number:	
Facility Manager:	Name: Davis, B. G. Phone: (865) 574-1245 Title: Special Material Production Manager
Originator:	Name: WILSON, SHIRLEY S Phone: (865) 574-1566 Title: MANAGER, OCCURRENCE REPORTING

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
08/18/2008	11:20 (ETZ)	Kevin Ross	PSS
08/18/2008	11:31 (ETZ)	Rick Shipley	OPS MGR
08/18/2008	11:31 (ETZ)	Keith Kline	NNSA FR
08/18/2008	11:31 (ETZ)	Leslie Reed	PROD DM
08/18/2008	12:09 (ETZ)	James Taylor	OP COMPL

Authorized Classifier(AC): Paul, Tom Date: 08/20/2008

9)Report Number:	NA--YSO-BWXT-Y12SITE-2008-0026 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Y12 National Security Complex
Facility Name:	Y-12 Site
Subject/Title:	Environmental Protection Demolition - Near Miss
Date/Time Discovered:	08/15/2008 09:56 (ETZ)
Date/Time Categorized:	08/15/2008 09:56 (ETZ)
Report Type:	Notification
Report Dates:	Notification: 08/19/2008 13:09 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	3
Reporting Criteria:	2A(6) - Any single occurrence resulting in a serious occupational injury. A serious occupational injury is an occupational injury that: (a) Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (b) Results in a fracture of any bone (except simple fractures of fingers, toes, or nose, or a minor chipped tooth); (c) Causes severe hemorrhages or severe damage to nerves, muscles, or tendons; (d) Damages any internal organ; or (e) Causes second- or third-degree burns, affecting more than five percent of the body surface. 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:	1) Define the Scope of Work
Subcontractor Involved:	No
Occurrence Description:	The Environmental Protection Project required the removal of some old office wall panels approximately 3' wide by 8' tall. These are relatively thin and light cardboard filled panels. Electrical cables running through a 3" hole

	in one of the panels was discovered by the workers late Thursday afternoon (8-14-2008). When work began on Friday (8-15-2008) the carpenter attempted to cut the panel away from these cables with a jig saw. During this operation the saw blade cut an energized cable and sparks were observed. The carpenter finished the cut because, in his opinion, this would prevent the panel from falling and damaging the cable further. The electrical cable cut was determined to be 110/120v power cable that plugged in with a standard plug to a communications box. The other cables running through the hole were very low voltage communication or had been previously abandoned. There was no shock, no injury, and the building was not immediately affected (the cable served the classified computer system and was partially cut, power was not lost and the system remained operational). Later Friday afternoon the building classified system was down for a short period of time while maintenance replaced the damaged cable. Work on this project was suspended on Friday (8-15-2008). The project team will develop and implement a restart plan prior to resumption of work. Details of same will be addressed in the Facility Manager Evaluation section (22) in an update of this report. Work was restarted on Monday (8-18-2008).
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Construction
Immediate Action(s):	The demolition area was secured, flagged off, and all work on this job was suspended.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Mark Gokey By When:
Division or Project:	Projects Division
Plant Area:	Protected
System/Building/Equipment:	Building 9204-2E
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)

	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 01Q--Inadequate Conduct of Operations - Personnel error 07D--Electrical Systems - Electrical Wiring 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	While removing old office wall panels, workers discovered electrical cables running through a 3-inch hole in one of the panels. A worker attempted to cut the panel away from these cables with a jig saw and cut an energized cable causing sparking. The worker finished the cut to prevent the panel from falling and damaging the cable further. The electrical cable that was cut was a 110/120-volt power cable that plugged in with a standard plug to a communications box. The other cables running through the hole were very low voltage communication or had been previously abandoned. The demolition area was secured, flagged off, and all work on this job was suspended.
Similar OR Report Number:	
Facility Manager:	Name: Gokey, Mark Phone: (865) 574-8787 Title: Acting Manager of Construction
Originator:	Name: WILSON, SHIRLEY S Phone: (865) 574-1566 Title: MANAGER, OCCURRENCE REPORTING
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	08/15/2008, 09:56 (ETZ), R. Galyon, PSS 08/15/2008, 09:56 (ETZ), On Duty Fac. Rep., NNSA FR
Authorized Classifier(AC):	Chandler, C. A. Date: 08/18/2008

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
08/15/2008	09:56 (ETZ)	R. Galyon	PSS
08/15/2008	09:56 (ETZ)	On Duty Fac. Rep.	NNSA FR

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10)Report Number:	NE-ID--BEA-ATR-2008-0022 **After 2003 Redesign**
Secretarial Office:	Nuclear Energy, Science and Technology
Lab/Site/Org:	Idaho National Laboratory
Facility Name:	Advanced Test Reactor
Subject/Title:	Personnel Access to Damaged Electrical Components Without Proper PPE Prior to Accepting LO/TO

Date/Time Discovered:	08/12/2008 16:00 (MTZ)
Date/Time Categorized:	08/13/2008 17:15 (MTZ)
Report Type:	Notification
Report Dates:	Notification — 08/19/2008 — 19:00 (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:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On August 12, 2008, at approximately 1600, shortly after starting the M-6 air compressor following mechanical maintenance, an acrid odor was noted by the Shift Supervisor who was touring building TRA-609. Shortly thereafter, the M-6 compressor tripped and the standby compressor started. Light smoke was sighted coming from the electrical box housing the M-6 compressor control circuitry. The Shift Supervisor directed an operator to open the 480 volt breakers supplying the compressor. The light smoke then dissipated. The Fire Department verified control circuit components had cooled to ambient and the compressor was then tagged out electrically awaiting repair. The operator's response was as expected until the electrician opened the hinged panel on the control circuit electrical box. Once electrical power was secured to the circuit, the casualty control phase was complete and it became a maintenance activity. Neither the electrician that first opened the hinged cover for inspection, nor the two operators who subsequently opened the same hinged cover for inspection before the LO/TO was installed, were wearing the proper personal protrective equipment (PPE) to open a hinged cover that could expose live connections between 277 and 600 volts. The PPE requirements for operating circuit breakers and accessing enclosures containing exposed electrical connections were not well understood by the operators and craftsmen. Training of operators and

Report Dates detail:

Report	Date	Time
Notification	08/19/2008	19:00 (ETZ)
Initial Update		
Latest Update		
Final		

	craftsmen had been conducted in February 2008. During the critique that was held, the consensus from personnel who had received the training was that the training was not effective and further training is required. Some attendees at the critique were confused by the training provided in February, but did not provide feedback on the effectiveness of the training. Most people working at the ATR Complex were initially trained that electrical panels could be opened for inspection as long as one did not "break the plane" of the enclosure opening. This belief no longer complies with current electrical safety requirements.
Cause Description:	
Operating Conditions:	The ATR was operating at nominal full power for the Cycle 142B-1
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	Appropriate levels of BEA management and DOE-ID were notified of this event. A critique was held on August 13, 2008
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:	ATR Programs
Plant Area:	Building 609
System/Building/Equipment:	M-6 Air Compressor
Facility Function:	Category "A" Reactors
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01F--Inadequate Conduct of Operations - Training Deficiency 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 07E--Electrical Systems - Electrical Equipment Failure 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14B--Quality Assurance - Training and Qualification Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	While inspecting the control circuit for the M-6 air compressor after it unexpectedly tripped following mechanical maintenance, an electrician and two operators had opened the hinged cover to the electrical panel that

	housed the control circuits without wearing the appropriate personal protective equipment (PPE). Although the 480-volt circuit breakers supplying the compressor were open, opening a hinged cover that could expose energized connections between 277 and 600 volts requires personnel to wear PPE. Notifications were made and a critique was held.
Similar OR Report Number:	
Facility Manager:	Name: MCDONOUGH, MARTIN B Phone: (208) 533-4321 Title: ATR OPERATIONS FACILITY MANAGER
Originator:	Name: BRANSON, GARY L Phone: (208) 526-6529 Title:
HQ OC Notification:	Date: NA, Time: NA, Person Notified: NA, Organization: NA
Other Notifications:	Date: 08/13/2008, Time: 17:15 (MTZ), Person Notified: R. Denning, Organization: DOE-ID
Authorized Classifier(AC):	B. P. Clements Date: 08/19/2008

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11)Report Number:	SC--FSO-FNAL-FERMILAB-2008-0003 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	FERMI National Accelerator Laboratory
Facility Name:	FERMI National Accelerator Lab.(BOP)
Subject/Title:	Technican Receives Mild Shock While Disconnecting Power Leads
Date/Time Discovered:	08/22/2008 15:00 (CTZ)
Date/Time Categorized:	08/26/2008 09:00 (CTZ)
Report Type:	Notification
Report Dates:	Notification: 08/28/2008 16:16 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary

	investigations made before work is authorized to begin.
Cause Codes:	
ISM:	1) Define the Scope of Work
Subcontractor Involved:	No
Occurrence Description:	On Friday, August 22 at approximately 9:00 am, a Technical Division (TD) Magnet Systems Department technician was using a 7-Meter Coil Curing Press located in Industrial Building 3 (IB-3). This press applies both hydraulic pressure and heat to a magnet coil to cure it. The press had been originally located in the Industrial Center Building (ICB) and had been previously used for Superconducting Super Collider and Large Hadron Collider magnet production. The press was recently relocated with some modifications to IB-3 for use in R&D work. The coil curing cycle had ended. In order to remove the mold from the press, the power leads to the press need to be removed. So the technician moved the disconnect switch on the control panel at the front of the press to the OFF position. He noted that the red warning light on the press was no longer ON, and the LED read-outs on the temperature control panel were not illuminated. He therefore assumed that there was no power to the press and proceeded to disconnect the two power leads at the front of the press while standing to the side of the press. He disconnected the first lead without incident, and as he reached past the first connection point for the second lead, he felt a slight tingle through his arm and in his upper chest area. An electronics technician was immediately called to the scene. The electronics technician took readings at the press power connection point and measured 270 VAC between the recessed male pin to ground. The TD Senior Safety Officer (SSO) was then called, who shortly thereafter assembled an investigation team that consisted of the TD SSO, the TD Electrical Coordinator, an experienced technician that had previously operated the press in ICB, and the following Magnet Systems Department employees: an electrical engineer, an electronics technician, the project engineer, and the technician that received the mild shock. Preliminary indications are that when the technician reached for the second lead, the hair on his arm brushed against the slightly recessed male pin in the press power connection from which the first lead had just been removed. As he reached for the second lead with his right hand, he had his left hand placed on the steel press table for balance, and his leg was pressed up against some conduit. Either of these actions would provide a ground. The investigation is ongoing into the causal factors of this incident by TD and the Fermilab Electrical Safety Subcommittee (ESS).
Cause Description:	
Operating Conditions:	Normal operating conditions
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)

Immediate Action(s):	The coil curing press was placed under configuration control by TD HQ management shortly after the incident occurred. The press will not be placed back in service until the investigation is completed and any corrective actions deemed necessary have been instituted. Several days after the incident, the TD SSO discovered that the employee had not gone to Medical after the incident because he had not felt any ill effects from the mild shock. The TD SSO subsequently consulted with the Fermilab Medical Director. The employee states that he has not exhibited any signs or symptoms since the incident.
FM Evaluation:	The press will not be placed back in service until the investigation is completed the TD HQ and the Fermilab ESS and any corrective actions deemed necessary have been instituted.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: TD HQ and Fermilab ESS By When: 10/15/2008
Division or Project:	Technical Division
Plant Area:	IB-3
System/Building/Equipment:	7m Coil Curing Press
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On August 22, 2008, a technician received a mild shock while using a 7-Meter Coil Curing Press located in Industrial Building 3. The coil curing cycle had ended, and the employee was removing the power leads, in order to take the mold out of the press. As he reached past the first connection point for the second lead, he felt a slight tingle through his arm and in his upper chest area. An electronics technician was immediately called, who measured 270 VAC between the recessed male pin to ground. Preliminary indications from an investigation are that hair on the employee’s arm brushed against the slightly recessed male pin in the press power connection from which the first lead had just been removed. As he reached for the second lead with his right hand, he had his left hand placed on the steel press table for balance, and his leg was pressed up against some conduit. Either of these actions would provide a ground.

Similar OR Report Number:	
Facility Manager:	Name: Bruce Chrisman Phone: (630) 840-2359 Title: Chief Operating Officer
Originator:	Name: JAMES, WILLIAM R Phone: (630) 840-8901 Title: ES&H EMERGENCY PLANNER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 08/26/2008; Time: 09:00 (CTZ); Person Notified: D. Parzyck; Organization: DOE-FSO
Authorized Classifier(AC):	

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12)Report Number:	SC--PNSO-PNNL-PNNLNUCL-2008-0003 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Pacific Northwest National Laboratory
Facility Name:	PNNL Nuclear Facilities
Subject/Title:	Subcontractor Electrician 120V Shock
Date/Time Discovered:	08/20/2008 09:30 (PTZ)
Date/Time Categorized:	08/20/2008 10:50 (PTZ)
Report Type:	Notification
Report Dates:	Notification: 08/21/2008 16:44 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy. 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary

	investigations made before work is authorized to begin.
Cause Codes:	
ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls 5) Provide Feedback and Continuous Improvement
Subcontractor Involved:	Yes American Electric
Occurrence Description:	While working on a project to upgrade the Radiological Processing Laboratory's Fire Alarm Reporting System, a subcontractor electrician received a mild shock removing an end of line (EOL) capacitor from a 24V DC alarm circuit in a fire alarm heat detector test box. This test box was labeled to identify a 120V heater test circuit which was not identified during job planning. As the electrician removed the EOL capacitor, it is believed that his finger brushed against an energized 120 volt terminal. The worker was not visibly injured or burned. It has been determined that during the immediate investigation of the event, staff members entered the limited approach boundary to the open 120 volt panel and did not adhere to required hazardous energy control processes.
Cause Description:	
Operating Conditions:	N/A
Activity Category:	Construction
Immediate Action(s):	The Construction Manager issued a Stop Work suspending all work on the project. The subcontractor electrician was taken to Kadlec Medical Center for evaluation and released without restriction. A critique was held 08/21/08 at 0900 hours.
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:	Operational Systems / Facilities & Operations
Plant Area:	300 Area
System/Building/Equipment:	RPL (325 Bldg) / Room 52
Facility Function:	Laboratory - Research & Development
Corrective Action:	

Lessons(s) Learned:	
HQ Keywords:	01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	While working on a project to upgrade the Fire Alarm Reporting System in the Radiological Processing Laboratory, a subcontractor electrician received a mild shock when removing an end of line (EOL) capacitor from a 24-volt DC alarm circuit in a fire alarm heat detector test box. This test box was labeled to identify a 120-volt heater test circuit, which was not identified during job planning. As the electrician removed the EOL capacitor, it is believed that his finger brushed against an energized 120-volt terminal. The electrician was not visibly injured or burned. During the immediate investigation of the event, staff members entered the limited approach boundary to the open 120-volt panel and did not adhere to required hazardous energy control processes. The Construction Manager issued a Stop Work and a critique was held.
Similar OR Report Number:	
Facility Manager:	Name: Sadesky, R. Phone: (509) 371-7394 Title: Manager, Project Support Office
Originator:	Name: POLLARI, ROGER A Phone: (509) 371-7700 Title:
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 08/20/2008; Time: 10:51 (PTZ); Person Notified: Carlson, J. L.; Organization: PNSO
Authorized Classifier(AC):	Pollari, R. A. Date: 08/21/2008

Please send comments or questions to orpssupport@hq.doe.gov or call the Helpline at (800) 473-4375. Hours: 7:30 a.m. - 5:00 p.m., Mon - Fri (ETZ).
Please include detailed information when reporting problems.