Office of Health, Safety and Security

Electrical Safety Report

October 2010

Electrical Safety Occurrences

The number of electrical safety events for October remained at seventeen with two confirmed electrical shocks. Both of the shocks involved non-electrical workers. One event involved contact with defective heat tracing and the other event was believed to have been caused by contact with induced voltage in a communication cable. This month we saw an increase in the number of excavation-related events. Two events involved the use of equipment (excavator and trencher) and two events occurred while workers were using jackhammers. Locating and marking hidden electrical hazards continues to be a problem. Check with the EFCOG Subsurface Investigation Committee for guidance. There were also four events in which energized conductors were cut or penetrated. Workers need to verify that an electrically safe condition exists before cutting and to ensure that what they are drilling or screwing into is safe from hidden hazards. Again, we continue to see non-electrical workers (e.g., equipment operators, laborers, painters, etc.) involved in events in which they were potentially exposed to electrical hazards.

A positive sign this month was that the number of events involving lockout/tagout (LOTO) dropped significantly from the previous month. In two of the cases, just like last month, subcontractors did not follow lockout/tagout procedures and install locks and tags. We need to ensure that all workers adhere to the site's procedures for hazardous energy control.

The following table shows a breakdown of the electrical safety events for October.

Number of Events	Involving:
2	Electrical Shocks
0	Electrical Burns
3	Hazardous Energy Control
4	Inadequate Job Planning
4	Inadvertent Drilling/Cutting of Electrical Conductor
4	Excavation of Electrical Conductors
0	Vehicle Intrusion of Electrical Conductors
5	Electrical Near Miss
7	Electrical Workers
10	Non-Electrical Workers
6	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

Using the key words above, nineteen events were identified. Two events were screened out of the data because they did not involve an electrical hazard.

Below is the current summary of 2010 electrical safety occurrences:

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
October	17	2	0	0
September	17	1	0	0
August	13	4	2	0
July	22	5	0	0
June	13	4	0	0
May	7	1	0	0
April	13	2	0	0
March	13	2	0	0
February	13	4	0	0
January	8	0	0	0
2010 total	136 (avg. 13.6/month)	25	2	0
2009 total	128 (avg. 10.7/month)	25	3	0
2008 total	113 (avg. 9.4/month)	26	1	0
2007 total	140 (avg. 11.7/month)	25	2	0
2006 total	166 (avg. 13.8/month)	26	3	0
2005 total	165 (avg. 13.8/month)	39	5	0
2004 total	149 (avg. 12.4/month)	25	3	1

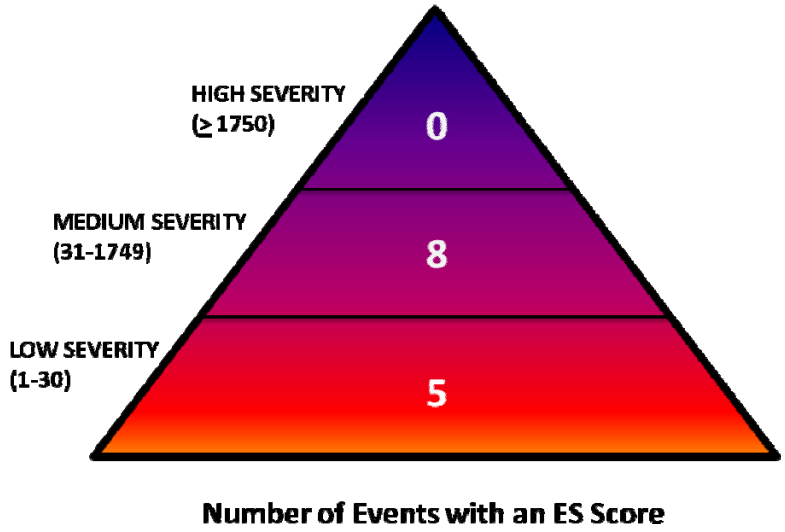
The seventeen events in October 2010, brings the monthly average to 13.6 events. This represents an increase over the rate of electrical safety occurrences in 2009, which averaged 10.7 per month.

Continue to evaluate electrical events using the Electrical Severity Measurement Tool. Starting this month, the electrical severity scores will be calculated using Revision 2 of the Electrical Severity Measurement Tool, which was released October 20, 2010. A copy of the revised tool can be found at the following websites.

HS-30 Electrical Safety Wiki: http://electricalsafety.doe-hss.wikispaces.net/Electrical+Severity

EFCOG Electrical Safety Subgroup:
http://www.efcog.org/wg/esh_es/docs/Electrical_Severity_Measurement_Tool_R2_Final_10-20-10.pdf

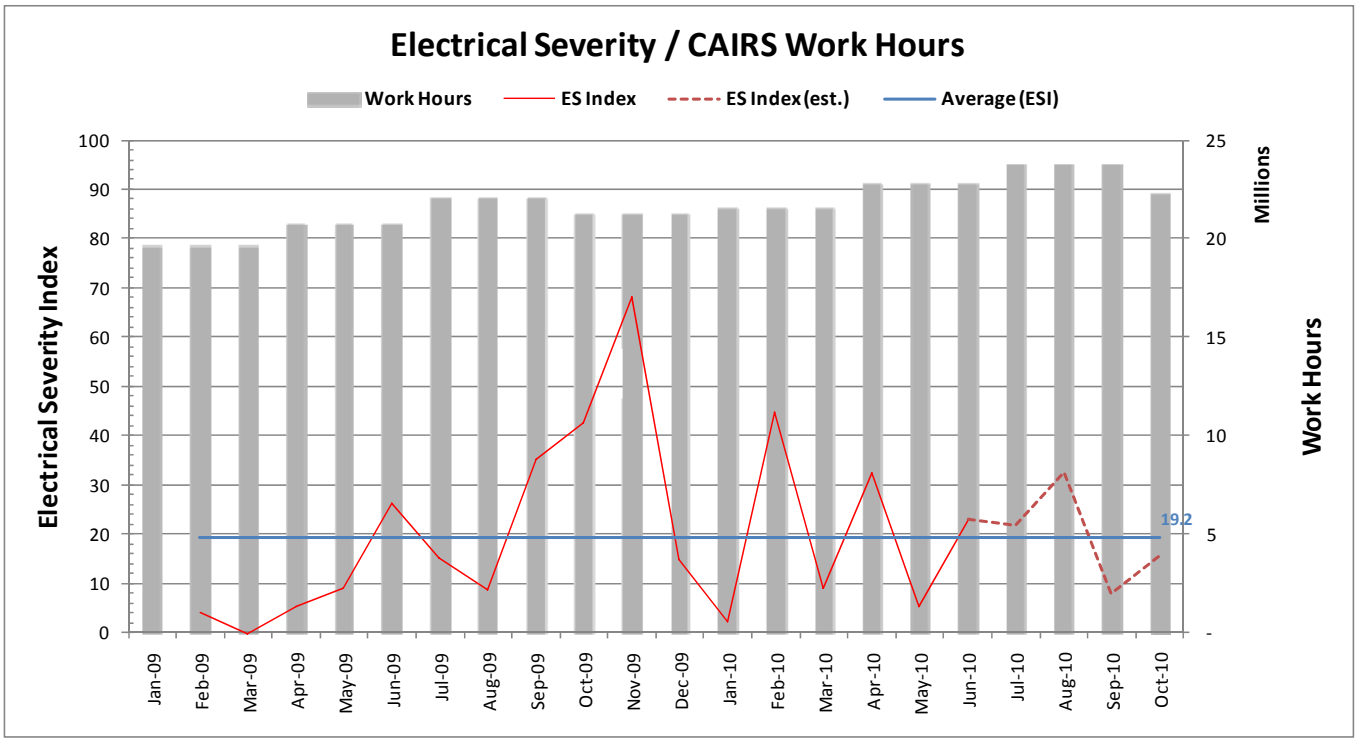
Four of the electrical events were determined to have no Electrical Severity (ES) score. The other thirteen events were distributed as shown below, with the highest ES score being 700.



Number of Events with an ES Score

Electrical Severity Index

The following chart shows a calculated Electrical Severity Index (ESI) for the DOE complex.



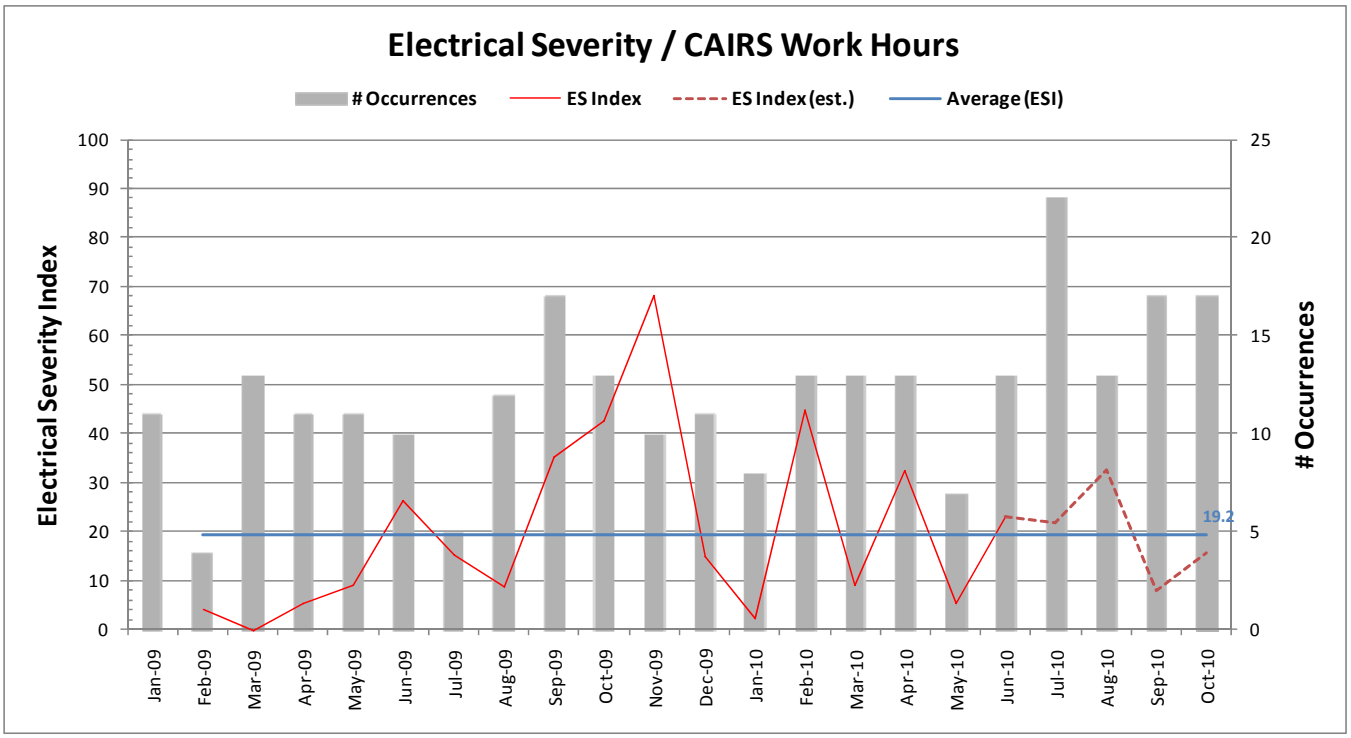
Note: An estimated ESI is calculated until accurate CAIRS man-hours are available. The chart will be updated monthly.

Category	September	October	Δ
Total Occurrences	17	17	0
Total Electrical Severity	930	1,750	+820
Estimated Work Hours	23,741,160* (21,958,613)	22,311,575	-1,429,585
ES Index	7.83* (8.24)	15.69	+7.86
Average ESI	19.4	19.2	-0.2

* These are actual CAIRS work hours for September and ES Index based on the actual hours. The estimated hours and ES Index based on the estimated hours (as reported in September) are shown in parentheses.

Electrical Severity Index = (Σ Electrical Severity / Σ Work Hours) 200,000

The following chart shows ESI with the number of Occurrences instead of work hours.

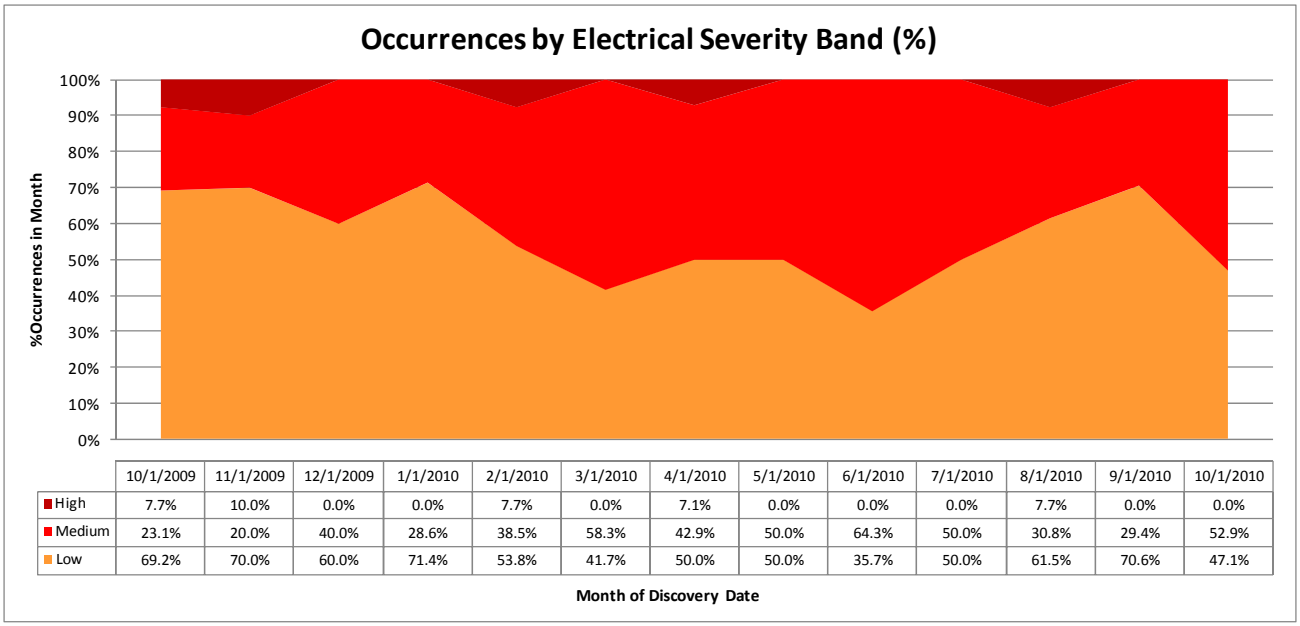


Summary of Occurrences by Severity Band

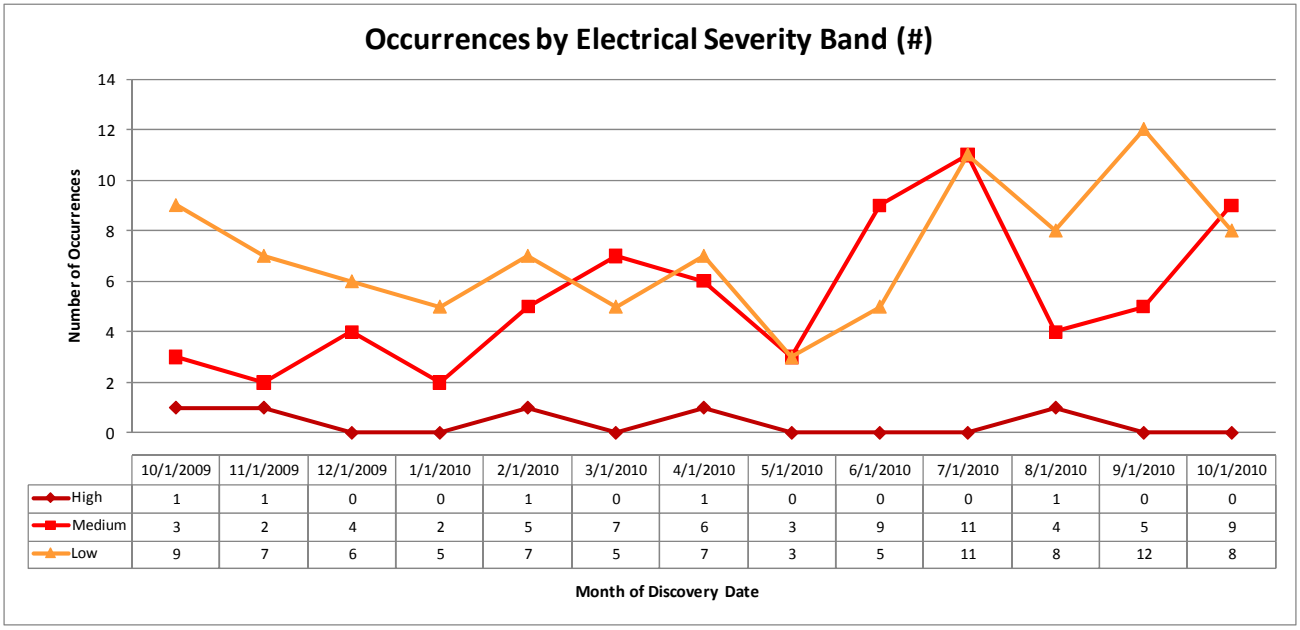
For the interval October 2009 through October 2010 (current month and the past 12), the two charts below summarize occurrences by severity band and month of discovery date:

- By percentage of total occurrences in month
- By number of occurrences in month

The key observation is that the Medium severity occurrences as a group are increasing in CY2010.



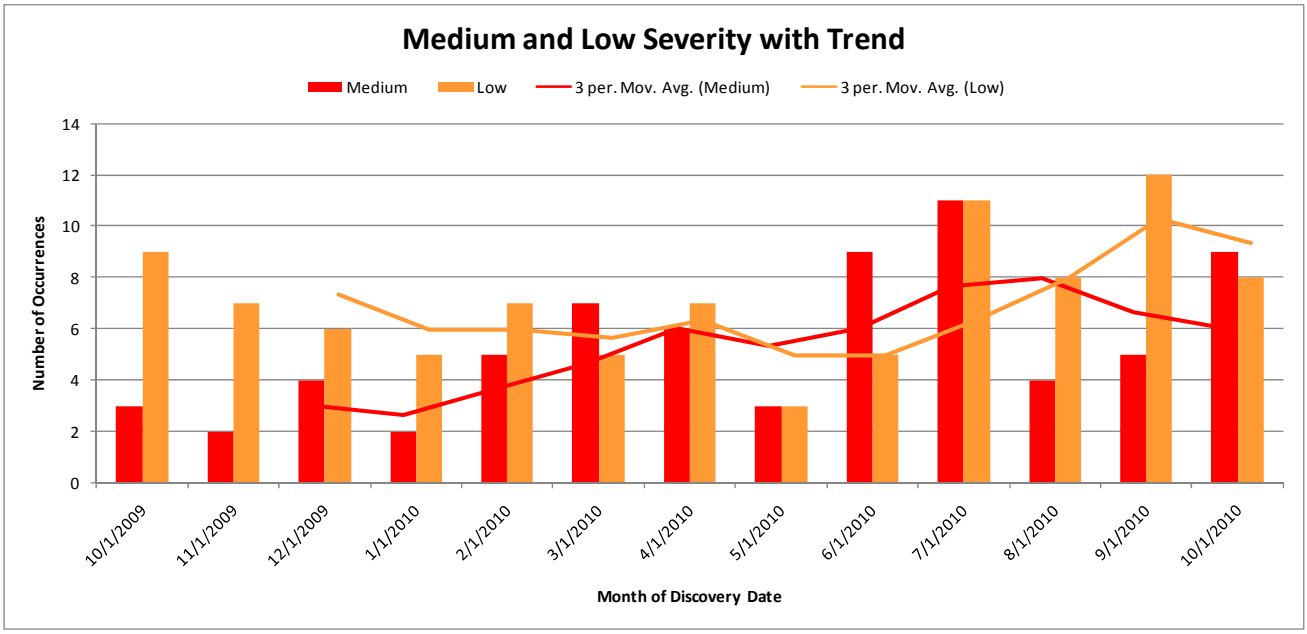
	10/1/2009	11/1/2009	12/1/2009	1/1/2010	2/1/2010	3/1/2010	4/1/2010	5/1/2010	6/1/2010	7/1/2010	8/1/2010	9/1/2010	10/1/2010
High	7.7%	10.0%	0.0%	0.0%	7.7%	0.0%	7.1%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%
Medium	23.1%	20.0%	40.0%	28.6%	38.5%	58.3%	42.9%	50.0%	64.3%	50.0%	30.8%	29.4%	52.9%
Low	69.2%	70.0%	60.0%	71.4%	53.8%	41.7%	50.0%	50.0%	35.7%	50.0%	61.5%	70.6%	47.1%

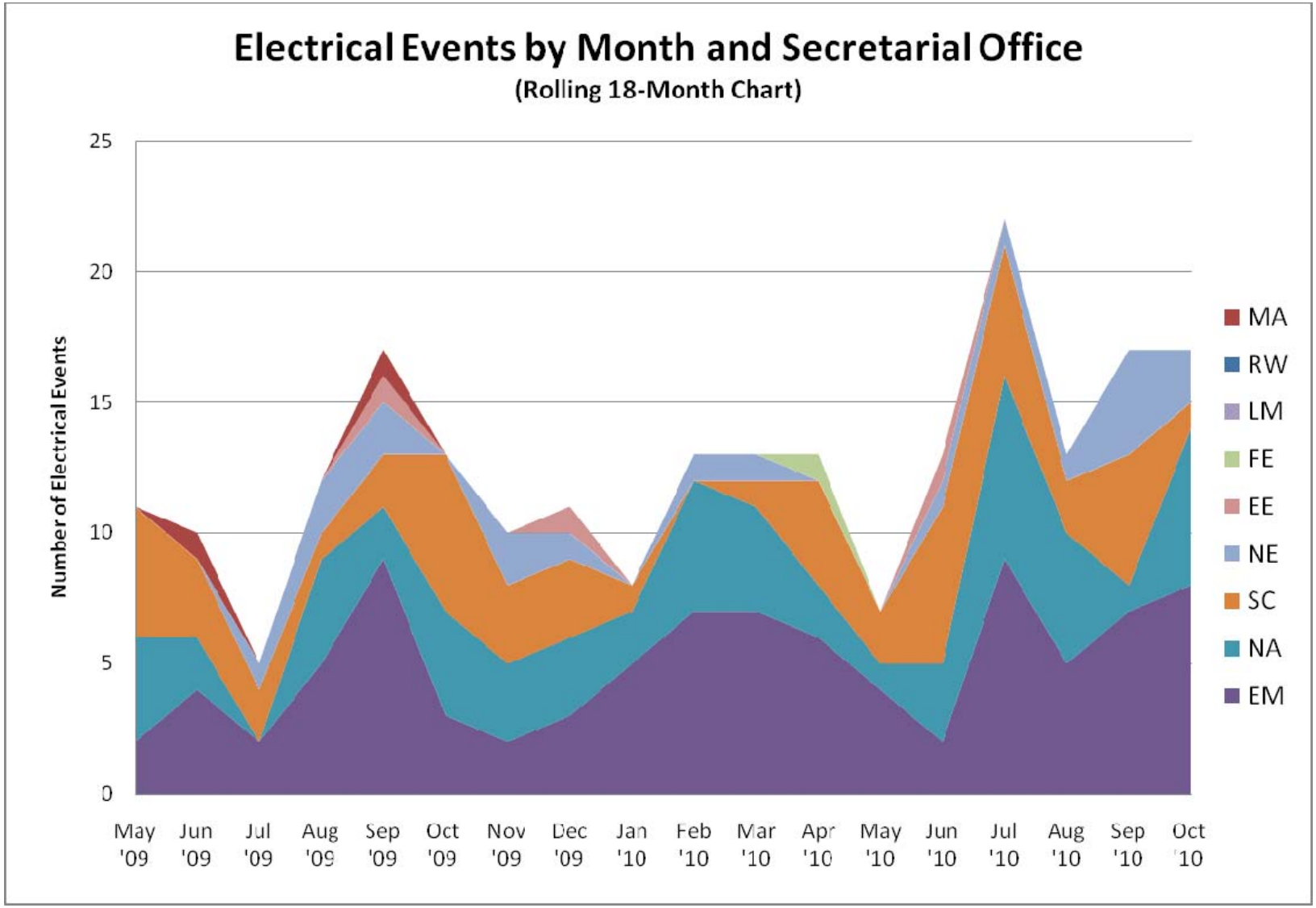


	10/1/2009	11/1/2009	12/1/2009	1/1/2010	2/1/2010	3/1/2010	4/1/2010	5/1/2010	6/1/2010	7/1/2010	8/1/2010	9/1/2010	10/1/2010
High	1	1	0	0	1	0	1	0	0	0	1	0	0
Medium	3	2	4	2	5	7	6	3	9	11	4	5	9
Low	9	7	6	5	7	5	7	3	5	11	8	12	8

Medium and Low Severity with Trend

The following chart focuses on the Medium and Low severity data series for October 2009 through October 2010. Trend lines are included for each, using a 3-month moving average.





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

Electrical Safety Occurrences – October 2010

No	Report Number	Event Summary	SHOCK	BURN	ARCF[1]	LOTO[2]	PLAN[3]	EXCAV[4]	CUT/D[5]	VEH[6]	SC[7]	RC[8]	ES[9]
1	EM-ORO--SEC-X10WSTEMRA-2010-0001	Workers discovered a 105-V conductor with their meter during a safety check for D&D work.									3	2C(2)	20
2	EM-RL--CPRC-CENTPLAT-2010-0008	A D&D worker cut into an energized 120-V electrical conduit to an electrical cabinet.							X		3	2C(2)	110
3	EM-RL--CPRC-GENLAREAS-2010-0020	A phase rotation meter failed when inadvertently wired to a pigtail assembly plug for inserting into a 480-V receptacle.									3	10(3)	50
4	EM-RL--CPRC-PFP-2010-0019	Workers cut an energized 120-V conductor believed to be isolated.					X		X		3	2C(2)	110
5	EM-RL--CPRC-SNF-2010-0018	A worker was installing a screw in the corner of a shelf and hit an energized 120-V conductor.							X		4	10(2)	110
6	EM-RP--BNRP-RPPWTP-2010-0007	Electricians cut an energized conductor while replacing lighting ballast.					X		X		3	2C(2)	110
7	EM-SR--PSC-SWPF-2010-0010	Backhoe hit a buried temporary conduit containing 480-V conductors.						X			3	10(2)	0
8	EM-SR--SRNS-SIPS-2010-0017	A worker received a 110-V shock when he brushed his forearm against heat-tracing insulation.	X								3	10(2)	330
9	NA--LASO-LANL-FIRNGHELAB-2010-0009	A worker was inside the AFB without proper PPE at a 480-V disconnect.					X				2	10(3)	700
10	NA--LASO-LANL-PHYSTECH-2010-0013	A worker struck a 208-V electrical conduit with a jackhammer.						X			4	10(2)	10
11	NA--LASO-LANL-WASTEMGT-2010-0016	A worker did not properly lockout and tagout a frayed electrical cord as required.				X					3	10(3)	0
12	NA--PS-BWP-PANTEX-2010-0060	A worker touched a com cable and received a 177-V shock.	X								4	10(2)	11
13	NA--SS-SNL-CASITE-2010-0008	A trencher severed a PVC pipe containing energized 120-V wires.						X			3	2C(2)	20

No	Report Number	Event Summary	SHOCK	BURN	ARCF[1]	LOTO[2]	PLAN[3]	EXCAV[4]	CUT/D[5]	VEH[6]	SC[7]	RC[8]	ES[9]
14	NA--YSO-BWXT-Y12NUCLEAR-2010-0018	A worker severed an embedded energized 120-V wire while jack hammering concrete.						X			3	2C(2)	20
15	NE-ID--BEA-MFC-2010-0008	A worker failed to place his lock and tag on a lockbox.				X					3	2C(2)	0
16	NE-ID--BEA-MFC-2010-0009	An electrician checked energized electrical leads with a voltmeter without proper PPE.					X				3	10(2)	200
17	SC-ORO--ORNL-X10HFIR-2010-0006	Equipment troubleshooting was performed without LOTO on required control point.				X					3	2C(2)	0
	TOTAL		2	0	0	3	4	4	4	0			

Key

(1) ARCF = significant arc flash, (2) LOTO = lockout/tagout, (3) PLAN = job planning, (4) EXCAV = excavation/penetration, (5) CUT/D = cutting or drilling, (6) VEH = vehicle event, (7) SC = ORPS significance category, (8) RC = ORPS reporting criteria, (9) ES = electrical severity

ES Scores: High is $\geq$ 1750, Medium is 31-1749, and Low is 1-30

Electrical Safety Occurrences – October 2010

No	Report Number	Event Summary	EW[1]	N-EW[2]	SUB[3]	HFW[4]	WFH[5]	PPE[6]	70E[7]	VOLT[8] H	VOLT[8] L	C/I[9]	NEUT[10]	NM[11]
1	EM-ORO--SEC-X10WSTEMRA-2010-0001	Workers discovered a 105-V conductor with their meter during a safety check for D&D work.	X				X				X			
2	EM-RL--CPRC-CENTPLAT-2010-0008	A D&D worker cut into an energized 120-V electrical conduit to an electrical cabinet.		X		X					X			X
3	EM-RL--CPRC-GENLAREAS-2010-0020	A phase rotation meter failed when inadvertently wired to a pigtail assembly plug for inserting into a 480-V receptacle.	X			X					X			X
4	EM-RL--CPRC-PFP-2010-0019	Workers cut an energized 120-V conductor believed to be isolated.	X			X					X			
5	EM-RL--CPRC-SNF-2010-0018	A worker was installing a screw in the corner of a shelf and hit an energized 120-V conductor.		X		X					X			
6	EM-RP--BNRP-RPPWTP-2010-0007	Electricians cut an energized conductor while replacing lighting ballast.	X			X					X			
7	EM-SR--PSC-SWPF-2010-0010	Backhoe hit a buried temporary conduit containing 480-V conductors.		X		X					X			X
8	EM-SR--SRNS-SIPS-2010-0017	A worker received a 110-V shock when he brushed his forearm against heat-tracing insulation.		X	X	X					X			
9	NA--LASO-LANL-FIRNGHELAB-2010-0009	A worker was inside the AFB without proper PPE at a 480-V disconnect.		X			X	X	X		X			X
10	NA--LASO-LANL-PHYSTECH-2010-0013	A worker struck a 208-V electrical conduit with a jackhammer.		X		X					X			
11	NA--LASO-LANL-WASTEMGT-2010-0016	A worker did not properly lockout and tagout a frayed electrical cord as required.		X	X		X				X			
12	NA--PS-BWP-PANTEX-2010-0060	A worker touched a com cable and received a 177-V shock.		X	X	X					X	X		
13	NA--SS-SNL-CASITE-2010-0008	A trencher severed a PVC pipe containing energized 120-V wires.		X		X					X			X

No	Report Number	Event Summary	EW[1]	N-EW[2]	SUB[3]	HFW[4]	WFH[5]	PPE[6]	70E[7]	VOLT[8] H	VOLT[8] L	C/I[9]	NEUT[10]	NM[11]
14	NA--YSO-BWXT-Y12NUCLEAR-2010-0018	A worker severed an embedded energized 120-V wire while jack hammering concrete.		X		X					X			
15	NE-ID--BEA-MFC-2010-0008	A worker failed to place his lock and tag on a lockbox.	X		X		X				X			
16	NE-ID--BEA-MFC-2010-0009	An electrician checked energized electrical leads with a voltmeter without proper PPE.	X		X		X	X			X			
17	SC-ORO--ORNL-X10HFIR-2010-0006	Equipment troubleshooting was performed without LOTO on required control point.	X				X				X			
	TOTAL		7	10	6	11	6	2	1	0	17	1	0	5

Key

(1) EW = electrical worker, (2) N-EW = non-electrical worker, (3) SUB = subcontractor, (4) HFW = hazard found the worker, (5) WFH = worker found the hazard, (6) PPE = inadequate or no PPE used, (7) 70E = NFPA 70E issues, (8) VOLT = H (>600) L(≤600), (9) C/I = Capacitance/Inductance, (10) NEUT = neutral circuit, (11) NM = near miss

ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 54930 OR(s) with 58240 occurrences(s) as of 11/12/2010 1:00:08 PM
Query selected 17 OR(s) with 17 occurrences(s) as of 11/12/2010 1:06:35 PM

Download this report in Microsoft Word format.

1)Report Number:	EM-ORO--SEC-X10WSTEMRA-2010-0001 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Oak Ridge National Laboratory
Facility Name:	Bethel Valley/BOPCP
Subject/Title:	Uncontrolled Hazardous Energy Source (ARRA)
Date/Time Discovered:	10/21/2010 11:30 (ETZ)
Date/Time Categorized:	10/22/2010 15:15 (ETZ)
Report Type:	Update
Report Dates:	Notification 11/03/2010 14:54 (ETZ) Initial Update 11/11/2010 15:36 (ETZ) Latest Update 11/11/2010 15:36 (ETZ) Final
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	2) Analyze the Hazards 3) Develop and Implement Hazard Controls
Subcontractor Involved:	No
Occurrence Description:	While working to Work Package CWP-M-020, Removal of Universal/Hazardous, SEC workers discovered an unexpected electrical energy source (105 volts, A/C) in a work area located in Building 3119. A SEC worker was attempting to remove a circuit board from an instrument panel when he noticed needle movement on one of the instrument meters. The worker discontinued the work activity and notified a co-worker of his discovery. Using a NCVT-1 Klien Tools non contact voltage tester 50-1000v range (chirper) instrument, the co-worker confirmed the presence of electrical energy. The workers notified their Work Group Supervisor who then notified the Environmental, Health and Safety Representative

	(EHSR). The EHSR immediately suspended similar, remedial work activities for the remaining buildings. Building 3119 had previously been declared as cold and dark by a DOE Contractor, had recently undergone a Utilities Isolation Verification walk-down by a DOE Contractor and SEC, and was verified by a SEC electrical subcontractor as electrically deactivated the day before. The verification was performed by an independent Journeyman Wireman subcontracted by SEC. The verification process consisted of testing main distribution panels, subpanels, various receptacle outlets, main feeds to buildings, and any bare wires that were in question. Tests were completed using voltage meters Phase to Phase, Phase to Neutral and Phase to Ground. Panels were removed and tests were performed on terminals on panels and circuit breakers with a voltage meter which continued to read zero volts. Test were compliant to NFPA 70E code and electricians wore proper PPE, i.e. fire retardant jacket, fire retardant coveralls, face shield, electrical gloves, etc. Although all electrical wires were verified going into the building, wires pulled through a floor penetration were not previously air gapped or tested. As a result of this occurrence, SEC has developed and implemented a work instruction specific to electrical deactivation. The instruction includes air gapping of all electrical conduit penetrations located in the building slabs, ground, ceilings and walls after the electrical subcontractor has verified that the electrical wires contained in the conduit are de-energized.
Cause Description:	Less than adequate process for electrical deactivation and verification. Explanation, A DOE Contractor identified building 3119 as cold and dark, typically defined as: an abandoned facility where all systems have been shut down and permanently isolated to reduce maintenance and surveillance costs. As a result of this occurrence, the DOE Contractor process for establishing and identifying a building as cold and dark is suspect in fulfilling the objective of deactivation of electrical sources. SEC did not investigate this but notified the DOE Contractor of the occurrence. The SEC process for utility isolation and electrical deactivation was less than adequate in that it did not achieve the desired objective of electrical deactivation verification. It was determined that although all electrical wires were verified going into the building, wires pulled through a floor penetration were not air gapped or tested. SEC has initiated an effort to review the current verification process with the goal of implementing a more rigorous process to mitigate or eliminate a similar condition.
Operating Conditions:	Facility:undergoing D&D; temperature 75 clear day
Activity Category:	Facility Decontamination/Decommissioning

Immediate Action(s):	Thursday 21Oct10 (1025) Worker 2 notified his Work Group Supervisor (WGS) of the discovery by radio. Thursday 21Oct10 (1030) WGS arrives to review the discovery and immediately reports the discovery to the PM and the site ESH Representative (ESHR). The ESHR suspends work activities in Bldg. 3119. The WGS notifies the SEC electrical subcontractor. Thursday 21Oct10 (1040) SEC electrical subcontractor arrives at Bldg. 3119 and conducts voltage verification. The voltage is determined to be 105 volts A/C. The instrument power cable is thought to have come from another building and remains unknown. Friday 22Oct10 (12:38) QAE at project site determines incident meets reporting requirements, Friday 22Oct10 (2:50) Concurrence from PM (Facility Manager) and other project staff are obtained and occurrence is entered in the ORPS. PM notifies Facility Representative.
FM Evaluation:	TBD
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: Facility Manager By When: 11/15/2010
Division or Project:	Misc Facilities
Plant Area:	Central Campus Area
System/Building/Equipment:	Bldg 3119
Facility Function:	Environmental Restoration Operations
Corrective Action 01:	**Target Completion Date:**11/17/2010 **Actual Completion Date:**
	1) DOE contractor will isolate energized wires discovered in Building 3119 and SEC electrical subcontractor will verify the source is isolated and wires de-energized.
Corrective Action 02:	**Target Completion Date:**12/16/2010 **Actual Completion Date:**
	2) SEC will issue a work instruction specific to electrical deactivation. The instruction will include air gapping of all electrical conduit penetrations located in the building slabs, ground, ceilings and walls after the electrical

	subcontractor verifies that the electrical wires contained in the conduit are de-energized.
Lessons(s) Learned:	Although buildings scheduled for demolition have been classified as cold and dark, workers must understand that cold and dark does not mean safe with all hazards removed. Because chemical, radiological, electrical, mechanical and residual liquid hazards may remain in a facility, continued hazard analyses must be performed as work progresses. In this incident, de-energizing at the distribution panels only is not adequate. Unknown sources may come through the slab or from the ground penetrations undetected.
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 21, 2010, Safety and Ecology Corporation workers discovered an unexpected and uncontrolled electrical energy source while working on Work Package #CWP-M-020. Management notifications were made. Electrical work was stopped on the morning of October 22. An event investigation was initiated.
Similar OR Report Number:	
Facility Manager:	Name: DEROOS, KENT Phone: (865) 241-8557 Title: Records Specialist
Originator:	Name: DEROOS, KENT Phone: (865) 241-8551 Title: FACILITY MANAGER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 10/22/2010; Time: 03:20 (ETZ); Person Notified: Carl Pilj; Organization: DOE
Authorized Classifier(AC):	

2)Report Number:	EM-RL--CPRC-CENTPLAT-2010-0008 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	Central Plateau Remediation Project

Subject/Title:	U Canyon D&D Worker Cuts into a Conduit that contains an Energized Electrical Conductor - ARRA
Date/Time Discovered:	10/05/2010 11:00 (PTZ)
Date/Time Categorized:	10/05/2010 11:40 (PTZ)
Report Type:	Notification
Report Dates:	Notification 10/06/2010 17:29 (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 D&D worker cut into an energized electrical conduit that fed an electrical cabinet at U Canyon. The D&D worker immediately stopped cutting the conduit once they noticed the sparking at the bottom area of the cabinet. The worker was not injured and the cabinet had previously been checked to be absent of any voltage by electricians. The cabinet was being moved out of the way to support asbestos abatement at U Canyon.
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Facility Decontamination/Decommissioning
Immediate Action(s):	1)Stopped work on this job site 2)Caution taped area 3)Placed in a safe configuration 4)Made all necessary notifications 5)Critique has been conducted
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No

	By Whom: By When:
Division or Project:	CHPRC / D&D Project / D4 / U Canyon
Plant Area:	221-U
System/Building/Equipment:	Operating Gallery / 221-U
Facility Function:	Environmental Restoration Operations
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 13H--Management Concerns - American Recovery and Reinvestment Act (ARRA) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 5, 2010, a D&D worker cut into an energized electrical conduit that fed an electrical cabinet at U Canyon. The D&D worker immediately stopped cutting the conduit upon noticing sparking at the bottom area of the cabinet. The worker was not injured. The cabinet had previously been checked by electricians and determined to be de-energized. The cabinet was being moved out of the way to support asbestos abatement at U Canyon. Work on the job site was stopped and caution tape was placed around the area. The equipment was placed in a safe configuration. Management notifications were made. A critique was conducted.
Similar OR Report Number:	
Facility Manager:	Name: R. A. Trevino Phone: (509) 373-2933 Title: Area Manger, D&D 2E/2W/ALE D4
Originator:	Name: MORRIS, KAREN R Phone: (509) 373-5152 Title: OPERATIONS SPECIALIST
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 10/05/2010; Time: 11:35 (PTZ); Person Notified: KL Kehler; Organization: D&D Date: 10/05/2010; Time: 11:50 (PTZ); Person Notified: RV Johnson; Organization: DOE-RL
Authorized Classifier(AC):	

3)Report Number:	EM-RL--CPRC-GENLAREAS-2010-0020 **After 2003 Redesign**

Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	Plateau Remediation General Facilities
Subject/Title:	Meter failed and flashed during 480 volt phase rotation test
Date/Time Discovered:	10/13/2010 08:30 (PTZ)
Date/Time Categorized:	10/13/2010 10:20 (PTZ)
Report Type:	Notification
Report Dates:	Notification 10/18/2010 10:47 (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:	A phase rotation meter that was designed to test phase rotation of electric motors was inadvertently wired to a pigtail assembly plug to be inserted into a 480 volt receptacle to test phase rotation of an energized 480 volt circuit in the Maintenance and Storage Facility. When an electrician inserted the plug into the receiver outlet the meter failed causing a loud pop and flash. The electrician was wearing level 2 Personal Protection Equipment, and was not injured.
Cause Description:	
Operating Conditions:	Dim Interior Lighting
Activity Category:	Construction
Immediate Action(s):	- Electrician was examined by EMTs from Hanford Fire Department, no injuries - Electrician was taken for further medical examination to AMH as a precaution - The incident scene was placed in safe configuration, preserved and a barricade erected. - Investigation was initiated
FM Evaluation:	
DOE Facility Representative	

Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Rae Ann Olsen By When:
Division or Project:	Central Plateau Remediation Project, EPC
Plant Area:	400 Area
System/Building/Equipment:	Maintenance and Storage Facility
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) 01Q--Inadequate Conduct of Operations - Personnel error 07E--Electrical Systems - Electrical Equipment Failure 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 13, 2010, a phase rotation meter was inadvertently wired to a pigtail assembly plug for inserting into a 480-volt receptacle to test the phase rotation of an energized 480-volt circuit in the Maintenance and Storage Facility. When an electrician inserted the plug into the receiver outlet, the meter failed causing a loud pop and flash. The electrician, who was wearing level 2 Personal Protective Equipment, was examined by Emergency Medical Technicians from the Hanford Fire Department with no injuries reported. The electrician was then taken to the hospital for further medical examination as a precaution. The incident scene was placed in a safe configuration, preserved, and a barricade was erected. An investigation was initiated.
Similar OR Report Number:	
Facility Manager:	Name: Scott Story Phone: (509) 438-6993 Title: Project Manager
Originator:	Name: TODD, MICHAEL J Phone: (509) 372-9341 Title: AUTHORITATIVE SOURCE

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
10/13/2010	08:45 (PTZ)	Kent Dorr	PRC-VP
10/13/2010	08:55 (PTZ)	Ron Johnson	DOE-FR
10/13/2010	11:30 (PTZ)	Newell Crary	ONC

Authorized Classifier(AC):

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4)Report Number: EM-RL--CPRC-PFP-2010-0019 **After 2003 Redesign**

Secretarial Office: Environmental Management

Lab/Site/Org: Hanford Site

Facility Name: Plutonium Finishing Plant

Subject/Title: Unidentified Electrical Hazard located in Room 228A of Building 234-5Z

Date/Time Discovered: 10/31/2010 10:05 (PTZ)

Date/Time Categorized: 10/31/2010 10:20 (PTZ)

Report Type: Update

Report Dates:

Notification	11/02/2010	19:27 (ETZ)
Initial Update	11/03/2010	11:41 (ETZ)
Latest Update	11/04/2010	11:24 (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 10/31/2010, Electricians working at the Plutonium Finishing Plant (PFP) were working in room 228A on Work Package 2Z-09-07526/M, Room 228A Electrical Isolation, when they unexpectedly encountered an electrical power source. Electricians had been tasked with cutting a conductor in Terminal Box TBX-2 which was believed to be electrically isolated after an intrusive walkdown by PFP personnel had been completed.

	Electrical investigation revealed the wiring configuration is unique and was not identified on PFP electrical drawings and/or by PFP electrical personnel. The unknown wiring configuration allowed the circuit to become energized with 119 volts after the circuit was believed to have been isolated. Although, the team encountered an unexpected electrical condition during the course of performing their duties, they performed the "Safe Condition" checks and were wearing the required Personal Protective Equipment (PPE) for working with potentially energized wires. Electrical work temporarily suspended at PFP pending results of a two part critique.
Cause Description:	
Operating Conditions:	Normal Operations
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	1. Management and DOE-RL were notified in a timely manner. 2. All electrical work was suspended pending investigation. 3. Access to Room 228A was restricted. 4. Work Evolution was halted and room was placed in safe condition.
FM Evaluation:	11/3/2010 The written notification issued on 11/2/2010 inadvertently included incorrect information concerning affected personnel providing nasal smears. The immediate action concerning nasal smears has been removed.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: By When:
Division or Project:	Plutonium Finishing Plant Closure Project
Plant Area:	200 West
System/Building/Equipment:	Room 228A of Building 234-5Z,
Facility Function:	Plutonium Processing and Handling
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01M--Inadequate Conduct of Operations - Inadequate Job Planning

	(Electrical) 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 31, 2010, electricians at the Plutonium Finishing Plant (PFP) were working on Work Package 2Z-09-07526/M, Room 228A Electrical Isolation, when they unexpectedly encountered an energized electrical power source. The electricians had been tasked with cutting a conductor in Terminal Box TBX-2, which was believed to be electrically isolated after completion of an intrusive walkdown by PFP personnel. An electrical investigation revealed that the wiring configuration is unique and was not identified on PFP electrical drawings or by PFP electrical personnel. The unknown wiring configuration maintained the circuit energized with 119 volts even though the circuit was believed to have been isolated. Although, the team encountered an unexpected electrical condition during the course of performing their duties, they performed the "Safe Condition" checks and were wearing the required Personal Protective Equipment for working with potentially energized wires. Electrical work was temporarily suspended at the PFP pending results of a two part critique. Management notifications were made. Involved personnel were surveyed and all nasal smears were less than Minimum Detectable Activity. Room 228A was placed in a safe condition and access was restricted.
Similar OR Report Number:	
Facility Manager:	Name: Carranco, John Phone: (509) 376-3293 Title: Deputy Project Manager
Originator:	Name: SAY, JAMES E. Phone: (509) 373-3456 Title: OPERATIONS SPECIALIST
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/31/2010 10:20 (PTZ) LE Ebbeson CHPRC 10/31/2010 10:30 (PTZ) JM Carranco CHPRC 10/31/2010 10:55 (PTZ) SL Trine DOE-RL 10/31/2010 12:30 (PTZ) TC Oten CHPRC
Authorized Classifier(AC):	

5)Report Number:	EM-RL--CPRC-SNF-2010-0018 **After 2003 Redesign**

Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	Spent Nuclear Fuels Project
Subject/Title:	Tripped Electrical Breaker at Mobile Office 1308 at 100K Area
Date/Time Discovered:	10/22/2010 09:30 (PTZ)
Date/Time Categorized:	10/22/2010 09:35 (PTZ)
Report Type:	Notification/Final
Report Dates:	Notification 10/25/2010 14:16 (ETZ) Initial Update 10/25/2010 14:16 (ETZ) Latest Update 10/25/2010 14:16 (ETZ) Final 10/25/2010 14:16 (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 10/22/10, at approximately 0900 Hours, while re-hanging a wooden shelf in Mobile Office (MO) 1308, at 100K Area, lighting went out unexpectedly in the room where work was being performed. At the time the lights went out, a screw was being installed in the corner of the shelf. Upon investigation, the circuit breaker feeding this lighting circuit was found in a tripped position. No spark or shock was experienced, and there were no injuries as a result of this event. Equipment was placed in a safe configuration and notifications were made. A critique was conducted at 1300 Hours.
Cause Description:	
Operating Conditions:	Normal operations. Carpenters were re-hanging a shelf.
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	1. Carpenters stopped work and notified Field Work Supervisor (FWS). 2. FWS requested support from Electricians who reported to the location and found the breaker tripped. 3. Notifications were made. 4. Event was classified as a reportable management concern.

	5. Hung Out of Service Tag on Breaker (Breaker set to Off/Open position). 6. Initiated Lockout/Tagout for breaker. 7. Scheduled critique to investigate event further.
FM Evaluation:	The equipment was placed in a safe condition with the hanging of the Out of Service Tag and Lockout/Tagout of the breaker. MSA/Central Maintenance will remove the wall in MO1308 to evaluate the damage and determine the potential for similar conditions to exist in other similar mobile offices on site. Categorization of event will be re-evaluated based on information obtained from this evaluation to determine if it may be appropriate to raise the significance category.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	CHPRC/100K Area
Plant Area:	100K Area
System/Building/Equipment:	Mobile Office 1308
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07C--Electrical Systems - Power Outage 07D--Electrical Systems - Electrical Wiring 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
HQ Summary:	On October 22, 2010, while re-hanging a wooden shelf in Mobile Office (MO) 1308, lighting went out unexpectedly in the room where work was being performed. At the time the lights went out, a worker was installing a screw in the corner of the shelf. Upon investigation, the circuit breaker feeding this lighting circuit was found in a tripped position. Equipment was placed in a safe configuration and notifications were made. A critique was conducted. MSA/Central Maintenance will remove the wall in MO1308 to evaluate the damage and determine the potential for similar conditions to exist in other similar mobile offices on site. No spark or shock was experienced, and there were no injuries as a result of this event.
Similar OR Report Number:	
Facility Manager:	Name: R. K. Nissen Phone: (509) 373-4547 Title: Manager, K West Facility
Originator:	Name: FEIL, RHONDA K

	Phone (509) 373-4551 Title ADMINISTRATIVE SPECIALIST
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/22/2010 09:30 (PTZ) R. K. Nissen CPRC/KB 10/22/2010 09:40 (PTZ) D.L. Splett RL/OOD
Authorized Classifier(AC):	

6)Report Number:	EM-RP--BNRP-RPPWTP-2010-0007 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	RPP Waste Treatment Plant
Subject/Title:	Discovery of uncontrolled hazardous energy in a light fixture
Date/Time Discovered:	10/27/2010 09:30 (PTZ)
Date/Time Categorized:	10/27/2010 10:30 (PTZ)
Report Type:	Notification
Report Dates:	Notification 11/01/2010 10:37 (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 Wednesday, October 27, 2010 @ approximately 0915 hours, BNI Electricians reported finding an uncontrolled hazardous energy source while replacing a ballast for an 8 foot fluorescent emergency light fixture in T-20, Rebar Yard. Electricians were inspecting emergency lighting and

	discovered the lamps were not illuminated for this fixture. Replacing the tubes did not repair the condition, so they determined the regular light ballast was defective and commenced replacement steps. To isolate the light fixture from its energy source, the Electricians opened the quick disconnects for both the regular ballast and the emergency backup battery. They then cut four wires at the ballast and started feeding them back through the light housing. As they were running the white wire, it came into contact with the grounding screw and produce a small arc. It was discovered the light fixture was still energized.
Cause Description:	
Operating Conditions:	N/A
Activity Category:	Construction
Immediate Action(s):	Electricians stopped work immediately and made the necessary notifications to Supervision. Initiated an investigation into the incident.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Waste Treatment Plant
Plant Area:	600
System/Building/Equipment:	Light fixture, T-20, Rebar Yard
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 27, 2010, BNI electricians reported finding an uncontrolled energized electrical circuit while replacing a ballast for an 8-foot fluorescent emergency light fixture in T-20, Rebar Yard. The electricians were inspecting emergency lighting and discovered that the lamps were not illuminated for this fixture. Replacing the tubes did not repair the condition, so they determined that the regular light ballast was defective and commenced replacement steps. To isolate the light fixture from its energy source, the electricians opened the quick disconnects for both the regular ballast and the emergency backup battery. They then cut four wires at the ballast and started feeding them back through the light housing. As

	they were running the white wire, it came into contact with the grounding screw and produced a small arc. It was then discovered that the light fixture was still energized. The electricians stopped work and made management notifications. An investigation was initiated.
Similar OR Report Number:	
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
10/27/2010	10:30 (PTZ)	Thom Nash	BNI/Con
10/27/2010	10:30 (PTZ)	Tucker Campbell	BNI/Con
10/27/2010	10:30 (PTZ)	Trump	ONC
10/27/2010	10:30 (PTZ)	Paul Hirschman	DOE/FR
10/27/2010	10:30 (PTZ)	Dave Leeth	BNI/Con

Authorized Classifier(AC):	
7)Report Number:	EM-SR--PSC-SWPF-2010-0010 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Savannah River Site
Facility Name:	Salt Waste Processing Facility
Subject/Title:	Backhoe Struck a Buried Temporary 480 Volt Electrical Conduit While Excavating
Date/Time Discovered:	10/21/2010 11:15 (ETZ)
Date/Time Categorized:	10/21/2010 15:20 (ETZ)
Report Type:	Notification

Report Dates:

Notification	10/26/2010	18:01 (ETZ)
Initial Update		
Latest Update		
Final		

Significance Category:	3
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of

	the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)
Cause Codes:	
ISM:	3) Develop and Implement Hazard Controls 4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On Thursday October 21, 2010 at approximately 1115 hours a backhoe came in contact with a buried temporary 480 volt electrical conduit while installing a fiber optic line. The conduit was with no damage to the electrical 480 volt wiring within the conduit. The excavation area was surveyed and all known utilities were laid out before excavation started. This included a sewer line and a water line. Hand excavation, digging by potholing and probing of the area, did not locate any additional utilities. During excavation with the backhoe, red location tape was found at the approximate path in which the sewer line was identified. Work was stopped and the area was hand probed and pot holed without locating a buried utility. Supervisory personnel thought the red tape was to identify a tracer wire for the sewer line since no other utilities showed up on the drawings or, were located by hand excavation, probing. The Supervisor gave directions to clean out the ditch with the backhoe and not to go any deeper than the hand excavation depth. The excavator pulled up a green utility line marker and a scraping sound was heard. The backhoe operator was alerted to stop digging and pull back. Workers hand excavated and located a temporary two (2) inch conduit that was slightly cracked. Workers stopped work immediately, notified Safety and the General Superintendent, and a Lockout was performed. No injuries occurred during this incident. Based on information from the Fact Finding on October 21, 2010, the event was categorized ORPS Reportable as 10(2c) at 1520 hours and DOE was immediately notified.
Cause Description:	
Operating Conditions:	Construction
Activity Category:	Construction
Immediate Action(s):	1. Work was stopped 2. Notifications were made. 3. A Fact Finding was conducted. 4. Conduct a review of all Temporary electrical panels against conduit in the field.

FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Bill Liebel By When:
Division or Project:	SWPF
Plant Area:	J-Area
System/Building/Equipment:	J-Area
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12G--EH Categories - Industrial Operations 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 21, 2010, a backhoe came in contact with a buried temporary 480-volt electrical conduit while installing a fiber optic line. The excavation area was surveyed and all known utilities were laid out before excavation started. This included a sewer line and a water line. Hand excavation, digging by potholing and probing of the area, did not locate any additional utilities. During excavation with the backhoe, red location tape was found at the approximate path in which the sewer line was identified. Work was stopped and the area was hand probed and pot holed without locating a buried utility. Supervisory personnel thought the red tape was to identify a tracer wire for the sewer line since no other utilities showed up on the drawings or, were located by hand excavation and probing. The supervisor gave directions to clean out the ditch with the backhoe and not to go any deeper than the hand excavation depth. The excavator pulled up a green utility line marker and a scraping sound was heard. The backhoe operator was alerted to stop digging and pull back. Workers hand excavated and located a temporary 2-inch conduit that was slightly cracked. The work was immediately stopped and a lockout was performed. There were no injuries and appropriate notifications were made. A review will be conducted of all temporary electrical panels against conduit in the field.
Similar OR Report Number:	

Facility Manager:	Name: Swanson, Brad Phone: (803) 643-2279 Title: PLANT MANAGER
Originator:	Name: Swanson, Brad Phone: (803) 643-2279 Title: PLANT MANAGER
HQ OC Notification:	Date: NA, Time: NA, Person Notified: NA, Organization: NA
Other Notifications:	Date: 10/21/2010, Time: 15:20 (ETZ), Person Notified: Scott McMullin, Organization: DOE-FR
Authorized Classifier(AC):	

8)Report Number:	EM-SR--SRNS-SIPS-2010-0017 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Savannah River Site
Facility Name:	Site Infrastructure and Project Systems
Subject/Title:	Slight Tingle from Heat-Trace Insulation Flashing at B-Area Fire Water Storage Tank.
Date/Time Discovered:	10/20/2010 13:30 (ETZ)
Date/Time Categorized:	10/20/2010 15:15 (ETZ)
Report Type:	Notification
Report Dates:	Notification: 10/21/2010 14:46 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	3
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes

	Phillips Industrial Services, Inc.
Occurrence Description:	At 1215 Hours on 10/20/10, a Phillips Industrial Services, Inc. subcontractor employee received a slight tingle after brushing his forearm against the heat-tracing insulation flashing for a drain valve at the B Area Fire Water Storage Tank (bldg # 902-4B). The employee was in the process of loading materials (power cords) into the tank in preparation for painting. Further investigation by a Site Infrastructure electrician discovered 110 volts to ground at the drain valve heat-trace aluminum flashing, originating from potentially damaged heat tracing. The breaker feeding the 110-volt AC source has been isolated. Some of the insulation was found to be damaged between the valve and the discharge piping open end flange, in the vicinity of the heat-trace wiring. The thermostat for this heat-trace line was found to be set at the maximum temperature setting, indicating the heat tracing had been operating for quite some time in the on position. The tank had been drained and locked-out three weeks earlier, in preparation of a project to clean, strip, and repaint the tank internals and externals. A small rain had occurred earlier in the morning on the day of the event and had left the area ground damp, as well as water droplets in the vicinity of the valve.
Cause Description:	
Operating Conditions:	The tank was locked out and drained.
Activity Category:	Maintenance
Immediate Action(s):	1. The subcontractor work group supervisor and STR (Subcontract Technical Representative) were notified, a Time Out was taken and work suspended. 2. A Fact Finding Meeting was held the morning of 10/21/2010, to determine facts and develop path forward. 3. A new lock-out was being prepared to include the heat-trace circuit, to allow further trouble-shooting and continuation of the painting project work.
FM Evaluation:	The Facility Manager has reviewed and concurs with this report. The SRS Electrical Safety SME (subject matter expert) has calculated the electrical severity of this event using guidance developed by the EFCOG/DOE Electrical Safety Subgroup. The calculated severity for this event is 330 (Medium Significance). This event scores as follows: Electrical Hazard: 10 (120V heat tracing); Environment Factor: 0 (dry); Shock Proximity Factor: 10 (contact-within prohibited approach boundary); Arc Flash: 0; Thermal Factor: 0; PPE mitigations for shock (None), and Injury Factor:3 (shock but no fibrillation). Electrical

	Severity=10(1+0+10+0+0)*3=330.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Steed, G.S. By When: 12/01/2010
Division or Project:	M&O/ Infrastructure Services/ Utilities & Op Serv
Plant Area:	B
System/Building/Equipment:	902-4B, B-Area Fire Water Storage Tank
Facility Function:	Balance-of-Plant - Site/outside utilities
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
HQ Summary:	On October 20, 2010, a Phillips Industrial Services, Inc. subcontractor employee received a slight tingle when he brushed his forearm against the heat-tracing insulation flashing for a drain valve at the B Area Fire Water Storage Tank. The employee was in the process of loading power cords into the tank in preparation for painting. A time out was taken and the work was suspended. An electrician discovered 110 volts to ground at the drain valve heat-trace aluminum flashing, which originates from the potentially damaged heat tracing. The 110-volt AC source has been isolated at the circuit breaker. Some of the insulation was found to be damaged between the valve and the discharge piping open end flange, in the vicinity of the heat-trace wiring. The heat-trace thermostat for this line was found to be set at the maximum temperature setting, indicating that the heat tracing had been operating for an extended period. The tank had been drained and locked-out three weeks earlier, in preparation to clean, strip, and repaint the tank internals and externals. Light rain had occurred earlier in the morning of October 20 and had left the area ground damp, as well as water droplets in the vicinity of the valve. A new lockout will be prepared to include the heat-trace circuit that will allow for further trouble-shooting and the continuation of the painting project work. A fact finding meeting was held.
Similar OR Report Number:	
Facility Manager:	Name: Keenan, Randy F. Phone: (803) 557-8086

	Title: Manager, Utility Operations
Originator:	Name: HAAS, GARY M Phone: (803) 557-4353 Title: LEAD OPERATIONS SPECIALIST - PROGRAM
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/20/2010 14:00 (ETZ) Keenan, R.F. Util Ops 10/20/2010 14:03 (ETZ) Jones, J.W. Util Ops 10/20/2010 15:15 (ETZ) Bolton, T.A. Site Inf 10/20/2010 15:15 (ETZ) Gentry, R.E. Inf Serv 10/20/2010 15:53 (ETZ) Fryar, S.J. DOE-SR 10/20/2010 15:58 (ETZ) Morgan, R. SRSOC
Authorized Classifier(AC):	Haas, Gary M. Date: 10/21/2010

9)Report Number:	NA--LASO-LANL-FIRNGHELAB-2010-0009 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	Firing Sites and HE Lab.
Subject/Title:	Unqualified Worker Without Proper PPE Enters Restricted Approach Boundary Near Live 480V Disconnect
Date/Time Discovered:	11/02/2010 13:00 (MTZ)
Date/Time Categorized:	11/08/2010 11:00 (MTZ)
Report Type:	Notification
Report Dates:	Notification: 11/09/2010 20:03 (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:	
Subcontractor Involved:	No
Occurrence Description:	Management Synopsis: At approximately 1400 on 10/29/2010, at TA-15-285, a worker who was not a qualified electrical worker and did not have proper PPE assisted an electrician in closing the door to a 480 volt disconnect. This placed the worker within the National Fire Protection Associations 70E Arc Flash Boundary. This event is being reported as a near miss to a person contacting hazardous energy. A number of work control and procedural compliance issues were identified during the critique. These concerns included: the use of a generic work control document (IWD), failure to evaluate when work conditions changed and the work needed to be re-evaluated, and lack of a two person rule implementation for energized electrical work. Background: On 10/29/2010, preventive maintenance work was being performed inside TA-15-285. Details of the event, including the event sequence and involved workers, have not yet been fully determined. What has been established is that work on a 480V disconnect, related to crane maintenance, was being performed. During the work evolution one employee who did not meet the training requirements broke the approach distance without proper PPE.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Maintenance
Immediate Action(s):	- Upon discovery of the event, the FOD began immediate investigation.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: WFO and CAO-PF By When: 12/23/2010
Division or Project:	Weapons Facility Operations
Plant Area:	TA-15-285
System/Building/Equipment:	Crane Disconnect
Facility Function:	Balance-of-Plant - Machine shops
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 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14B--Quality Assurance - Training and Qualification Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 29, 2010, a worker, who was not a qualified electrical worker and did not have proper PPE, assisted an electrician in closing the door to a 480-volt disconnect. This placed the worker within the National Fire Protection Associations 70E Arc Flash Boundary. Preventive maintenance was being performed on the electrical disconnect related to crane maintenance. This event is being reported as a near miss to a person contacting hazardous energy. A number of work control and procedural compliance issues were identified during the critique. These concerns included: the use of a generic work control document, failure to evaluate when work conditions changed and the work needed to be re-evaluated, and lack of a two person rule implementation for energized electrical work. An investigation was begun.
Similar OR Report Number:	
Facility Manager:	Name: Raeanna Sharp-Geiger Phone: (505) 667-4246 Title: Facility Operations Director
Originator:	Name: KIRSCH, MICHELLE M Phone: (505) 665-8146 Title: OCCURRENCE INVESTIGATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 11/03/2010; Time: 14:56 (MTZ); Person Notified: David Stewart; Organization: NNSA
Authorized Classifier(AC):	Michelle Kirsch Date: 11/09/2010

10)Report Number:	NA--LASO-LANL-PHYSTECH-2010-0013 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	Physical and Technical Supt.

Subject/Title:	Electrical Conduit Hit During Jackhammering
Date/Time Discovered:	10/18/2010 08:30 (MTZ)
Date/Time Categorized:	10/18/2010 11:00 (MTZ)
Report Type:	Notification/Final
Report Dates:	Notification 10/21/2010 21:09 (ETZ) Initial Update 10/21/2010 21:09 (ETZ) Latest Update 10/21/2010 21:09 (ETZ) Final 10/21/2010 21:09 (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:	MANAGEMENT SYNOPSIS: On October 16, 2010 at approximately 1030, in a pump house located at Technical Area (TA) 35 building 88, a Maintenance Site Services-Central Shops Operations (MSS-CS) worker (W1) struck an electrical conduit during maintenance activities to repair a leak in the fire protection water line located under the floor of building 88. Repair required penetration through a concrete floor where the soil beneath the pad would be disturbed. An excavation permit was acquired but, a penetration permit was not due to the interpretation of the excavation permit by the responsible line manager (RLM). On October 15, 2010 a Ground Penetration Radar scan of the work site was performed using a 2600 MHz antenna which is an ultra-high resolution antenna used to inspect concrete structures to locate embedded rebar, post tension cables and conduits and has a 12 inch limitation. The 50-60 Hz current locator was also used and is designed to pick up electrical current. The work site was marked with the results of the GPR scan. The boundary area was marked and was considered to have embedded rebar only, according to the interpretation of the scan by the GPR technician. It is generally understood GPR scanning is not always successful in locates therefore, the worker wore dielectric gloves rated for 1000 volts, boots, safety glasses and face shield in accordance with the IWD and LANL excavation requirements. The pump was LO/TO in order to perform the repair.

	During jack hammering of the concrete W1 struck a 208v electrical conduit. No damage occurred to the electrical wires within the conduit and there were no injuries as a result of this event. The worker recognized he had contacted a conduit by the way it felt when he struck the conduit and immediately stopped work. The worker contacted his supervisor who contacted the duty officer for Utilities & Institutional Facilities. An electrician was called to verify the conduit that was hit and to turn off power to building in order to proceed with work. On Monday, October 18, 2010, the Utilities and Institutional (U&I) Facilities Operations Director (FOD) designee was notified of the event and initially categorized the event as a Management Concern (3) significant category 4. A critique was held which included the Laboratory's Chief Electrical Safety Officer who evaluated the electrical severity significance resulting in a low hazard rating of ten (10). On Tuesday, October 19, 2010, at approximately at 0716 pm the Laboratory's Chief Electrical Safety Officer contacted the U&I FOD designee and stated there were two additional barriers present that were not considered during the critique. Besides adequate personal protective equipment (PPE), there was insulated conduit and grounded equipment. This information prompted the U&I FOD designee to re-categorize the event as sub-threshold. Upon further information presented later in the day the U&I FOD designee re-categorized the event as a Management Concern (2) significant category 4. This event is being reported due to management concern over potential work control issues.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Maintenance
Immediate Action(s):	1) Work stopped and U&I duty officer notified. 2) ESO contacted and power outage performed prior to re-start of work.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Maintenance & Site Services
Plant Area:	TA-35-88
System/Building/Equipment:	TA-35-88 Pump House
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in

	this Category)
Corrective Action 01:	**Target Completion Date:**01/19/2011 **Actual Completion Date:**
	Title: Review excavation and penetration policies. Utilities and Institutional Facilities Operations Management and Industrial Hygiene and Safety will review institutional excavation and penetration policies to evaluate when an excavation permit and/or penetration permit is required to perform work. Responsible Organization: U&I-DO Deliverable: Documentation showing results of review and any recommendations made to verify clarity of both policies.
Corrective Action 02:	**Target Completion Date:**01/19/2011 **Actual Completion Date:**
	Title: Conduct briefing with RLM's and PIC's on GPR scanning process. Utilities and Institutional Facilities Operations Management will have the GPR Manager conduct a briefing to RLM's and PIC's on the GPR scanning process and interpretation of scan results. Responsible Organization: U&I-DO Deliverable: Documentation showing briefing completed (e.g. roster, presentation material)
Lessons(s) Learned:	
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 01O--Inadequate Conduct of Operations - Inadequate Maintenance 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 16, 2010, in a pump house located at Technical Area 35, Building 88, a Maintenance Site Services-Central Shops Operations worker struck a 208-volt electrical conduit during maintenance repair of a leak in the fire protection water line located under the floor of Building 88. No damage occurred to the electrical wires within the conduit and there were no injuries as a result of this event. The worker recognized that he had contacted a conduit by the way that it felt when he struck the conduit and immediately stopped work. The worker contacted his supervisor, who contacted the duty officer for Utilities & Institutional Facilities. An electrician verified that the conduit was hit and turned off power to the

	building in order to proceed with work. On October 15, a Ground Penetration Radar (GPR) scan of the work site was performed with an antenna used to inspect concrete structures to locate embedded rebar, cables, and conduit. A 50-60 Hz current locator was also used to pick up any electrical current. The work site was marked with the results of the GPR scan. The boundary area was considered to have embedded rebar only, according to the interpretation of the scan by the GPR technician. It is generally understood that GPR scanning is not always successful in locates, therefore the worker wore dielectric gloves rated for 1,000 volts, boots, safety glasses, and a face shield in accordance with the IWD and LANL excavation requirements. A critique was held.
Similar OR Report Number:	
Facility Manager:	Name: Lawrence Chavez Phone: (505) 606-2093 Title: U&I Facilities Operations Director Designee
Originator:	Name: GARCIA, CELINA H Phone: (505) 606-1815 Title: OPERATIONAL SPECIALIST
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/18/2010 12:30 (MTZ) Ed Christie NNSA 10/19/2010 10:16 (MTZ) Ed Christie NNSA 10/19/2010 13:23 (MTZ) Notification Hotline NNSA
Authorized Classifier(AC):	Linda Collier Date: 10/21/2010

11)Report Number:	NA--LASO-LANL-WASTEMGT-2010-0016 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	Waste Management
Subject/Title:	Management Concern - Formality of Operations
Date/Time Discovered:	10/15/2010 12:40 (MTZ)
Date/Time Categorized:	10/19/2010 08:30 (MTZ)
Report Type:	Notification
Report Dates:	Notification: 10/20/2010 18:42 (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:	3) Develop and Implement Hazard Controls 4) Perform Work Within Controls		
Subcontractor Involved:	Yes Energy Solutions		
Occurrence Description:	Management Synopsis: On October 14, 2010 between 1230 and 1639, two events involving Energy Solutions, a subcontractor to Los Alamos National Laboratory (LANL), occurred at TA-54, Area G, Dome 231 (TA-54-G-D231). At approximately 1230 hours, an empty 85 gallon drum overpack, containing an empty 55 gallon drum, was brought out of the Contamination Area (CA) and into the Radiological Buffer Area (RBA) of the TA-54-G-D231. A Waste Operator (O1), with Energy Solutions, attempted to electronically close the barrier door between the CA and RBA. Misjudging the location of the drum in conjunction with the barrier door, the barrier door closed down on the drum. The Waste Operator hit the "stop" button and raised the barrier door to further move the drum. The drum was not damaged. O1 notified his supervisor, the TA-54-G-D231 Supervisor (S1). The S1 reported the malfunction of the barrier door at D231 to the TA-54 Operations Center (OC) at 1415 hours. They reported that the the barrier door was not electronically functioning properly and is was only operable manually. Maintenance evaluation was requested by the TA-54 OC. At approximately 1629 hours. A Waste Operator (O2), with Energy Solutions, notified S1 that there was a frayed cord in on a hoist located in D231. S1 notified the LANL shift oversight supervisor (SOS), who notified the Facility Electrical Safety Officer (ESO) and requested an evaluation of the frayed cord on a hoist located in D231. The LANL SOS requested that the S1 notify the OC and request a Lock Out/Tag Out (LO/TO). S1 placed a hand written "out of service" tag on the frayed cord. S1 did not request a LO/TO tag or hazard tag from the OC. The LANL ESO recommended that the hoist be tagged out until the evaluation could occur. Proper use of lock and tag was not followed per Conduct of Operations.		

	Upon notification the FOD paused work until a critique could be conducted. Remained in pause until compensatory measures completed. Work resumed approximately 1400 on October 19, 2010. A conservative ORPS screening was conducted under Group 10 (Management Concern), (3) SC 3, and determined to be non-reportable. A Critique was held on Tuesday, October 19, 2010 and after further review the Facility Operations Director (FOD) determined that the two events demonstrated weaknesses in Formality of Operations and reclassified the report under OPRS criterion 10(3), significance category 3 (SC 3). There was no impact to worker safety or health.
Cause Description:	
Operating Conditions:	Normal Operations
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	-Work paused. -Drum removed from under roll-up door. -Operations Center notified. -Hoist inspection ordered. -Cord marked "out of service." -Frayed cord replaced with temporary cord that was approved by facility ESO. -New cord ordered.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: EWMO FOD, CAO-PF By When: 12/03/2010
Division or Project:	Environmental Waste Management Operations
Plant Area:	Dome 231
System/Building/Equipment:	TA-54, Area G, Dome 231
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance

	(Electrical) 01Q--Inadequate Conduct of Operations - Personnel error 05D--Mechanical/Structural - Mechanical Equipment Failure/Damage 07D--Electrical Systems - Electrical Wiring 11G--Other - Subcontractor 12B--EH Categories - Conduct of Operations 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On October 14, 2010, two events involving Energy Solutions, a subcontractor to Los Alamos National Laboratory (LANL), occurred at TA-54, Area G, Dome 231 (TA-54-G-D231). The Facility Operations Director (FOD) determined that the two events demonstrated weaknesses in Formality of Operations. First, an empty 85-gallon drum overpack, containing an empty 55 gallon drum, was brought out of the Contamination Area (CA) and into the Radiological Buffer Area (RBA). A Waste Operator attempted to electronically close the barrier door between the CA and the RBA. Misjudging the location of the drum in conjunction with the barrier door, the barrier door closed down on the drum. The Waste Operator hit the "stop" button and raised the barrier door to further move the drum. The drum was not damaged. Required notifications were made. Later, another Waste Operator notified the supervisor that there was a frayed cord on a hoist located in D231. The supervisor notified the LANL shift oversight supervisor who requested that he contact the Operations Center (OC) and request a Lock-Out/Tag-Out (LO/TO). Instead, the supervisor placed a hand written "out of service" tag on the frayed cord and did not request a LO/TO tag or hazard tag from the OC. Proper use of lock and tag-out was not followed per Conduct of Operations. The FOD paused work until a critique was conducted. A new cord was ordered, and work resumed on October 19. There was no impact to worker safety and health.
Similar OR Report Number:	
Facility Manager:	Name: Judith Huchton Phone: (505) 667-8675 Title: EWMO Facility Operations Director
Originator:	Name: WATERS, MARTHA D. Phone: (505) 606-0277 Title: OCCURRENCE INVESTIGATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 10/15/2010; Time: 17:00 (MTZ); Person Notified: Darlene Rodriquez; Organization: DOE/LASO

Authorized Classifier(AC):	Martha D. Waters Date: 10/20/2010

12)Report Number:	NA--PS-BWP-PANTEX-2010-0060 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Pantex Plant
Facility Name:	Pantex Plant
Subject/Title:	Discovery of Induced Voltage in Communication Cable
Date/Time Discovered:	10/05/2010 09:10 (CTZ)
Date/Time Categorized:	10/05/2010 09:15 (CTZ)
Report Type:	Notification/Final
Report Dates:	Notification 10/07/2010 15:35 (ETZ) Initial Update 10/07/2010 15:35 (ETZ) Latest Update 10/07/2010 15:35 (ETZ) Final 10/07/2010 15:35 (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:	4) Perform Work Within Controls
Subcontractor Involved:	Yes Building Technologies Association (BTA)
Occurrence Description:	On Friday, 10/01/10, a subcontractor was installing face trim on the roof of Building 10-9 when he contacted a communication cable that enters the building and received a minor shock. The subcontractor was in the bucket of a boom lift. The Project Subcontract Technical Representative (PSTR) stopped work because the building was de-energized per the lockout/tagout (LO/TO). Notifications were made and the Safety Department representative responded to Building 10-9. Shortly thereafter, a B&W Craft Supervisor and Electrician arrived and began troubleshooting activities. The communication line in question exits the building and follows an electrical line (7200-volt) to the office shack at the landfill. The B&W Electrician discovered a 177-volt potential on the communication line. Since the potential was such a strange voltage, they suspected the problem was an induced voltage from the power line that was in close proximity to the communication cable.

	On Saturday, 10/02/10, the B&W Craft Supervisor and two Electricians responded to Building 10-9 to ground the communication cable. With an approved lift plan, the Electricians accessed the wooden support pole in a bucket truck and, using a compression tool, installed a #6 bare copper crimp from the grounding conductor on the pole to the bare support cable of the communication line. The Electricians repositioned the arm lift truck and verified that the communication cable had voltage present of less than 2 millivolts (safe level). The Electricians documented the test results and communicated the test results to the Electrical Coordinator. There were not injuries or damage to equipment or the environment as a result of this event.
Cause Description:	
Operating Conditions:	Maintenance Mode
Activity Category:	Maintenance
Immediate Action(s):	10/01/2010 - Subcontractor stopped work and left the site in a safe and stable configuration. 10/01/2010 - B&W Electricians responded to the site and discovered a 177 volt potential on the line. 10/02/2010 - B&W Electricians returned to the site to further investigate. They grounded the communication cable per instructions from the Electrical Safety Group. 10/02/2010 - B&W Electricians retested the communication cable at the building entrance and found less than 2 millivolts to ground. 10/04/2010 - Critique was conducted by Projects Division. 10/04/2010 - B&W Electricians and Electrical Safety Group personnel investigated to determine the severity of induced voltage shock. The current available was determined to be 1.32 milliamps, well below harmful levels. 10/05/2010 - The event was categorized as 10(2) S/C 4, Any 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.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager	

Input:	
Further Evaluation is Required:	No
Division or Project:	Maintenance
Plant Area:	Zone 10
System/Building/Equipment:	Building 10-9
Facility Function:	Balance-of-Plant - Site/outside utilities
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 1, 2010, a subcontractor was installing face trim on the roof of Building 10-9 when he contacted a communication cable and received a minor shock. The subcontractor was in the bucket of a boom lift. The Project Subcontract Technical Representative stopped work because the building was de-energized per the lockout/tagout (LO/TO). Notifications were made. A craft supervisor and an electrician arrived and began troubleshooting activities. The communication line in question exits the building and follows an electrical line (7,200-volt) to the office shack at the landfill. The electrician discovered a 177-volt potential on the communication line. Since the potential was an unusual voltage, they suspected that the problem was an induced voltage from the power line that was in close proximity to the communication cable. On October 2, the communication cable was grounded. Electricians documented the test results and communicated the test results to the Electrical Coordinator. On October 4, Electrical Safety Group personnel and electricians investigated to determine the severity of induced voltage shock. The current available was determined to be 1.32 milliamps, well below harmful levels. There were no injuries or damage to equipment or the environment as a result of this event.
Similar OR Report Number:	
Facility Manager:	Name: Max Wright Phone: (806) 477-5920 Title: Electrical Safety 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
10/05/2010	09:44 (CTZ)	Rob Intrater	PXSO
10/05/2010	09:44 (CTZ)	Janice Tolk	B&W

Authorized Classifier(AC): George Weathers Date: 10/07/2010

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13)Report Number: NA--SS-SNL-CASITE-2010-0008 **After 2003 Redesign**

Secretarial Office: National Nuclear Security Administration

Lab/Site/Org: Sandia National Laboratories - Livermore

Facility Name: SNL California Site

Subject/Title: PVC Pipe Containing Live 120 VAC Conductors East of B940 Severed During Trenching Operation

Date/Time Discovered: 10/20/2010 08:00 (PTZ)

Date/Time Categorized: 10/20/2010 09:48 (PTZ)

Report Type: Update

Report Dates:

Notification	10/21/2010	11:30 (ETZ)
Initial Update	10/21/2010	12:43 (ETZ)
Latest Update	10/21/2010	12:43 (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 Tuesday, October 19, 2010, at approximately 1400 hours, a trenching operation severed a PVC pipe containing live 120 VAC wires. A Case 360 Trencher was being operated by 8513 Maintenance Staff to dig for an upgrade to existing sprinkler system on the lawn area east side of B940 MANTL. After approximately 75 feet of digging, the trencher came in contact with the PVC pipe which was located 8eight inches below the surface. Immediately, the operator moved the trencher to a safe location. Electricians near the area applied proper LOTO and verified no voltage at the wires. Team Lead and Electrical SME were contacted and arrived on scene. It was determined the severed 120VAC wires were live at the time

	of the trenching operation. There were no injuries. At this point in time, it was noted that the operation had a permit to dig, 2two spotters on duty, and proper PPE per current SOP. Initial discussions indicate drawings were reviewed per the permit process, but did not indicate the existence of the PVC pipe.
Cause Description:	Critique/Fact Finding Performed: 10/20/10
Operating Conditions:	Outdoors, Sunny 75 degrees F
Activity Category:	Maintenance
Immediate Action(s):	Ceased trenching operations, moved trencher to safe location, LOTO applied and verified, contacted Management, Electrical SMEs, area secured.
FM Evaluation:	EOC #18254 The Electrical Safety Subject Matter Expert scored the event a 110 based on the following data. Hazard Factor (energy): 10 - Environmental factor (dry): 0 - Shock proximity (within the PAB): 10 - Arc proximity (no flash hazard): 0 - Thermal proximity: 0 - Injury factor (no injury): 1.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Causal Analysis Team By When: 12/03/2010
Division or Project:	8000/Sprinkler System Installation
Plant Area:	Other
System/Building/Equipment:	Low Voltage Sprinkler Installation/MANTL Area/East of B940
Facility Function:	Balance-of-Plant - Site/outside utilities
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01O--Inadequate Conduct of Operations - Inadequate Maintenance 07D--Electrical Systems - Electrical Wiring 08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12G--EH Categories - Industrial Operations 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 19, 2010, Maintenance Engineering Department workers were digging with a Case 360 Trencher to support a sprinkler system upgrade on the lawn east of Building 940 when the trencher severed a PVC pipe

	that contained energized 120-VAC wires. After approximately 75 feet of digging, the trencher hit the PVC pipe, which was located 8 inches below the surface. The operator immediately moved the trencher to a safe location. Electricians near the area applied a lockout/tagout and verified that no voltage was present at the wires. A team lead and an electrical subject matter expert were contacted and they arrived on scene. It was determined that the severed wires were energized at the time of the trenching operation. There was a permit to dig and there were two spotters on duty. Proper personal protective equipment was used per the current standard operating procedure and there were no injuries. Initial discussions indicate drawings were reviewed per the permit process, but the drawings did not indicate the existence of the PVC pipe.
Similar OR Report Number:	
Facility Manager:	Name: Andy McIlroy Phone: (925) 294-3054 Title: FM/Deputy Director, Chemical Sciences, 8350
Originator:	Name: LUCERO, JEWELEE A Phone: (505) 845-4727 Title: REPORTING ADMINISTRATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/20/2010 09:48 (PTZ) Andy McIlroy 8350 10/20/2010 10:00 (PTZ) Jeff Irwin, FR DOE/SSO 10/20/2010 14:49 (PTZ) EOC 4136
Authorized Classifier(AC):	Ed Cull Date: 10/20/2010

14)Report Number:	NA--YSO-BWXT-Y12NUCLEAR-2010-0018 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Y12 National Security Complex
Facility Name:	Y12 Nuclear Operations
Subject/Title:	Embedded Electrical Utility Breached
Date/Time Discovered:	10/07/2010 09:05 (ETZ)
Date/Time Categorized:	10/07/2010 11:04 (ETZ)
Report Type:	Notification
Report Dates:	Notification 10/12/2010 15:13 (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		
Subcontractor Involved:	No		
Occurrence Description:	A concrete floor slab that had deteriorated over time and was in the process of being replaced. Construction personnel were breaking out the old concrete floor slab when an exposed energized wire (no conduit) that was embedded in the concrete was severed which caused the breakers to trip and lighting was lost in the area. No indication of cutting an energized wire such as noise, flash or sparks was noticed by personnel performing the work and no personal injury occurred. Work activities were stopped, notifications made and area secured.		
Cause Description:			
Operating Conditions:	Normal		
Activity Category:	Construction		
Immediate Action(s):	Work activities were stopped and area was secured.		
FM Evaluation:			
DOE Facility Representative Input:			
DOE Program Manager Input:			
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Michael Gilmartin By When:		
Division or Project:	T&P Construction		
Plant Area:	Protected Area		
System/Building/Equipment:	9204-2		
Facility Function:	Balance-of-Plant - Machine shops		
Corrective Action:			
Lessons(s) Learned:			

HQ Keywords:	01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 07D--Electrical Systems - Electrical Wiring 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 7, 2010, while construction personnel were replacing an old deteriorated concrete floor slab, they severed an exposed energized wire (no conduit) that was embedded in the concrete, causing circuit breakers to trip and lighting to be lost in the area. There was no indication of cutting an energized wire such as noise, flash or sparks. Work was stopped, notifications were made, and the area was secured. There were no injuries.
Similar OR Report Number:	
Facility Manager:	Name: Michael Gilmartin Phone: (865) 574-7367 Title: Construction Manager
Originator:	Name: CHARLES, TONY M Phone: (865) 574-1566 Title: OCCURRENCE REPORTING PROGRAM MANAGER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/07/2010 09:30 (ETZ) Bill Crisp PSS 10/07/2010 09:30 (ETZ) Tom Morris Proj. Mg 10/07/2010 11:04 (ETZ) Duty Facility Rep. NNSA
Authorized Classifier(AC):	E. B. Kimbro Date: 10/11/2010

15)Report Number:	NE-ID--BEA-MFC-2010-0008 **After 2003 Redesign**
Secretarial Office:	Nuclear Energy, Science and Technology
Lab/Site/Org:	Idaho National Laboratory
Facility Name:	Materials and Fuels Complex
Subject/Title:	Subcontractor fails to place personal Lock and Tag on lockbox before commencing work.
Date/Time Discovered:	10/13/2010 11:40 (MTZ)
Date/Time Categorized:	10/13/2010 12:30 (MTZ)
Report Type:	Notification
Report Dates:	Notification 10/14/2010 17:38 (ETZ)

	Initial Update		
	Latest Update		
	Final		

Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	4) Perform Work Within Controls
Subcontractor Involved:	Yes LEA Electric
Occurrence Description:	On October 13, 2010, at approximately 1140 at the Material Fuel Complex (MFC-791), an electrical subcontractor commenced working on equipment after performing zero energy checks, and signing for acceptance on the Lockout and Tagout (LO/TO) record sheet. However, the electrician failed to place his personal lock and tag on the lockbox before beginning work. This is a violation of a company procedure requirement. A Senior Supervisory Watch (SSW) noticed the omission and informed the worker of the missing lock and tag which he carried on his person. The worker immediately realized the mistake and correctly applied his personal log and tag. However, the work was stopped, and notifications were made to the appropriate management personnel. Preliminary information indicates the worker witnessed the zero energy verification, signed for acceptance of the LO/TO, and then commenced work without installing his personal lock and tag on the isolation device. No person was harmed or came in contact with energized circuits or equipment. The electrician was trained and qualified to work under the BEA LO/TO process.
Cause Description:	
Operating Conditions:	Normal operating conditions.
Activity Category:	Construction
Immediate Action(s):	Work was immediately stopped and notifications to appropriate management made.

FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Bryan P.Crofts By When:
Division or Project:	Electrical Upgrade
Plant Area:	MFC-791
System/Building/Equipment:	MFC-791
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) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On October 13, 2010, at the Material Fuel Complex (MFC-791), an electrical subcontractor commenced work on equipment after performing zero energy checks, and signing for acceptance on the Lockout and Tagout (LO/TO) record sheet. However, the electrician failed to place his personal lock and tag on the lockbox before beginning work. This is a violation of a company procedure requirement. A senior supervisory watch noticed the omission and informed the electrician of the missing lock and tag, which he carried on his person. The electrician immediately realized the mistake and correctly applied his personal lock and tag. However, the work was stopped, and notifications were made to the appropriate management personnel. Preliminary information indicates that the worker witnessed the zero energy verification, signed for acceptance of the LO/TO, and then commenced work without installing his personal lock and tag on the isolation device. No person was harmed or came in contact with energized circuits or equipment. The electrician was trained and qualified to work under the BEA LO/TO process.
Similar OR Report Number:	
Facility Manager:	Name: Curtis A. Collard Phone: (208) 533-7438 Title: Facility Complex Manager

Originator:	Name: Crofts, Bryan P Phone: (208) 533-4081 Title: FACILITY PROJECT MANAGER
HQ OC Notification:	Date: 10/13/2010 Time: 12:15 (MTZ) Person Notified: Scott D. McBride Organization: BEA
Other Notifications:	Date: 10/13/2010 Time: 12:00 (MTZ) Person Notified: Curtis A. Collard Organization: BEA
Authorized Classifier(AC):	

16)Report Number:	NE-ID--BEA-MFC-2010-0009 **After 2003 Redesign**
Secretarial Office:	Nuclear Energy, Science and Technology
Lab/Site/Org:	Idaho National Laboratory
Facility Name:	Materials and Fuels Complex
Subject/Title:	Subcontract Electrician Conducted Equipment Testing Without Proper Controls
Date/Time Discovered:	10/22/2010 09:00 (MTZ)
Date/Time Categorized:	10/22/2010 11:40 (MTZ)
Report Type:	Notification
Report Dates:	Notification: 10/28/2010 11:52 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	3
Reporting Criteria:	10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes Emerson Electric
Occurrence Description:	On October 22, 2010 on the Idaho National Laboratory (INL) at the Materials and Fuels Complex (MFC) a subcontract electrician conducted hot electrical work (testing of energized leads) without proper work

	procedure and authorization, no Lock and Tagout, and incomplete PPE. While setting up testing equipment to test circuit breakers, a sub-contract electrician used a voltmeter to check electrical leads from a generator without proper PPE. The worker was using leads from a portable generator to power the breaker testing equipment and was in the process of verifying voltage from the generator at the connected leads. This process (considered live/hot electrical work),is not allowed by INL Facilities Management without special review, approval, and authorization. The electrician worked for a company that was subcontracted to perform this testing from another subcontractor, and was under escort to perform this work. A prejob briefing was conducted that morning which covered the testing of the breakers, but the prejob brief did not cover the use of the portable generator or the testing of the generator's leads to verify the correct voltage. Since the scope of work was not clearly understood, the pre-job briefing did not address the need for either (1) an approved procedure and authorization to perform the voltage testing energized, or (2) the need for lock and tagout. When the worker prepared to set up his testing equipment with the generator's leads, he used a volt meter to verify the voltage of the generator. The leads were on the ground connected to a running generator. A generator operator was there to cycle the breaker for the activity. It has been determined that the functional elements of Integrated Safety Management and Work Management that were not adequately implemented are 1) Defining the Scope of Work, 2) Proper Identification of Hazards, and 3) Appropriate development and implementation of Controls. BEA Construction Management issued a Formal Stop Work, and a category 2 violation report to Noresco for this event. Further investigation will continue.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Construction
Immediate Action(s):	A safety was issued and later a stop work was put in place by INL management. Management and DOE-ID was notified of this event.
FM Evaluation:	
DOE Facility Representative Input:	

DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: INL Construction Mgmt By When:
Division or Project:	INL Construction Management
Plant Area:	MFC
System/Building/Equipment:	MFC NORESCO
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On October 22, 2010, at the Materials and Fuels Complex, a subcontractor electrician conducted hot electrical work (testing of energized leads) without proper work procedure and authorization, no Lock and Tagout, and incomplete PPE. While setting up testing equipment to test circuit breakers, the subcontractor electrician used a voltmeter to check electrical leads from a generator without proper PPE. The worker was using leads from a portable generator to power the breaker testing equipment and was in the process of verifying voltage from the generator at the connected leads. This process (considered energized electrical work) is not allowed by Facilities Management without special review, approval, and authorization. The electrician worked for a company that was subcontracted to perform this testing from another subcontractor, and the worker was under escort to perform this work. A prejob briefing was conducted that morning, which covered the testing of the breakers, but it did not cover the use of the portable generator or the testing of the generator leads to verify the correct voltage. The leads were on the ground and were connected to the running generator. A Formal Stop Work and a category 2 violation report were issued for this event. An additional investigation will continue.
Similar OR Report Number:	
Facility Manager:	Name: Anderson E. K.

	Phone: (208) 526-8990 Title: Department Manager INL Construction
Originator:	Name: LINDBERG, STEVEN Phone: (208) 526-4007 Title: OPERATIONS MANAGER
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/22/2010 10:00 (MTZ) Curtis Collard BEA 10/22/2010 11:40 (MTZ) John Martin DOE-ID
Authorized Classifier(AC):	Jeffrey L. Garner Date: 10/28/2010

17)Report Number:	SC-ORO--ORNL-X10HFIR-2010-0006 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Oak Ridge National Laboratory
Facility Name:	High Flux Isotope Reactor
Subject/Title:	Monochromator Maintenance Conducted Without Performing Lockout/Tagout
Date/Time Discovered:	10/15/2010 16:00 (ETZ)
Date/Time Categorized:	10/15/2010 17:25 (ETZ)
Report Type:	Notification
Report Dates:	Notification: 10/19/2010 08:47 (ETZ) Initial Update Latest Update Final
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	On October 15, 2010, at approximately 1600 hours, it was discovered that

	trouble-shooting work on a monochromator had been initiated without following the pre-approved work plan. The work plan required a lockout/tagout on a specific control point which was not conducted. A secondary control point was isolated and was effective in controlling the hazardous energy source. Work was suspended when the problem was discovered, and a lockout/tagout was applied to the control point identified in the work plan. Line management was notified of the event, and the Laboratory Shift Superintendent (LSS) was contacted. The event was categorized as a 2C(2) hazardous energy control occurrence. There were no environmental, health or safety impacts nor injuries to personnel as a result of this occurrence.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	On October 15, 2010, work was suspended when the problem was discovered, and a lockout/tagout was applied to the control point identified in the work plan. Line management was notified of the event. The LSS was contacted, and the event was categorized as a 2C(2) hazardous energy control occurrence. On October 18, 2010, a critique of the event was conducted.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: NSSD By When: 11/29/2010
Division or Project:	Neutron Scattering Science Division (NSSD)
Plant Area:	Bldg 7900
System/Building/Equipment:	Bldg 7900, Room G-11
Facility Function:	Category "A" Reactors
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)

	12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On October 15, 2010, it was discovered that trouble-shooting work on a monochromator had been initiated without following the pre-approved work plan. The work plan required a lockout/tagout on a specific control point, which was not conducted. A secondary control point was isolated and was effective in controlling the hazardous energy source. Work was suspended when the problem was discovered, and a lockout/tagout was applied to the control point identified in the work plan. Appropriate notifications were made. On October 18, a critique was conducted.
Similar OR Report Number:	
Facility Manager:	Name: Dean A. A. Myles Phone: (865) 574-0548 Title: Neutron Scattering Science Division Director
Originator:	Name: STORMER, R WAYNE Phone: (865) 574-6999 Title: EVENT REPORTING GROUP
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	10/15/2010 17:25 (ETZ) Lab Shift Superintendent ORNL LSS 10/15/2010 17:54 (ETZ) Johnny Moore DOE ORNL 10/15/2010 17:54 (ETZ) Michele Branton DOE ORNL
Authorized Classifier(AC):	