Office of Health, Safety and Security

Electrical Safety Report

January 2011

Electrical Safety Occurrences

The number of electrical safety events for January increased from eight in December 2010 to thirteen. Three of these events involved electrical shocks. In the first event, a groundwater sampler received an induced low-voltage shock from a variable frequency drive pump controller. Investigators determined that some of the well electrical grounds may not comply with the current National Electrical Code bonding requirements. In the second event, a subcontractor reported a shock and burn while performing routine preventive maintenance on a battery bank for an uninterruptible power supply that included ten trays of 14-volt batteries stacked on top of each other with four batteries per tray. The batteries were all connected in series. The subcontractor's index finger touched a positive terminal while his palm at the base of his thumb touched a tray. This event resulted in a high electrical severity score. In the third event, a security officer received a minor shock to his right hand after inserting his phone charger into a 110-volt wall socket. It is believed that the wall socket might have been damaged.

There were three electrical intrusion events this month. In the first event, an insulator accidentally cut the heat trace for a water line with his pocket knife, causing a small spark. Although the insulator was aware that the water line was equipped with heat trace, he forgot and only focused on removing insulation. In the second event, a carpenter hit an energized electrical circuit with a self-taping screw while installing sound-soak material. Although it was believed that all of the electrical was run in flush-mounted conduit, a circuit embedded inside a channel was not noticed. In the third event, the raised bed of a dump truck operated by a snow removal contractor hit an overhead power line. The contractor remained in his vehicle until electrical utility linemen cleared the overhead line.

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

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

As we start the new calendar year, the number of events involving lockout/tagout (LOTO) and job planning has increased from December 2010 following a three-month decrease. These events account for almost half of the reported events and include electricians not following the LOTO process as specified in the work control documents, failing to place locks and tags on a lockout device, installing a LOTO on the wrong circuit breaker, and working on an energized circuit without a LOTO. More than half of these events involved subcontractors. Managers and supervisors need to continue to emphasize procedure compliance for hazardous energy control and ensure that subcontractors and vendors understand the site's expectations for electrical safety.

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, thirteen events were identified. Note: Event EM-RL--CPRC-GPP-2011-0001, was reported in February; however, the electrical shock occurred in January.

Below is the current summary of 2011 electrical safety occurrences:

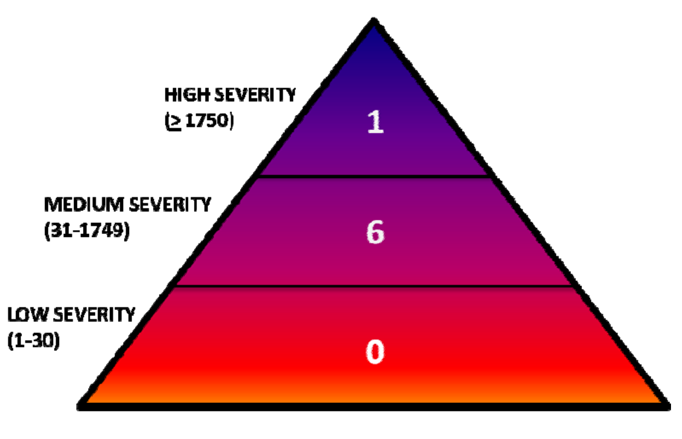
Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
January	13	3	1	0
2011 total	13 (avg. 13/month)	3	1	0
2010 total	155 (avg. 12.9/month)	28	2	0
2009 total	128 (avg. 10.7/month)	25	3	0
2008 total	113 (avg. 9.4/month)	26	1	0
2007 total	140 (avg. 11.7/month)	25	2	0
2006 total	166 (avg. 13.8/month)	26	3	0
2005 total	165 (avg. 13.8/month)	39	5	0
2004 total	149 (avg. 12.4/month)	25	3	1

The monthly average for the thirteen events reported in January 2011, is just slightly higher than the monthly average for the 2010 calendar year.

Electrical Severity Scores

Continue to evaluate electrical events using the Electrical Severity Measurement Tool. The electrical severity scores are calculated using Revision 2 of the Electrical Severity Measurement Tool, which was released October 20, 2010.

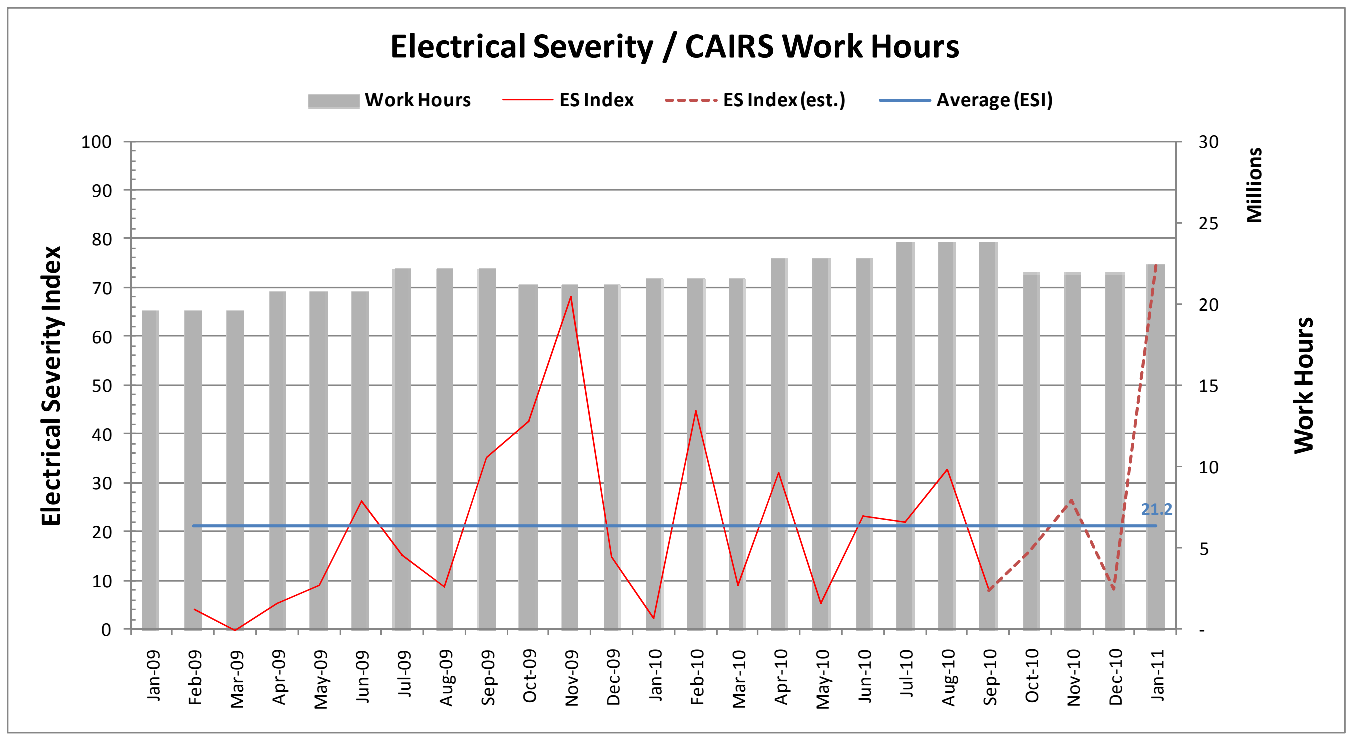
Six of the electrical events were determined to have no Electrical Severity (ES) score. The other seven events were distributed as shown in the triangle, with the highest ES score being 6300. The actual score for each event is provided in the event tables.



Number of Events with an ES Score

Electrical Severity Index

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



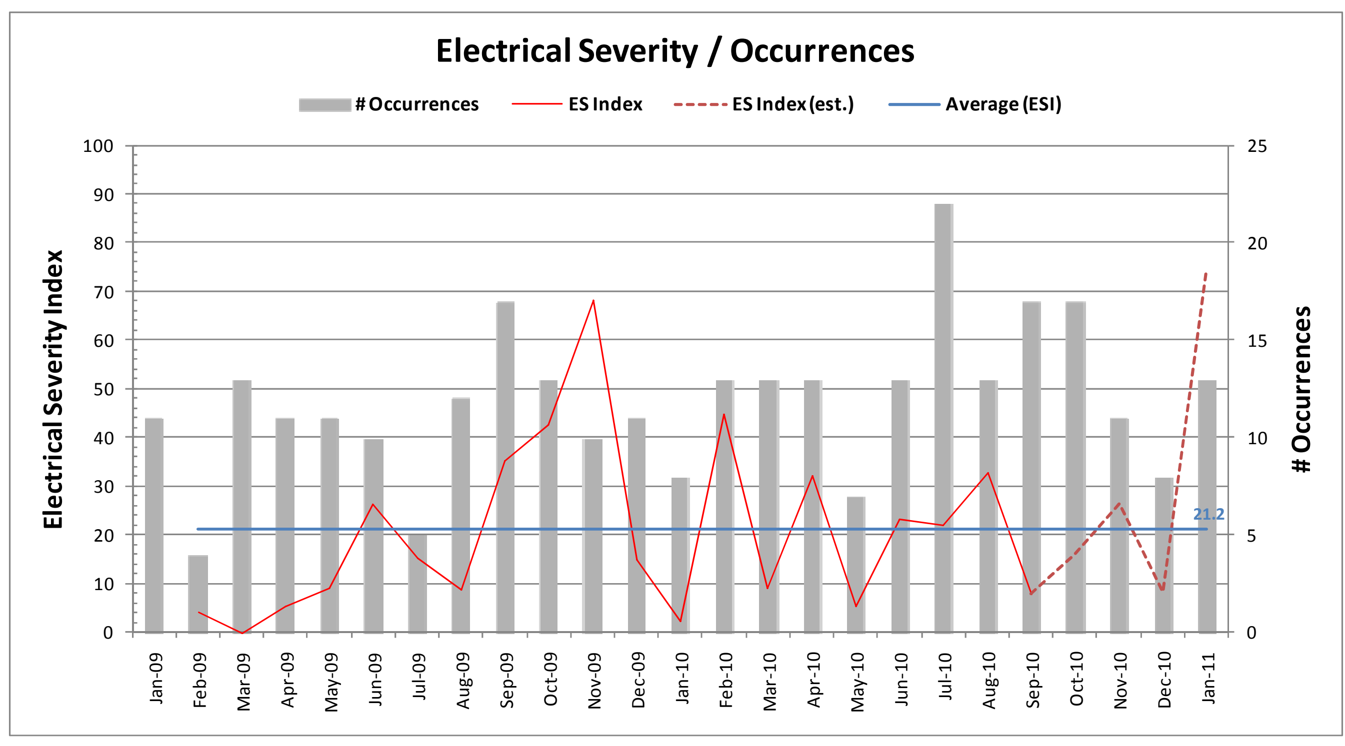
Note: An estimated ESI is calculated until accurate CAIRS man-hours are available. The chart will be updated monthly.

Category	December	January	Δ
Total Occurrences	8	13	+5
Total Electrical Severity	890	8350	+7,460
Estimated Work Hours	21,888,582* (21,578,874)	22,435,554	+846,972
ES Index	8.13* (8.25)	74.44	+66.3
Average ESI	19.1	21.2	+2.1

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

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

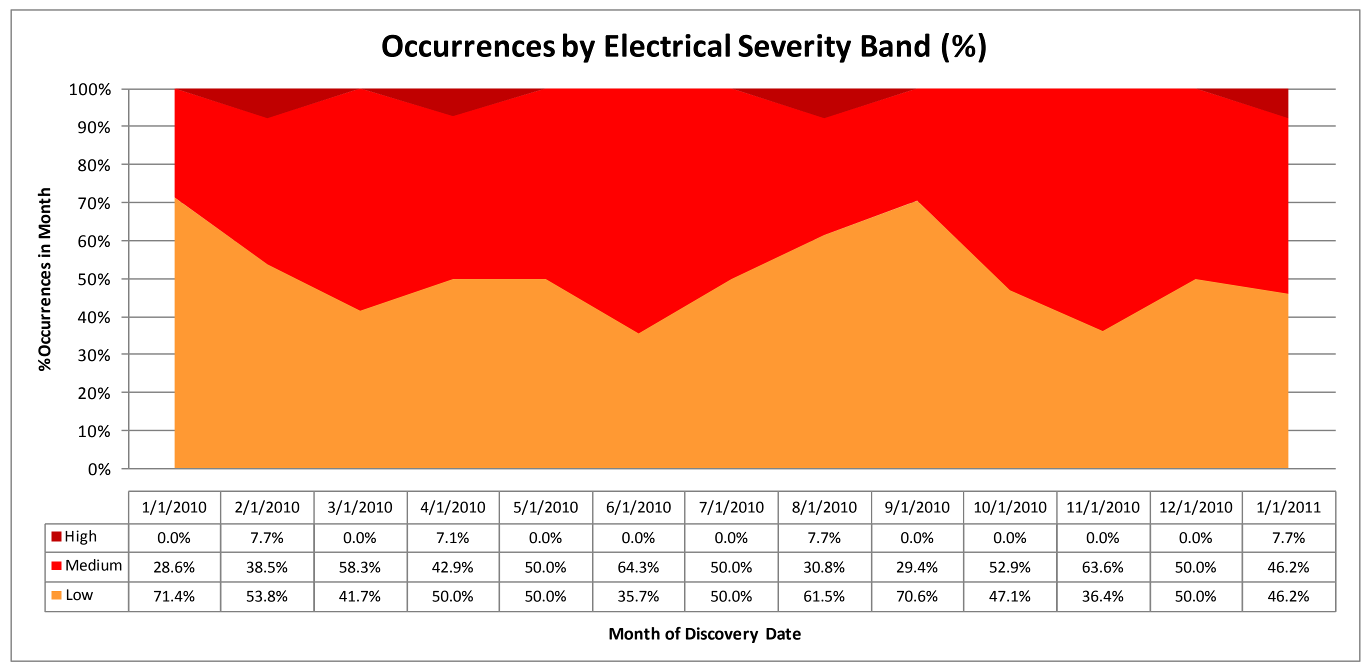
The following chart shows ESI with the number of Occurrences instead of work hours.



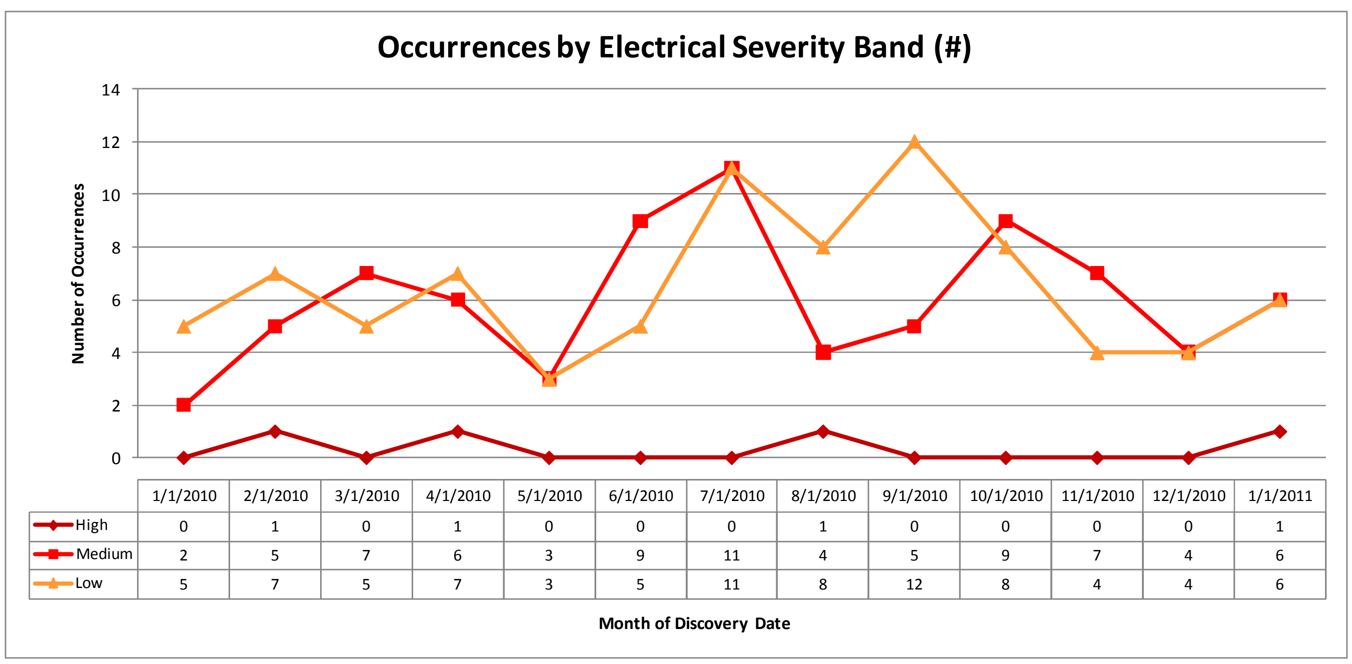
Summary of Occurrences by Severity Band

For the interval January 2010 through January 2011 (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



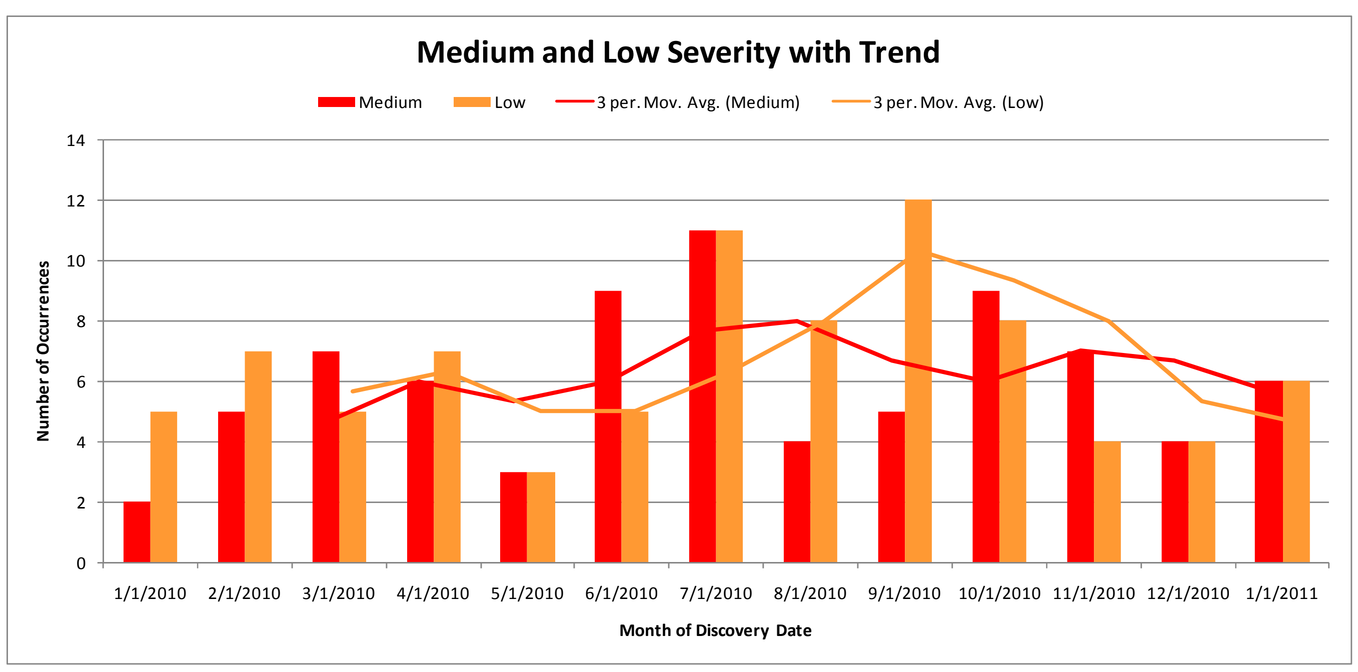
	1/1/2010	2/1/2010	3/1/2010	4/1/2010	5/1/2010	6/1/2010	7/1/2010	8/1/2010	9/1/2010	10/1/2010	11/1/2010	12/1/2010	1/1/2011
High	0.0%	7.7%	0.0%	7.1%	0.0%	0.0%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	7.7%
Medium	28.6%	38.5%	58.3%	42.9%	50.0%	64.3%	50.0%	30.8%	29.4%	52.9%	63.6%	50.0%	46.2%
Low	71.4%	53.8%	41.7%	50.0%	50.0%	35.7%	50.0%	61.5%	70.6%	47.1%	36.4%	50.0%	46.2%

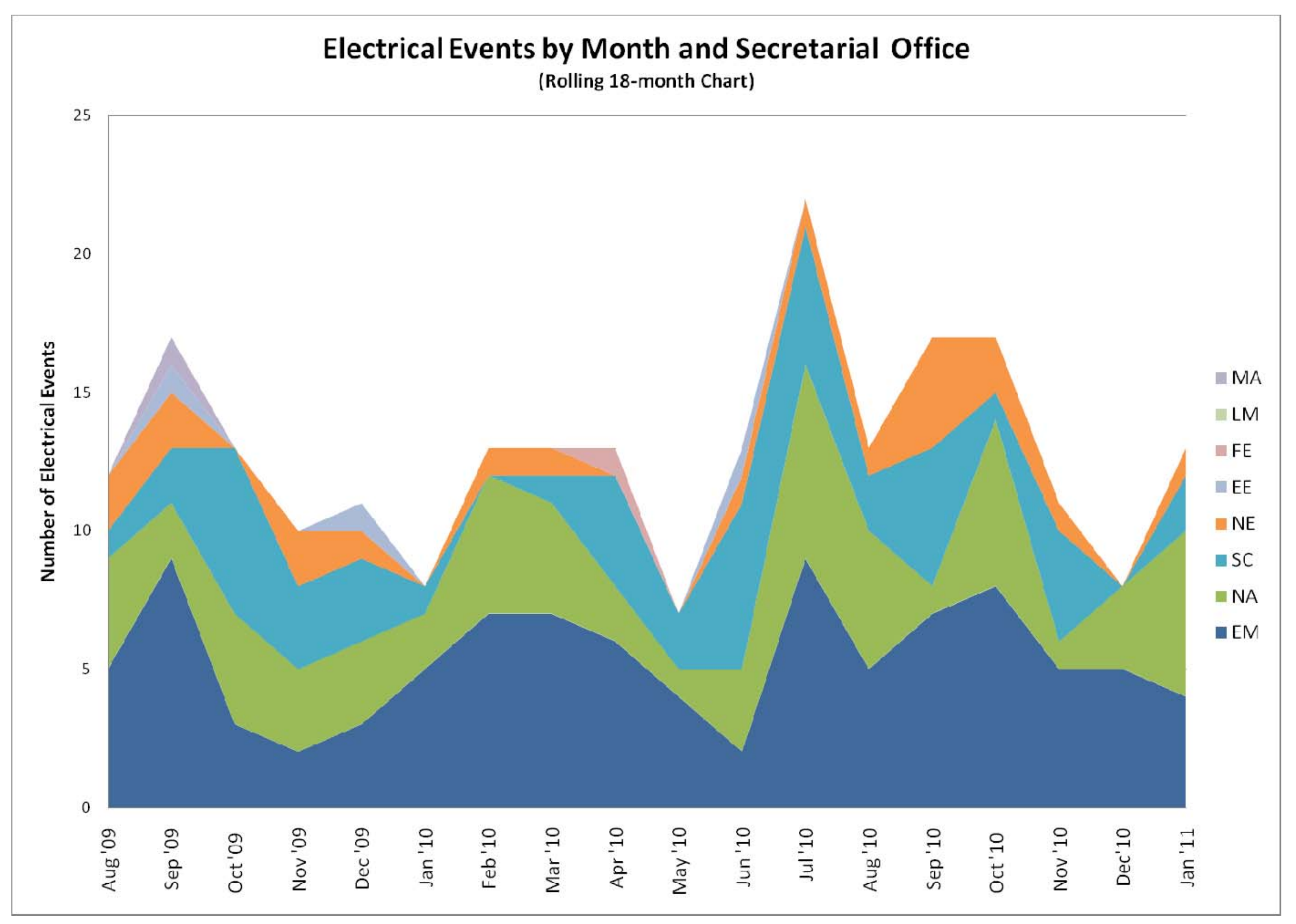


	1/1/2010	2/1/2010	3/1/2010	4/1/2010	5/1/2010	6/1/2010	7/1/2010	8/1/2010	9/1/2010	10/1/2010	11/1/2010	12/1/2010	1/1/2011
High	0	1	0	1	0	0	0	1	0	0	0	0	1
Medium	2	5	7	6	3	9	11	4	5	9	7	4	6
Low	5	7	5	7	3	5	11	8	12	8	4	4	6

Medium and Low Severity with Trend

The following chart focuses on the Medium and Low severity data series for January 2010 through January 2011. 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, SC - Science

Electrical Safety Occurrences – January 2011

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-RL--CPRC-GPP-2011-0001	A worker received an induced low voltage shock from a controller.	X								3	10(2)	110
2	EM-RP--BNRP-RPPWTP-2011-0001	Electricians did not follow LOTO process in the work documents.				X					3	2C(2)	0
3	EM-RP--BNRP-RPPWTP-2011-0002	An insulator accidentally cut a heat trace line with a knife.							X		3	10(2)	90
4	EM-RP--WRPS-TANKFARM-2011-0001	Workers found an energized power circuit while preparing to work in a relay cabinet.				X	X				3	2C(2)	0
5	NA--KCSO-AS-KCP-2011-0002	The raised bed of a dump truck hit a 480V overhead power line.								X	4	10(3)	800
6	NA--LASO-LANL-ADOADMIN-2011-0002	A vendor worked in an energized inverter without a LOTO on 277V circuits.				X	X				3	2C(2), 10(3)	200
7	NA--LASO-LANL-TA55-2011-0003	Electricians drilled into a manhole containing 13.2kV cables.					X				2	10(3)	0
8	NA--LASO-LANL-TA55-2011-0004	Worker received a 409VDC shock during PM on a UPS battery bank.	X	X			X				2	2C(1)	6300
9	NA--LSO-LLNL-LLNL-2011-0003	A security officer received a minor shock from 110V wall socket.	X								2	2C(1)	330
10	NA--SS-SNL-NMFAC-2011-0002	A carpenter hit an electrical circuit with a self-tapping screw.					X		X		3	2C(2)	550
11	NE-ID--BEA-CFA-2011-0001	Worker removed the cover from a 480-V panel and checked voltage.					X				3	2C(2)	0
12	NE-ID--BEA-MFC-2011-0001	Electricians installed a LOTO on the wrong circuit breaker.				X					3	2C(2)	0
13	SC--SSO-SU-SLAC-2011-0002	Electricians failed to place locks and tags on the lockout devices.				X					4	10(3)	0
	TOTAL		3	1	0	5	6	0	2	1			

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 ≥ 1750, Medium is 31-1749, and Low is 1-30

Electrical Safety Occurrences – January 2011

No	Report Number	Event Summary	EW[1]	N-EW[2]	SUB[3]	HFW[4]	WFH[5]	PPE[6]	70E[7]	VOLT[8]		C/I[9]	NEUT[10]	NM[11]
										H	L			
1	EM-RL--CPRC-GPP-2011-0001	A worker received an induced low voltage shock from a controller.		X		X					X	X		
2	EM-RP--BNRP-RPPWTP-2011-0001	Electricians did not follow LOTO process in the work documents.	X				X				X			
3	EM-RP--BNRP-RPPWTP-2011-0002	An insulator accidentally cut a heat trace line with a knife.		X		X					X			
4	EM-RP--WRPS-TANKFARM-2011-0001	Workers found an energized power circuit while preparing to work in a relay cabinet.	X				X				X			
5	NA--KCSO-AS-KCP-2011-0002	The raised bed of a dump truck hit a 480V overhead power line.		X	X	X					X			X
6	NA--LASO-LANL-ADOADMIN-2011-0002	A vendor worked in an energized inverter without a LOTO on 120V circuits.	X		X		X	X	X		X			X
7	NA--LASO-LANL-TA55-2011-0003	Electricians drilled into a manhole containing 13.2kV cables.	X				X			X				
8	NA--LASO-LANL-TA55-2011-0004	Worker received a 409VDC shock during PM on a UPS battery bank.	X		X	X					X			
9	NA--LSO-LLNL-LLNL-2011-0003	A security officer received a minor shock from 110V wall socket.		X		X					X			
10	NA--SS-SNL-NMFAC-2011-0002	A carpenter hit an electrical circuit with a self-tapping screw.		X	X	X					X			
11	NE-ID--BEA-CFA-2011-0001	Worker removed the cover from a 480-V panel and checked voltage.	X		X		X	X	X		X			
12	NE-ID--BEA-MFC-2011-0001	Electricians installed a LOTO on the wrong circuit breaker.	X		X		X				X			
13	SC--SSO-SU-SLAC-2011-0002	Electricians failed to place locks and tags on the lockout devices.	X		X		X				X			X
	TOTAL		8	5	7	6	7	2	2	1	12	1	0	3

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

ORPS contains 55060 OR(s) with 58370 occurrences(s) as of 2/16/2011 12:33:36 PM
Query selected 13 OR(s) with 13 occurrences(s) as of 2/16/2011 12:34:37 PM

Download this report in Microsoft Word format.

1)Report Number:	EM-RL--CPRC-GPP-2011-0001 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	Groundwater Protection Project
Subject/Title:	Extraction Well Grounding Wires
Date/Time Discovered:	02/09/2011 09:20 (PTZ)
Date/Time Categorized:	02/09/2011 09:20 (PTZ)
Report Type:	Notification
Report Dates:	Notification: 02/09/2011 14:45 (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:	No
Occurrence Description:	During a field investigation in response to an incident where a groundwater sampler received a low voltage shock due to an induced voltage from a variable frequency drive pump controller it was determined that some of the well electrical grounds may not comply with current NEC bonding requirements. It appears that these conditions may exist in older extraction well designs and the groundwater monitoring well network.
Cause Description:	
Operating Conditions:	Normal
Activity Category:	Inspection/Monitoring
Immediate Action(s):	- Suspension of monitoring well sampling using installed electrical pumps.

	- The scope of the field investigation has been expanded to determine the extent of NEC bonding issues.
FM Evaluation:	Further investigation is required to ensure NEC compliance before restart.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: CHPRC By When: 03/31/2011
Division or Project:	Soil and Groundwater Remediation
Plant Area:	Hanford Wide
System/Building/Equipment:	Various Extraction Wells
Facility Function:	Environmental Restoration Operations
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On February 9, 2011, during a field investigation regarding an incident on January 30, 2011 where a groundwater sampler received a low-voltage shock due to an induced voltage from a variable frequency drive pump controller, investigators determined that some of the well electrical grounds may not comply with the current National Electrical Code (NEC) bonding requirements. It appears that these conditions may exist in older extraction well designs and the groundwater monitoring well network. Monitoring well sampling using installed electrical pumps have been suspended. The scope of the field investigation has been expanded to determine the extent of NEC bonding issues to ensure compliance before restart.
Similar OR Report Number:	
Facility Manager:	Name: WILSON, MATTHAN G. Phone: (509) 373-6633 Title: CORRECTIVE ACTION MANAGER
Originator:	Name: WILSON, MATTHAN G. Phone: (509) 373-6633 Title: CORRECTIVE ACTION MANAGER

HQ OC Notification:

Date	Time	Person Notified	Organization
02/09/2011	11:10 (PTZ)	Mike Boyce	MSA

Other Notifications:

Date	Time	Person Notified	Organization
02/09/2011	09:20 (PTZ)	Bob Popielarczyk	CHPRC
02/09/2011	09:20 (PTZ)	Brian Biro	DOE-RL
02/09/2011	09:20 (PTZ)	Mark Cherry	CHPRC
02/09/2011	09:20 (PTZ)	Bill Barrett	CHPRC

Authorized Classifier(AC):

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2)Report Number: EM-RP--BNRP-RPPWTP-2011-0001 **After 2003 Redesign**

Secretarial Office: Environmental Management

Lab/Site/Org: Hanford Site

Facility Name: RPP Waste Treatment Plant

Subject/Title: Failure to follow the prescribed work package Lock-Out/Tag-Out hazardous energy control process requirements

Date/Time Discovered: 01/06/2011 17:00 (PTZ)

Date/Time Categorized: 01/06/2011 17:03 (PTZ)

Report Type: Update

Report Dates:

Notification	01/10/2011	19:33 (ETZ)
Initial Update	01/26/2011	12:57 (ETZ)
Latest Update	01/26/2011	12:57 (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: A3B2C04 - Human Performance Less Than Adequate (LTA); Rule Based Error; Previous success in use of rule reinforces continued use of rule
-->couplet - NA
A3B3C05 - Human Performance Less Than Adequate (LTA); Knowledge Based Error; Incorrect assumption that a correlation exists between two or more facts
-->couplet - NA

ISM: 2) Analyze the Hazards
3) Develop and Implement Hazard Controls

	4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On Friday, December 3, 2010, BNI Electricians reported a potential work package Lock-Out/Tag-Out (LO/TO) violation when they realized they had performed work with the incorrect LO/TO application as prescribed in the work package. The Electricians performed work to work package 24590-CWP-FUE0006-00, Install Quick Disconnects, T-19A and T-19B, to repair and replace lighting and install quick disconnects to the facility lighting system. They had successfully completed five other Type 3 work packages applying the Eight Criteria Single Point Lock-Out/Tag-Out checklist in place of a standard LO/TO for controlling hazardous energy. A standard LO/TO is administered and applied by the construction site LO/TO group. The sixth work package pertained to working on the general 120v lighting in T-19A/B. In the previous five work packages, the LO/TO controls required the Authorized Employee (Electricians) to apply a SPLT before performing work. After completing this evolution, the Electricians were finalizing the work package documentation when they discovered this package had an Authorized Worker (AW) Lockout/Tagout form requesting the application of a standard LO/TO instead of a Eight Criteria Single Point Lock Out / Tag Out (SPLT). These Type 3 routine work packages may use either the Eight Criteria SPLT or a standard LO/TO for controlling hazardous energy with the concurrence of the tagging authority. In this work package, the applicable AW form was not completed for installing the standard LO/TO nor was there a completed Eight Criteria SPLT checklist authorizing the AE to use a SPLT for this particular package. The Electricians were never exposed to an uncontrolled hazardous energy source as they isolated and locked out the power using the SPLT locks/tags they were issued to perform work on the other packages in accordance with the work package documentation (i.e. switching order, safe condition check, Dwgs). They completed and verified the safe condition check and signed off on that step in the work package prior to performing the work task. They performed and completed the work without incident. However, the execution of this evolution constitutes a violation of the work package LO/TO requirements because they lacked the proper LO/TO documentation authorizing them to perform the tag out they applied. This administrative violation of work package LO/TO requirements was based on using the Eight Criteria SPLT checklist to control hazardous energy on the first five work packages and the assumption by the Electricians the last work package was also governed by this checklist. So

	based on this assumption, they proceeded to perform work on the sixth package without confirming the work package LO/TO requirements. After a lengthy investigation, Construction Management determined the execution of this evolution using the SPLT locks in place of the standard LO/TO as identified in the work package constitutes a failure to follow the prescribed hazardous energy control process by not utilizing the identified LO/TO application.
Cause Description:	The methodology used to determine the causal codes for this lock-out/tag-out violation occurrence was the Causal Analysis Tree, Rev. 0 as documented in DOE G 231.1-2, Occurrence Reporting Causal Analysis Guide. Cause Codes A3 B2 C04 - Previous successes in use of rule reinforced continued use of rule. Definition: If a rule for behavior has been used sucessfully in the past, there is an overwhelming tendency to apply the rule again, even though circumstances no longer warrant the use of the rule. Rationale: The Electricians completed five previous routine maintenance work packages utilizing the Eight Criteria checklist SPLT application without incident. A3 B3 C05 - Incorrect assumption that a correlation existed between two or more facts. Definition: Wrong assumptions were made based on the belief that two or more facts are related to each other and incorrect actions were taken based on the assumption. Rationale: The Electricians assumed incorrectly that because the sixth work package had similar charistitics of the first five package and that they could use the SPLT application, without first checking the work package instructions and confirming this fact. Addition information: One of the Electricians was executing the LOTO application for the first time.
Operating Conditions:	N/A
Activity Category:	Construction
Immediate Action(s):	Electricians reported the violation to Supervision and Construction

	Management initiated an investigation into the violation.
FM Evaluation:	This incident identified the importance of verbatim compliance with the steps in the work document an employee is using. An assumption of the hazards controls to employ based on the pervious evolutions resulted in an administrative violation of the lock-out/tag-out control process. Regardless of the fact the work was performed safely and properly documented in the work package, it still resulted in the work being performed outside the scope of the instructions.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Waste Treatment Project
Plant Area:	600
System/Building/Equipment:	T-19A and T-19B, General lighting
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action 01:	**Target Completion Date:**02/24/2011 — **Tracking ID:**24590-WTP-PIER-MGT-11-0020
	1. Administer disciplinary action as provided in the work rules of the Waste Treatment Project employee handbook.
Lessons(s) Learned:	Make no assumption as to what you believe the hazard controls are, follow the work package instructions as described. If the instructions cannot be executed as documented, stop your work and contact Supervision for further direction.
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 December 3, 2010, BNI electricians reported a potential work package Lock-Out/Tag-Out (LO/TO) violation when they realized that they had performed work without utilizing the LO/TO application prescribed in the work package. The electricians performed work to install quick disconnects in T-19A and T-19B, and to repair and replace lighting to the facility lighting system. They applied their Eight Criteria Single Point Lock-Out/Tag-Out (SPLT) in place of a standard LO/TO for controlling hazardous energy. This type of work could have utilized either type of LO/TO application depending on the requestor selection. The work package that they were using specified the application of a standard LO/TO. The electricians were never exposed to an uncontrolled hazardous energy source as they isolated and locked out the power. They completed and verified the safe condition check and signed off on that step in the

	work package prior to performing the work task. They performed and completed the work without incident. Construction Management determined that the execution of this evolution using the SPLT locks in place of the standard LO/TO as identified in the work package constituted a failure to follow the prescribed hazardous energy control process by not utilizing the identified LO/TO application. An investigation into the violation was initiated.
Similar OR Report Number:	1. N/A
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: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	
Authorized Classifier(AC):	

Other Notifications:

Date	Time	Person Notified	Organization
01/06/2011	17:03 (PTZ)	Tucker Campbell	BNI/Con
01/06/2011	17:05 (PTZ)	Dave Leeth	BNI/Con
01/06/2011	17:16 (PTZ)	Paul Schroder	DOE/FR
01/06/2011	17:32 (PTZ)	Thom Nash	BNI/Con
01/06/2011	18:42 (PTZ)	Nowell	ONC

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3)Report Number:	EM-RP--BNRP-RPPWTP-2011-0002 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	RPP Waste Treatment Plant
Subject/Title:	Failing to follow the proper work control process
Date/Time Discovered:	01/06/2011 16:00 (PTZ)
Date/Time Categorized:	01/06/2011 16:50 (PTZ)
Report Type:	Update
Report Dates:	

Report Dates:

Notification	01/11/2011	19:17 (ETZ)
Initial Update	01/26/2011	12:55 (ETZ)
Latest Update	01/26/2011	12:55 (ETZ)
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:	A4B3C09 - Management Problem; Work Organization & Planning LTA; Work planning not coordinated with all departments involved in task A4B3C11 - Management Problem; Work Organization & Planning LTA; Inadequate work package preparation A5B2C08 - Communications Less Than Adequate (LTA); Written Communication Content LTA; Incomplete / situation not covered A3B1C03 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Incorrect performance due to mental lapse -->couplet - NA
ISM:	1) Define the Scope of Work 2) Analyze the Hazards 3) Develop and Implement Hazard Controls 4) Perform Work Within Controls
Subcontractor Involved:	No
Occurrence Description:	On January 6, 2011, at approximately 1530 hours, a BNI Insulator (AW) reported to Supervision of cutting the heat trace for the T-7A water line. The AW was requested by C&T Maintenance to remove a section of insulation to support a maintenance job for replacing a leaking backflow preventor connected to the water line. The line is located behind the trailer skirting. The AW completed a STARRT card and proceeded with the work. Because the AW was working alone, this required the AW to use one hand to hold up the hatch while cutting with the other. The AW was aware of the heat trace, but forgot and when the knife blade made contact, it produced a small arc flash. The AW was wearing the proper protective equipment and the knife was equipped with an insulated hand. The AW was not injured. The Superintendent for the AW was not aware of the ongoing work and after reviewing the general maintenance work package the AW was using, it was determined the package did not have specific documentation to address insulation removal or a hazard analysis. It was determined this activity was outside the scope for the package resulting in a failure to follow the proper work control process.
Cause Description:	The methodology used to determine the causal codes for this lock-out/tag-out violation occurrence was the Causal Analysis Tree, Rev. 0 as

	documented in DOE G 231.1-2, Occurrence Reporting Causal Analysis Guide. Cause Codes A3 B1 C03 - Incorrect performance due to mental lapse. Definition: The individual knew appropriate action(s) to take, but failed to initiate the correct action(s) based on inattention/over-attention. Rationale: The Insulator was aware the water line was equipped with heat trace, but forgot and only focused on completing the insulation removal. A4 B3 C09 - Work planning not coordinated with all departments involved in task. Definition: Interdepartmental communication and teamwork did not support the work flow being planned. Rationale: The Fact Finding meeting revealed there was no communication interaction between the C&T and Distribs Superintendents. A4 B3 C11 - Inadequate work package preparation. Definition: Though scoping and planning were adequately performed, the work package did not reflect the information gathered from these activities. The work package did not accurately reflect the work that was to be completed. Rationale: While the Insulator, through skill-of-the-craft, knew what to do and how do it, the scope of the insulation work was not included in the general maintenance work package. A5 B2 C08 - Incomplete/situation not covered. Definition: Details of the written communication were incomplete. Insufficient information was presented. The written communication did not address situations likely to occur during the completion of the procedure. Rationale: The work package did not include instructions for working with insulation nor was there a hazard analysis performed for this type of work.
Operating Conditions:	N/A
Activity Category:	Construction
Immediate Action(s):	Insulator stopped work and reported the incident to the Superintendent.

	Construction Management initiated an investigation into the incident.
FM Evaluation:	This incident illustrates the importance of proper work planning and communication between groups. It is a critical aspect of the planning process for the principals involved with the evolution to be aware of the work environment, package instructions, hazards and controls, outside influences and which group is responsible for what which could impact the work. Good communications between groups reduces the potential of encountering unknown or unexpected conditions.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Waste Treatment Project
Plant Area:	600
System/Building/Equipment:	T-7A water line
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action 01:	**Target Completion Date:** / **Tracking ID:**24590-WTP-PIER-MGT-11-0022
	1. Address the incident with the employee or employees in accordance with the Employee Handbook.
Corrective Action 02:	**Target Completion Date:** / **Tracking ID:**24590-WTP-PIER-MGT-11-0022
	2. Develop a formal mechanism for preplanning and communication between affected departments and Superintendents involved in the work scope.
Corrective Action 03:	**Target Completion Date:** / **Tracking ID:**24590-WTP-PIER-MGT-11-0022
	3. Coordinate with the Work Control Center to ensure each aspect of the job be identified in the work package so they can be reviewed and discussed during the pre-job steps.
Corrective Action 04:	**Target Completion Date:** / **Tracking ID:**24590-WTP-PIER-MGT-11-0022
	4. Brief the employee(s) to address access hazards and the appropriate mitigation measures prior to performing work.
Lessons(s) Learned:	Good work planning and solid communication are essential ingredients for performing work safely and efficiently when the work involves multiple departments or organizations.
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of

	Operations (miscellaneous) 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 01Q--Inadequate Conduct of Operations - Personnel error 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 January 6, 2011, a BNI insulator reported the cutting of the heat trace for the T-7A water line to supervision. The insulator was requested by C&T Maintenance to remove a section of insulation to support a maintenance job for replacing a leaking backflow preventer connected to the water line. The line is located behind the trailer skirting. The insulator completed a STARRT card and proceeded with the work. Because the insulator was working alone, this task required the use of one hand to hold up the hatch while cutting with the other hand. The insulator was aware of the heat trace, but forgot, and when the knife blade made contact, it produced a small arc flash. The insulator was wearing the proper protective equipment and the knife was equipped with an insulated handle. The insulator was not injured. The insulator's Superintendent was not aware of the ongoing work and after reviewing the general maintenance work package that the insulator was using, it was determined that the package did not have specific documentation to address insulation removal or a hazard analysis. It was determined this activity was outside the scope for the work package resulting in a failure to follow the proper work control process. An event investigation was initiated.
Similar OR Report Number:	1. N/A
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
01/06/2011	17:02 (PTZ)	Dave Leeth	BNI/Con
01/06/2011	17:02 (PTZ)	Tucker Campbell	BNI/Con
01/06/2011	17:05 (PTZ)	Paul Schroder	DOE/FR
01/06/2011	17:32 (PTZ)	Thom Nash	BNI/Con
01/06/2011	18:44 (PTZ)	Newell	ONC

Authorized Classifier(AC):	

4)Report Number:	EM-RP--WRPS-TANKFARM-2011-0001 **After 2003 Redesign**
Secretarial Office:	Environmental Management
Lab/Site/Org:	Hanford Site
Facility Name:	Tank Farms
Subject/Title:	Energized Power Circuit Discovered After Work Was Authorized To Begin
Date/Time Discovered:	01/17/2011 11:35 (PTZ)
Date/Time Categorized:	01/17/2011 11:40 (PTZ)
Report Type:	Notification
Report Dates:	Notification 01/19/2011 17:52 (ETZ) Initial Update Latest Update Final
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	On January 17, 2011, while preparing to execute work package TFC-WO-10-1393 in relay cabinet AW271-WT-ENCL-109, an energized power circuit was discovered. AW271-EDS-DP-102A circuit 11 was locked and tagged to de-energize relays for work steps 4.4 through 4.4.6. Annunciator wiring from AW271-EDS-DP-102A, circuit 13 should also have been locked out. There were no injuries and the workers were wearing the prescribed personal protective equipment.
Cause Description:	
Operating Conditions:	Does not apply.
Activity Category:	Maintenance
Immediate Action(s):	Work was secured and the work package suspended. A fact finding was convened.
FM Evaluation:	
DOE Facility Representative Input:	

DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Marty Ellis By When:
Division or Project:	Washington River Protection Solutions, LLC (WRPS)
Plant Area:	200 East
System/Building/Equipment:	Annunciator Relay Cabinet/AW Farm/Power Circuit
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On January 17, 2011, while preparing to execute work package TFC-WO-10-1393 in relay cabinet AW271-WT-ENCL-109, an energized power circuit was discovered. AW271-EDS-DP-102A circuit 11 was locked and tagged to de-energize relays for work steps 4.4 through 4.4.6. Annunciator wiring from AW271-EDS-DP-102A, circuit 13, should also have been locked out. There were no injuries and the workers were wearing the prescribed personal protective equipment. Work was secured and the work package suspended. A fact finding meeting was convened.
Similar OR Report Number:	
Facility Manager:	Name: Ellis, Martin W Phone: (509) 373-4696 Title: Manager, Performance Assurance
Originator:	Name: WATERS, SHAUN F Phone: (509) 373-3457 Title: OPERATIONS SPECIALIST
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	see table below

Date	Time	Person Notified	Organization
01/17/2011	11:40 (PTZ)	Moser, D. R.	WRPS
01/17/2011	11:47 (PTZ)	Sondag, J. M.	DOE-ORP

	01/17/2011	11:52 (PTZ)	Davis, K. W.	MSA-ONC
Authorized Classifier(AC):				

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5)Report Number:	NA--KCSO-AS-KCP-2011-0002 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Kansas City Plant
Facility Name:	Kansas City Plant
Subject/Title:	Overhead Power Line Struck by Snow Removal Contractor Dump Truck
Date/Time Discovered:	01/20/2011 19:00 (CTZ)
Date/Time Categorized:	01/21/2011 08:30 (CTZ)
Report Type:	Notification/Final
Report Dates:	Notification 01/21/2011 12:06 (ETZ) Initial Update 01/21/2011 12:06 (ETZ) Latest Update 01/21/2011 12:06 (ETZ) Final 01/21/2011 12:06 (ETZ)
Significance Category:	4
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 4 occurrence)
Cause Codes:	
ISM:	1) Define the Scope of Work 2) Analyze the Hazards
Subcontractor Involved:	Yes True North Service
Occurrence Description:	On January 20, 2011, at approximately 1900 hours at the Kansas City Plant (KCP) managed by Honeywell Federal Manufacturing & Technologies Kansas City (FM&T/KC) a snow removal contractor operating a dump truck on a road north of the KCP property on the Bannister Federal Complex contacted an overhead power line with a raised dump bed. The snow removal contractor raised the dump bed in an area other than the designated dump location while removing snow from the KCP parking lots. The contractor remained in his vehicle and initiated notifications.
Cause Description:	
Operating Conditions:	Aproximately 18 degrees Fahrenheit, West wind 5 mph.
Activity Category:	Transportation Offsite
Immediate Action(s):	Honeywell FM&T/KC Physical Security was notified and responded to the

	scene. The contractor remained in his vehicle. Kansas City Power and Light (KCPL) and Kansas City Missouri Police (KCMO) Department were contacted and responded to the scene. KCP&L cleared the overhead line and temporarily rolled the line up, while KCPD assumed access control to the scene. All actions were completed by approximately 2000 hours. No injuries occurred. No damage to government property or electrical service interruption was experienced. The categorization of this occurrence has been coordinated with Ken Roggenkamp, National Nuclear Security Administration, Kansas City Site Office. This report has been reviewed and determined to be unclassified by: Name: Clyde E. Hicks Title: Administrator II, HS&E Date: January 21, 2011
FM Evaluation:	All actions were completed by 7:59 p.m. No injury or government property damage occurred. FM&T/KC Physical Security performed the required initial and follow-up notifications to FM&T/KC Management, HS&E Operations and Facility Management Services. Update 1/26/2011: Overhead power line was rolled up but was not repaired on 1/20/2011 as reported in the Notification. True North will contract with Superior Electric to ensure the overhead line is restored.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Honeywell Federal Mfg. & Technologies Kansas City
Plant Area:	NE of DOE Property
System/Building/Equipment:	Overhead power line, dump truck
Facility Function:	Balance-of-Plant - Site/outside utilities
Corrective Action 01:	**Target Completion Date:**02/03/2011 — **Actual Completion Date:**01/28/2011
	Repair overhead power line.
Corrective Action 02:	**Target Completion Date:**01/25/2011 — **Actual Completion Date:**01/25/2011
	Review the snow removal dump site and access route expectations with the Honeywell FM&T/KC snow removal subcontractor.

Lessons(s) Learned:	
HQ Keywords:	08F--OSHA Reportable/Industrial Hygiene - Industrial Operations Issues 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12G--EH Categories - Industrial Operations 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On January 20, 2011, a Kansas City Plant (KCP) snow removal contractor, operating a dump truck on a road north of the KCP property on the Bannister Federal Complex, contacted an overhead power line with a raised dump bed. The snow removal contractor raised the dump bed in an area other than the designated dump location while removing snow from the KCP parking lots. The contractor remained in his vehicle and initiated notifications. KCP Physical Security was notified and responded to the scene. Kansas City Power and Light (KCP&L) and local police were contacted and responded. KCP&L cleared the overhead line, while police assumed access control to the scene. No injuries, property damage, or electrical service interruption resulted from this event.
Similar OR Report Number:	1. EM-ID--CWI-RWMC-2006-0001
	2. EM-ORO--LES-PGDpCM-1995-0002
	3. EM-RFO--KHLL-D&DOPS-2004-0009
	4. EM-RL--PHMC-TANKFARM-1996-0016
	5. EM-SR--GOSR-GOSR-2009-0001
	6. EM-SR--WSRC-SIPS-2002-0013
	7.
Facility Manager:	Name: Don Ftizpatrick Phone: (816) 997-5899 Title: Senior Health, Safety & Environment Manager
Originator:	Name: HICKS, CLYDE E Phone: (816) 997-2262 Title: EMERGENCY MGT SPECIALIST
HQ OC Notification:	Date: NA Time: NA Person Notified: NA Organization: NA
Other Notifications:	Date: 01/21/2011 Time: 09:00 (CTZ) Person Notified: K Roggenkamp Organization: KCSO
Authorized Classifier(AC):	Clyde E. Hicks Date: 01/26/2011

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6)Report Number:	NA--LASO-LANL-ADOADMIN-2011-0002 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration

Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	ADO Administration
Subject/Title:	Management Concern: LO/TO Noncompliance Results in Near Miss to 120V Electric Shock to Potentially Non-Energized Electrical Worker
Date/Time Discovered:	01/18/2011 11:30 (MTZ)
Date/Time Categorized:	01/18/2011 12:00 (MTZ)
Report Type:	Notification
Report Dates:	Notification: 01/21/2011 18:11 (ETZ) Initial Update: Latest Update: Final:
Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin. 10(3) - A near miss, where no barrier or only one barrier prevented an event from having a reportable consequence. One of the four significance categories should be assigned to the near miss, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes Control Power Company
Occurrence Description:	Management Synopsis: At 1130 on January 18, 2011, a Radiological Laboratory/Utility/Office Building (RLUOB) Lock Out/Tag Out (LO/TO) Coordinator (E1) discovered a vendor technician performing an electrical work activity without implementing LO/TO. The Control Power Company (CPC) technician (E2), who was accompanied by a LANL Electrical Safety Officer (ESO, E3), was performing warranty service and repair on lighting inverters. At approximately 1000, E2 began performing troubleshooting activities on an inoperable inverter. He removed the inverter cover panel in order to perform troubleshooting. E2 closed the input breaker and performed trouble shooting on the control panel. He found no signal from the control panel. E2 opened the input breaker and replaced a circuit board in the

control panel. E2 closed the main panel door and closed the input breaker to see if the problem was corrected and there was still no signal. At this point E1 stopped work and directed E2 & E3 that LOTO was required and notified the Operations Manager - no other work was performed on this equipment. It was determined that troubleshooting was performed while the inverter was energized resulting in a near miss to a 120V electric shock because LO/TO had not been applied and E2 was not wearing electrical personal protective equipment (PPE).

The LANL Chief Electrical Safety Officer (ESO) determined the Electrical Severity score for the event was 110 because the inverter was energized and worker was not wearing PPE during the work activity.

At 1330 on January 18, 2011, the Facility Operations Director (FOD) preliminarily categorized the event as not reportable. At 1000 on January 19, 2011, the FOD was provided information from the Division ESO and re-categorized the event as a Group 2C(2) because of the failure to apply LO/TO when it was required during the control card replacement. Subsequently, the FOD consulted with the LANL Chief ESO and Division ESO to evaluate the potential for a near miss. Based on that consultation, the FOD added the near miss categorization to the event. The FOD's management concern is related to the inadequate IWD and the failure to adequately implement Integrated Safety Management (ISM). Additionally, at the time of the critique there was no evidence demonstrating LANL had performed the required verification that E2 was trained National Fire Protection Association 70E, Standard for Electrical Safety in the Workplace. The LANL verification would have authorized E2 to perform the control card replacement if the necessary hazard controls had been implemented.

Background: In December 2010, an Integrated Work Document (IWD 68507-001-05-CS) was developed by the person-in-charge (PIC, E4) to cover the warranty service and repair of all RLUOB lighting inverters. While the IWD did address battery replacement, preventive maintenance, non-intrusive testing, and scheduled maintenance, it did not specifically address troubleshooting or repair of malfunctioning lighting inverters. The LANL Chief ESO noted the IWD also did not identify the work mode or hazard class for the electrical work activities, which is an Institutional recommendation for adequate electrical IWDs.

During December 2010, the warranty service and repair work was scheduled for January. On January 17, 2011, E4 was called away for a personal emergency. Prior to leaving, E4 asked the ESO (E3) if he would take over the PIC responsibility for the warranty service and repair work scheduled the next day (January 18). The turnover was informal and E3 did not obtain a copy of the work package or IWD.

	On the morning of January 18, 2011, E3 attended the Plan of the Day (POD) during which the lighting inverter warranty service and repair activity was discussed. E3 stated his understanding of the work activity scope was to restore operability to the inoperable lighting inverter. E3 escorted E2 to the inoperable lighting inverter and allowed work to commence without having a copy of the IWD or conducting a pre-job briefing. It should be noted the IWD did not contain controls for the troubleshooting or part replacement (other than for batteries) that were necessary to restore operability.
Cause Description:	
Operating Conditions:	Startup Operations
Activity Category:	Startup
Immediate Action(s):	1) The RLUOB LO/TO Coordinator promptly paused the work activity and directed E2 and E3 to request LO/TO before completing the work activity and notified the RLUOB Operations Manager who directed that work could not proceed on this equipment pending an investigation
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: CMRR-DO and CAO-PF By When: 03/04/2011
Division or Project:	CMRR
Plant Area:	TA-55-400
System/Building/Equipment:	RLUOB Inverter
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 03E--Fire Protection and Explosives Safety - National Fire Protection Association/Life Safety Code Issue 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)

	14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On January 18, 2011, a Lock out/Tag Out (LO/TO) Coordinator discovered a vendor technician performing an electrical work activity without implementing LO/TO. The vendor technician, who was accompanied by a LANL Electrical Safety Officer (ESO), had started performing troubleshooting activities on an inoperable inverter. He removed the inverter cover panel in order to perform troubleshooting and replaced a circuit board in the control panel, but there was still no signal. At this point, a stop work was declared by the LOTO Coordinator. Management notifications were made. It was determined that troubleshooting was performed while the inverter was energized, resulting in a near miss to a 120-volt electric shock, since LO/TO had not been applied and the vendor technician was not wearing required electrical personal protective equipment. In addition, the ESO, who was a last minute replacement for the designated ESO, allowed work to commence without having a copy of the Integrated Work Document (IWD) or conducting a pre-job briefing The Electrical Safety Severity score was 110 for the event. Additionally, there was no evidence demonstrating that LANL had documentation of the vendor technician's training to applicable requirements of NFPA 70E. Event investigation determined that the IWD did not specifically address troubleshooting or repair of malfunctioning lighting inverters. Also, the IWD did not identify the work mode or hazard for the electrical work activities.
Similar OR Report Number:	
Facility Manager:	Name: Rick Holmes Phone: (505) 606-2389 Title: CMRR Facility Operations Director
Originator:	Name: HAKONSON-HAYES, AUDREY C Phone: (505) 667-9364 Title: OCCURRENCE INVESTIGATOR
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	Date: 01/18/2011; Time: 12:00 (MTZ); Person Notified: Herman Ledoux; Organization: NNSA
Authorized Classifier(AC):	Kimberli Tanner Date: 01/21/2011

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7)Report Number:	NA--LASO-LANL-TA55-2011-0003 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory

Facility Name:	Plutonium Proc & Handling Fac
Subject/Title:	Management Concern, Near Miss: Electricians Work in Vicinity of 13,200 Volt Energized Line Outside the Scope of the Work Control Document
Date/Time Discovered:	01/24/2011 11:00 (MTZ)
Date/Time Categorized:	01/24/2011 11:00 (MTZ)
Report Type:	Update
Report Dates:	Notification 01/25/2011 19:37 (ETZ) Initial Update 01/26/2011 12:42 (ETZ) Latest Update 01/26/2011 12:42 (ETZ) 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:	UPDATE: On Wednesday, January 26, 2011, base on further information, the TA-55 FOD re-categorized the event as a significance category 2. MANAGEMENT SYNOPSIS: On Monday, January 24, 2011, at 1100, at Technical Area 55 (TA-55), the TA-55 Facility Operations Director (FOD) re-categorized an event in which electricians drilled six cores into an electric utilities man hole with energized 13,200 volt cables inside as a management concern, near miss, significance category 3. The event had been discovered on January 20, 2011, during a pre-job walk-down in preparation for a tie-in to the 13,2000 volt lines and was originally categorized as non-reportable. There was no impact to the health and safety of personnel, the environment, or the program. BACKGROUND: Additions to the 13,200 volt electric system were being made at TA-55 as part of the Nuclear Materials Safeguards and Security Upgrades Project (NMSSUP). As part of that work two Integrated Work Documents (IWDs) were generated, the first to install a new manhole/conduits, the second to pull cables and splice splice in 13,200 volt service from lines in an existing man hole. Work under the first IWD was to be performed by electricians. Work under the second IWD was to be performed by linemen. Work under the first IWD was started on December 15, 2010. A pre-job

	brief was held but workers at the critique stated the requirements of the IWD were not reviewed. The first IWD hazard analysis did not include work on or near energized 13,200 volt lines. The conduit tie-ins, cable pulls and splicing, including coring six holes in the existing man hole should have been performed under the second IWD. The six cores were drilled into the existing man hole using the first IWD. The existing 13,200 volt lines were in a cable tray, approximately three inches from the wall of the manhole and approximately 3 inches lower than the location of the core holes. The lines had no splices and were insulated, with no breaches in the insulation. The workers discussed PPE requirements with a NMMSUP safety representative. It was decided that an electric suit, gloves, boots, and hood should be worn to go into the manhole to drape plastic over the high voltage lines and to take measurements with a wooden ruler. The purpose of the plastic was to protect the lines from water used in the core drilling. After the plastic was placed over the existing high voltage lines the employee exited the man hole. Measurements were transferred via a common reference point to the outside of the manhole. An employee was stationed outside the man hole to monitor the drilling and inform the operator when the drill bit breached the wall. The drill was then set to drill no deeper than the depth of the first hole. The employees stated the drill operates slowly and the depth was easily controlled. The work was completed without incident. On January 20, 2011, during the pre-job walk-down for the second IWD, linemen discovered the core holes had already been drilled in the existing man hole. The linemen reported the incident to their supervision. The incident was first categorized by the TA-55 FOD as non-reportable. A critique of the incident was held on January 24, 2011. The TA-55 FOD and project representatives determined the core drilling had been outside the scope of the IWD. Although there were no splices in the high voltage lines, the insulation on the lines was intact, the lines were in a cable tray 3 inches away from the man hole wall and at least three inches vertically from the location of the cores drilled, and one employee had been watching from outside the manhole to notify the drill operator when the drill bit went through, there was effectively only one barrier (the insulation around the high voltage lines) between the employees who had performed the work and the high voltage. After the critique the TA-55 FOD re-categorized the event as a management concern, near miss, significance category 3.
Cause Description:	
Operating Conditions:	Pre-job walk down
Activity Category:	Construction
Immediate Action(s):	On January 21, 2011, the TA-55 FOD suspended NMSSUP operations

	pending the outcome of the critique scheduled for January 24, 2011. After the critique the FOD directed NMSSUP management to provide actions which would ensure IWD requirements would reviewed in pre-job meetings and what should be done if it was determined the hazards and proper controls were not in the IWD, prior to resuming construction operations.
FM Evaluation:	After the critique the FOD directed NMSSUP management to provide actions which would ensure IWD requirements would reviewed in pre-job meetings and what should be done if it was determined the hazards and proper controls were not in the IWD, prior to resuming construction operations. UPDATE: On Wednesday, January 26, 2011, base on further information, the TA-55 FOD re-categorized the event as a significance category 2.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: NMSSUP By When: 03/10/2011
Division or Project:	NMSSUP
Plant Area:	TA-55
System/Building/Equipment:	Electric service manhole TA-55
Facility Function:	Plutonium Processing and Handling
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 01Q--Inadequate Conduct of Operations - Personnel error 01R--Inadequate Conduct of Operations - Management issues 12C--EH Categories - Electrical Safety 13A--Management Concerns - HQ Significant (High-lighted for Management attention) 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On January 24, 2011, TA-55 management re-categorized an event as a near miss in which electricians drilled six cores into an electric utilities manhole that contained energized 13.2-kV cables. The event had been

	discovered on January 20, during a pre-job walk-down in preparation for a tie-in to the 13.2-kV lines. As part of that work, two Integrated Work Documents (IWDs) were generated. The first IWD was to install a new manhole/conduits, the second IWD was to pull cables and splice in the 13.2-kV service from lines in an existing manhole. The conduit tie-ins, cable pulls, and splicing, including coring six holes in the existing manhole should have been performed under the second IWD, however the six cores were drilled into the existing manhole using the first IWD. The existing 13.2-kV lines were in a cable tray, approximately 3 inches from the wall of the manhole and approximately 3 inches lower than the location of the core holes. An employee was stationed outside the manhole to monitor the drilling and inform the operator when the drill bit breached the wall. The drill was then set to drill no deeper than the depth of the first hole. The work was completed without incident. On January 20, during the pre-job walk-down for the second IWD, linemen discovered that the core holes had already been drilled in the existing manhole. The linemen reported the incident to their supervision. A critique was held on January 24.
Similar OR Report Number:	
Facility Manager:	Name: Stu McKernan Phone: (505) 667-3030 Title: Deputy Facility Operations Manager
Originator:	Name: HUNSINGER, MARK W Phone: (505) 665-1496 Title: OCCURRENCE INVESTIGATOR
HQ OC Notification:	Date: NA Time: NA Person Notified: NA Organization: NA
Other Notifications:	Date: 01/24/2011 Time: 11:00 (MTZ) Person Notified: Art Trujillo Organization: NNSA/FR
Authorized Classifier(AC):	Mark Hunsinger Date: 01/26/2011

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8)Report Number:	NA--LASO-LANL-TA55-2011-0004 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Los Alamos National Laboratory
Facility Name:	Plutonium Proc & Handling Fac
Subject/Title:	Subcontractor Came in Contact With Electrical Energy During Battery Maintenance
Date/Time Discovered:	01/28/2011 06:30 (MTZ)
Date/Time Categorized:	01/28/2011 06:30 (MTZ)

Report Type:	Notification
Report Dates:	Notification 02/01/2011 18:59 (ETZ) Initial Update Latest Update Final
Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes On Services
Occurrence Description:	MANAGEMENT SYNOPSIS: On Thursday, January 27, 2011 at approximately 1605, at Technical Area 55, building 47 (TA-55-47), an escorted subcontractor employee with On Services (S1) reported a tingling sensation/shock while performing routine preventive maintenance on an uninterruptible power supply (UPS) battery bank. The escort called 911. Los Alamos Fires Department (LAFD) responded and transported S1 to LANL Occupational Medicine (OCC-MED). S1 was evaluated and released by OCC-MED. S1 was re-evaluated by another health care provider on Friday, January 28, 2011, and found to be in good health. Because of the voltage of the battery (14 volt DC) the event was categorized as non-ORPS reportable at 1735 on the day of the event. On Friday, January 28, 2011, at 0630, the TA-55 Facility Operations Director (FOD) was informed that S1 had several small blisters at the location of the shock. Because of the blisters, electrical experts felt it was probable that S1 had received more than a 14 volt shock. Based on that information the TA-55 FOD re-categorized the event as a Group 2, Subgroup C, significance category 2. BACKGROUND: On Services was contracted to provide UPS routine preventive maintenance. The work was done using an On Services work control document under a generic LANL Integrated Work Document (IWD). The IWD specified the use of personal protective equipment (PPE) including dielectric gloves with a leather over-glove. On Thursday, January 27, 2011, S1 started the maintenance on one of two UPS cabinets in TA-55-47. The cabinet contained 10 trays of batteries

	stacked on top of each other with 4 batteries per tray. The batteries were connected in series. The cabinets are designed to house several different sizes of batteries to provide different levels of backup protection. The batteries in this cabinet were the largest available. Because of this there was only approximately 3 inches between the battery terminal and the cabinet which restricted the work area for cable removal. S1 had checked the internal resistance and then opened the battery breaker. The next step was to isolate each tray by disconnecting the cable from one tray to the next. Because of the height of the cabinet S1 used a metal chair as a step ladder in order to reach the top tray. S1 stated he was not concerned because he was wearing shoes that were rated to ANSI Z 41 PT99 that would protect against shock. S1 started loosening the cable on the positive terminal using dielectric gloves and leather over-gloves. Because of the restricted area above the batteries the glove combination was too large to allow the removal of the cable. S1 removed both gloves from one hand (his right hand), which is acceptable industry standard, and started to remove the cable. S1's index finger was in contact with the positive terminal when his palm at the base of his thumb came in contact with the tray. S1 stated he felt a tingling sensation / shock, was startled but did not feel pain, and slipped off the chair, landing on his feet.
Cause Description:	
Operating Conditions:	Preventive maintenance on UPS system
Activity Category:	Maintenance
Immediate Action(s):	1. The escort saw S1 respond to the shock. The escort asked S1 questions to determine his awareness, saw small blisters on S1's palm, and called 911. 2. The cabinet and work area were secured. 3. Los Alamos Fires Department (LAFD) responded and transported S1 to LANL occupational medicine. S1 was evaluated and released. S1 was re-evaluated by another health care provider on Friday, January 28, 2011, and found to be in good health. 4. A critique was convened on Friday, January 28, 2011. 5. The battery cabinet is being evaluated and tested to determine the cause of the event. Results of this evaluation will be provided in an UPDATE ORPS Report. 6. Work control documents will be reviewed.
FM Evaluation:	The battery cabinet will be evaluated and tested to determine the cause of the event. Work control documents will be reviewed.
DOE Facility Representative Input:	
DOE Program Manager Input:	

<table>
<tr><td>Further Evaluation is Required:</td><td>Yes.
Before Further Operation? Yes
By Whom: TA55-DO
By When: 03/14/2011</td></tr>
<tr><td>Division or Project:</td><td>PS-DO</td></tr>
<tr><td>Plant Area:</td><td>TA-55</td></tr>
<tr><td>System/Building/Equipment:</td><td>UPS cabinet TA-55-47</td></tr>
<tr><td>Facility Function:</td><td>Plutonium Processing and Handling</td></tr>
<tr><td>Corrective Action:</td><td></td></tr>
<tr><td>Lessons(s) Learned:</td><td></td></tr>
<tr><td>HQ Keywords:</td><td>01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
08A--OSHA Reportable/Industrial Hygiene - Electrical Shock
08D--OSHA Reportable/Industrial Hygiene - Injury
11G--Other - Subcontractor
12C--EH Categories - Electrical Safety
14E--Quality Assurance - Work Process Deficiency</td></tr>
<tr><td>HQ Summary:</td><td>On January 27, 2011, at Technical Area 55, Building 47, an escorted subcontractor employee reported a tingling sensation/shock while performing routine preventive maintenance on an uninterruptible power supply (UPS) battery bank. The escort called 911 and personnel from the Los Alamos Fires Department responded and transported the subcontractor to the LANL Occupational Medicine facility, where the subcontractor was evaluated and released. The subcontractor was re-evaluated by another health care provider on January 28, and found to be in good health. The subcontractor had performed maintenance on one of two UPS cabinets that contained ten trays of 14-volt batteries stacked on top of each other with four batteries per tray. The batteries were connected in series and were the largest available, leaving only about 3 inches between the battery terminal and the cabinet, which restricted the work area for cable removal. When the subcontractor tried to loosen a cable on the positive terminal, he had to remove his dielectric gloves and leather over-gloves on one hand because of the restricted area above the batteries. His index finger then touched the positive terminal while his palm at the base of his thumb touched the tray resulting in a tingling sensation and several small blisters at the location of the shock. Work control documents will be reviewed. A critique was convened.</td></tr>
<tr><td>Similar OR Report Number:</td><td></td></tr>
<tr><td>Facility Manager:</td><td><table><tr><td>Name</td><td>Chuck Tesch</td></tr><tr><td>Phone</td><td>(505) 667-3030</td></tr><tr><td>Title</td><td>Operations Manager</td></tr></table></td></tr>
<tr><td>Originator:</td><td><table><tr><td>Name</td><td>TANNER, KIMBERLI K</td></tr></table></td></tr>
</table>

	<table><tr><td>Phone</td><td>(505) 665-8197</td></tr><tr><td>Title</td><td>OCCURRENCE INVESTIGATOR</td></tr></table>
HQ OC Notification:	<table><tr><td>Date</td><td>Time</td><td>Person Notified</td><td>Organization</td></tr><tr><td>NA</td><td>NA</td><td>NA</td><td>NA</td></tr></table>
Other Notifications:	<table><tr><td>Date</td><td>Time</td><td>Person Notified</td><td>Organization</td></tr><tr><td>01/28/2011</td><td>07:30 (MTZ)</td><td>John Krepps</td><td>NNSA/FR</td></tr></table>
Authorized Classifier(AC):	Kimberli Tanner Date: 02/01/2011

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9)Report Number:	NA--LSO-LLNL-LLNL-2011-0003 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Lawrence Livermore National Lab.
Facility Name:	Lawrence Livermore Nat. Lab. (BOP)
Subject/Title:	Security Worker Receives Minor Electrical Shock In Building OS651N
Date/Time Discovered:	01/07/2011 14:30 (PTZ)
Date/Time Categorized:	01/10/2011 14:15 (PTZ)
Report Type:	Update
Report Dates:	<table><tr><td>Notification</td><td>01/11/2011</td><td>16:50 (ETZ)</td></tr><tr><td>Initial Update</td><td>01/11/2011</td><td>16:55 (ETZ)</td></tr><tr><td>Latest Update</td><td>01/11/2011</td><td>16:55 (ETZ)</td></tr><tr><td>Final</td><td></td><td></td></tr></table>
Significance Category:	2
Reporting Criteria:	2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.
Cause Codes:	
ISM:	
Subcontractor Involved:	No
Occurrence Description:	At approximately 1430 hours on Friday, January 7, 2011, a security officer received a minor shock to his right hand after inserting his Nextel phone charger into a 110-Volt wall socket in building OS651N, a security kiosk. The officer immediately contacted his supervisor who inquired if the officer had been injured and/or if he needed to be seen by the medical department. The officer stated that he was not injured, but was concerned that the wall socket may have been damaged. Unable to contact facility personnel to assess the wall socket, an urgent work order was submitted by the officer?s supervisor via email to be assessed on Monday, January 10,

	2010. On Monday, the Security Organization management was notified of the event and the security officer was sent to Health Services for evaluation. He was released to full duty, with no injuries noted. The electrical safety SME performed an evaluation of the event using the DOE Electrical Severity Measurement Tool, with a resulting score of 330, "medium."
Cause Description:	
Operating Conditions:	Does not apply
Activity Category:	Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s):	There were no immediate actions taken on the day of the event because the security officer told his supervisor that he was not injured. As a result of the officer's statement, the supervisor did not immediately take the officer to Health Services for evaluation as required by institutional policy. However, when the Security Organization management was notified the following Monday, the officer was sent to the on-site medical office, was evaluated and released, the institutional Electrical Safety Officer and electrician was dispatched to assess the electrical wall sockets in the building and deem them to be in working condition.
FM Evaluation:	The final report is due to the ORO by 2/21/2011. The final report is due for entry into ORPS by 2/24/2011.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Ray Ancira By When: 02/21/2011
Division or Project:	DO
Plant Area:	Site 200
System/Building/Equipment:	Building OS651N electrical outlet
Facility Function:	Balance-of-Plant - Safeguards/security
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01R--Inadequate Conduct of Operations - Management issues 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock

	12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency
HQ Summary:	On January 7, 2011, a security officer received a minor shock to his right hand after inserting his Nextel phone charger into a 110-volt wall socket in Building OS651N, a security kiosk. The officer immediately contacted his supervisor, who inquired if the officer had been injured and/or if he needed to be seen by the Medical Department. The officer stated that he was not injured, but was concerned that the wall socket may have been damaged. Unable to contact facility personnel to assess the wall socket, an urgent work order was submitted. On January 10, Security management was notified of the event and the security officer was sent to Health Services for evaluation. He was released to full duty, with no injuries noted. The electrical safety SME performed an event evaluation using the DOE Electrical Severity Measurement Tool, with a resulting score of 330, "medium."
Similar OR Report Number:	
Facility Manager:	Name: Michele Bergman Phone: (925) 423-6075 Title: Security Organization, Deputy Director
Originator:	Name: FREEMAN, JEFFREY W Phone: (925) 424-6787 Title: OCCURRENCE REPORTING
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	see table below
Authorized Classifier(AC):	Ray Ancira Date: 01/11/2011

Other Notifications:

Date	Time	Person Notified	Organization
01/10/2011	15:15 (PTZ)	Gordon Krauter	LEDO
01/10/2011	15:20 (PTZ)	Jim Mecozzi	ESH TL
01/10/2011	15:25 (PTZ)	David Corporandy	NNSA/LSO

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10)Report Number:	NA--SS-SNL-NMFAC-2011-0002 **After 2003 Redesign**
Secretarial Office:	National Nuclear Security Administration
Lab/Site/Org:	Sandia National Laboratories - SS
Facility Name:	SNL NM Site-wide F & M
Subject/Title:	Carpenter in Building 890 Creates a Phase-to-Ground Short While Installing a 1/2 Inch Screw
Date/Time Discovered:	01/05/2011 12:20 (MTZ)
Date/Time Categorized:	01/05/2011 14:20 (MTZ)
Report Type:	Update

Report Dates:	Notification 01/07/2011 10:30 (ETZ) Initial Update 02/07/2011 10:46 (ETZ) Latest Update 02/07/2011 10:46 (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:	Yes TEF Construction
Occurrence Description:	At approximately 9:00 AM on January 5, 2011, a second tier subcontractor (carpenter) contacted an electrical circuit (BX cable) in the Dowcraft panel with a one-half inch self-tapping screw while installing soundsoak material. This caused an electrical short (phase to ground), resulting in the lights going out on the west side of the first, second, third, and fourth floors of Building 890. There were no injuries and there was no loss to programmatic equipment. The second tier contractor conducted a hazard assessment and believed that all of the electrical was run through the flush mounted conduits and did not notice the one electrical circuit embedded inside the channel which provided power to the light switch. The carpenter was wearing long pants, a cotton shirt, steel toed work boots, latex palm coated gloves, a hard hat, and safety glasses and was utilizing a double insulated cordless drill. The inverter lights to the area worked and task lighting was not affected. Full power was restored at 9:58 AM.
Cause Description:	Critique/Fact Finding Performed : 1/5/11
Operating Conditions:	Normal
Activity Category:	Construction
Immediate Action(s):	Subcontract electrical contractor placed the circuit in a safe condition Notifications were conducted Maintenance electrical responded and repaired the circuit

	Investigation was initiated
FM Evaluation:	EOC #19065 UPDATE 2/3/11 Request for a Final extension was granted by DOE/SSO/FR, Deborah Garcia-Sanchez. With the continual weather delays and early releases the request for a one-week extension is granted to Friday, February 25, 2011. END OF UPDATE
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Causal Analysis Team By When: 02/25/2011
Division or Project:	4800/4th floor reconfiguration office area
Plant Area:	Tech Area I
System/Building/Equipment:	277 volt lighting system/Bldg. 890, Rm. 4036-a
Facility Function:	Balance-of-Plant - Offices
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other) 07C--Electrical Systems - Power Outage 07D--Electrical Systems - Electrical Wiring 11G--Other - Subcontractor 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On January 5, 2011, a subcontractor carpenter contacted an electrical circuit in a panel with a ½-inch self-tapping screw. This action caused an electrical short (phase to ground), resulting in the lighting power being lost on the west side of the first, second, third, and fourth floors of Building 890. The subcontractor conducted a hazard assessment and believed that all of the electrical circuits were run through the flush mounted conduits. The subcontractor did not notice that the one electrical circuit was embedded inside the channel, which provided power to the light switch. The carpenter was wearing long pants, a cotton shirt, steel toed work boots, latex palm coated gloves, a hard hat, and safety glasses and was using a double insulated cordless drill. The inverter lights to the area worked and task lighting was not affected. Maintenance electrical

	responded and repaired the circuit. Full power was restored in approximately one hour. There were no injuries and no equipment damage.
Similar OR Report Number:	
Facility Manager:	Name: Greg Kirsch Phone: (505) 845-9497 Title: FESH Lead
Originator:	Name: LUCERO, JEWELEE A Phone: (505) 845-4727 Title: REPORTING ADMINISTRATOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
01/05/2011	14:20 (MTZ)	Debbie Garcia-Sanchez, FR	DOE/SSO
01/05/2011	14:30 (MTZ)	EOC	4136
01/05/2011	14:30 (MTZ)	Gerry Lipka	4842
01/05/2011	14:30 (MTZ)	Lynnwood Dukes	4820
01/05/2011	14:30 (MTZ)	Art Ratzel	4800
01/05/2011	14:30 (MTZ)	Bill Lucy	4021

Authorized Classifier(AC): John Norwalk Date: 01/06/2011

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11)Report Number:	NE-ID--BEA-CFA-2011-0001 **After 2003 Redesign**
Secretarial Office:	Nuclear Energy, Science and Technology
Lab/Site/Org:	Idaho National Laboratory
Facility Name:	Central Facilities Area
Subject/Title:	Service Vendor Performs Unauthorized Work at TAN Cafeteria
Date/Time Discovered:	01/27/2011 14:45 (MTZ)
Date/Time Categorized:	01/27/2011 16:25 (MTZ)
Report Type:	Notification

Report Dates:

Notification	01/31/2011	19:23 (ETZ)
Initial Update		
Latest Update		
Final		

Significance Category:	3
Reporting Criteria:	2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical

	power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.
Cause Codes:	
ISM:	
Subcontractor Involved:	Yes Preferred Services and Mechanical
Occurrence Description:	On 1/27/2011 a subcontractor performed work on a steam convection oven at the Test Area North (TAN) cafeteria on the Idaho National Laboratory (INL) without facility authorization and without the proper work documentation. The subcontractor removed the side cover from a 480 v panel and performed a voltage check. The subcontractor was performing warranty work on a new oven. The oven had been purchased recently and installed by INL crafts under a documented minor maintenance work order. The oven would not operate and was still under warranty so the manufacturer was contacted, who in turn initiated contact with a local subcontractor to perform the warranty work to get the oven operational. The subcontractor contacted the BEA food service coordinator to set up a time to work on the oven, it was initially planned for 1/26/11 but did not actually occur until 1/27. The TAN cafeteria is operated by Premier Food Services who is under contract with Battelle Energy Alliance (BEA) to provide cafeteria services to the INL. BEA owns the cafeteria and its associated equipment. The request for work did not go through the correct channels so the scope of work was not known or documented and there was no hazard analysis or mitigation performed for the work activities. Facility Management was unaware that a subcontractor was coming on site to perform work on the oven and the work was not authorized on the facility Plan of the Day (POD). The subcontractor's work as documented on the equipment manufacturer's Equipment Performance Check sheet included verifying proper electrical characteristics (voltage, cycle, phase) so he removed the side panel cover from the 480 v panel supplying the oven and using a category 3 rated volt meter performed a voltage check. He was wearing safety glasses with side shields but wore no gloves. The work was observed by an INL craftsman who reported the event and a stop work was initiated. There were no injuries as a result of this event. The categorization of this event is being evaluated and may be changed or modified.
Cause Description:	
Operating Conditions:	Normal Operations
Activity Category:	Facility/System/Equipment Testing
Immediate Action(s):	1. Stop work was initiated on the subcontractor work.

	2. 480 v panel side cover was replaced eliminating exposed electrical hazard.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: James C. Marinus By When:
Division or Project:	R & D Support Services
Plant Area:	Cafeteria
System/Building/Equipment:	TAN-678 Steam Convection Oven
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 01R--Inadequate Conduct of Operations - Management issues 11G--Other - Subcontractor 11H--Other - Procurement Deficiency/Defective Items 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On January 27, 2011, a subcontractor performed work on a steam convection oven at the Test Area North cafeteria on the Idaho National Laboratory (INL) site without facility authorization and without the proper work documentation. The subcontractor removed the side cover from a 480-volt panel and performed a voltage check. The subcontractor was performing warranty work on a new oven that had been installed by INL craftsmen. The oven would not operate and was still under warranty. The manufacturer was contacted, who then contacted a local subcontractor to perform the warranty work and get the oven operational. The request for work did not go through the correct channels so the scope of work was not known or documented and there was no hazard analysis or mitigation performed for the work activities. Facility management was unaware that a subcontractor was coming on site to work on the oven and the work was not authorized on the facility Plan of the Day. The subcontractor's work as

	documented on the equipment manufacturer's Equipment Performance Check sheet included verifying proper electrical characteristics (voltage, cycle, phase) so he removed the side panel cover from the 480-volt panel that supplied power to the oven and performed a voltage check with a category 3-rated voltmeter. He was wearing safety glasses with side shields but wore no gloves. The work was observed by an INL craftsman who reported the event and a stop work was initiated.
Similar OR Report Number:	
Facility Manager:	Name: James C. Marinus Phone: (298) 526-9217 Title: Manager
Originator:	Name: ALLEN, JEFFREY K Phone: (208) 526-5320 Title: OPERATIONS ASSISTANT
HQ OC Notification:	Date: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	see table below
Authorized Classifier(AC):	Jeffrey L. Garner Date: 01/31/2011

Date	Time	Person Notified	Organization
01/27/2011	16:25 (MTZ)	Scott D. Mcbride	BEA F&SS
01/27/2011	16:30 (MTZ)	James P. Geringer	DOE-ID
01/27/2011	16:35 (MTZ)	James C. Marinus	BEA F&SS

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12)Report Number:	NE-ID--BEA-MFC-2011-0001 **After 2003 Redesign**
Secretarial Office:	Nuclear Energy, Science and Technology
Lab/Site/Org:	Idaho National Laboratory
Facility Name:	Materials and Fuels Complex
Subject/Title:	MFC-768 boiler # 1 Lockout and Tagout violation
Date/Time Discovered:	01/12/2011 09:00 (MTZ)
Date/Time Categorized:	01/12/2011 10:45 (MTZ)
Report Type:	Notification
Report Dates:	see table below
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

Report	Date	Time
Notification	01/13/2011	17:43 (ETZ)
Initial Update		
Latest Update		
Final		

	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 January 12, 2010 at approximately 0915 A.M. at the Materials Fuels Complex (MFC), it was discovered that Battelle Energy Alliance (BEA) electricians had installed a lock and tag (LO/TO) on the wrong breaker, and subcontract electrician erroneously verified correct installation and zero energy on same LO/TO. The correct breaker and the incorrect breaker were each protected by a Power Management clearance; however, BEA and subcontract electricians failed to comply with both the BEA Lockout and Tagout procedure and specific LO/TO documents. Therefore, the workers failed to control hazardous energy associated with their assigned work tasks.
Cause Description:	
Operating Conditions:	Normal operating conditions
Activity Category:	Construction
Immediate Action(s):	All work under LO/TO for F&SS and NORESCO was suspended pending further evaluation and determination of initial corrective actions. Notifications to Facility and Site Services made at 1000. DOE FR John Martin notified of event and categorization at 1045.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Electrical upgrade
Plant Area:	MFC-768
System/Building/Equipment:	MFC-768
Facility Function:	Balance-of-Plant - Site/outside utilities
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 January 12, 2010, Battelle Energy Alliance (BEA) electricians installed a lock and tag (LO/TO) on the wrong circuit breaker at the Materials and Fuels Complex. A subcontractor electrician erroneously verified correct installation and zero energy on the same LO/TO. The correct breaker and the incorrect breaker were each protected by a Power Management clearance. However, BEA and subcontract electricians failed to comply with both the BEA Lockout and Tagout procedure and specific LO/TO documents. Therefore, the workers failed to control hazardous energy associated with their assigned work tasks. All work under LO/TO for F&SS and NORESCO was suspended pending further evaluation and the determination of initial corrective actions. Management notifications were made.
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: NA; Time: NA; Person Notified: NA; Organization: NA
Other Notifications:	see table below
Authorized Classifier(AC):	

Date	Time	Person Notified	Organization
01/12/2011	10:00 (MTZ)	Curtis A. Collard	F&SS
01/12/2011	10:45 (MTZ)	John C. Martin	DOE ID

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13)Report Number:	SC--SSO-SU-SLAC-2011-0002 **After 2003 Redesign**
Secretarial Office:	Science
Lab/Site/Org:	Stanford Linear Accelerator Center
Facility Name:	Stanford Linear Accelerator Center
Subject/Title:	Near Miss During 208V Disconnect Installation
Date/Time Discovered:	01/14/2011 12:00 (PTZ)
Date/Time Categorized:	01/18/2011 13:30 (PTZ)
Report Type:	Notification/Final
Report Dates:	Notification | 01/19/2011 | 19:20 (ETZ)

	Initial Update	01/19/2011	19:20 (ETZ)
	Latest Update	01/19/2011	19:20 (ETZ)
	Final	01/19/2011	19:20 (ETZ)

Significance Category:	4
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 4 occurrence)
Cause Codes:	
ISM:	3) Develop and Implement Hazard Controls 4) Perform Work Within Controls
Subcontractor Involved:	Yes Global Modular
Occurrence Description:	At approximately 12 noon on Jan. 14 a Project Safety Engineer observed electrical work in progress at the new security building, B235. One electrician and one helper from Global Modular, a subcontractor to General contractor BC Schmidt were installing new disconnects and conduit for two 208V HVAC units on the outside wall of the building. The workers had placed lockout devices on the upstream breakers to hold the breakers in the open postion, but had not placed LOTO locks and tags on the lockout devices. It appeared to the Project Safety Engineer that work was in progress without proper lockout in place. The Project Safety Engineer notified the Field Construction Manager (FCM). By FCM authority the electrical work was suspended. Proper lockout was established and work resumed. It was subsequently determined that no work was performed within the Limited Approach Boundary (LAB) of exposed electrical conductors or circuit parts during the period of time that lockout was not established. The workers were not exposed to hazardous energy during this incident. However, if the improper lockout condition was not corrected, the workers would have been within the LAB of exposed electrical conductors and circuit parts when the conductors were pulled through the new conduit and terminated to the new switches. This incident is considered a near miss. Based on discussion between the Project Safety Engineer, the Electrical Safety Officer (ESO), and the FCM, a X5555 call was placed at 3:17pm to report the incident.
Cause Description:	
Operating Conditions:	Does not apply.
Activity Category:	Construction

Immediate Action(s):	X5555 called, FCM requested Facilities low voltage electricians to LOTO breakers and performed ZVV. Lockout was established and work resumed.
FM Evaluation:	
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Operations Directorate
Plant Area:	Building 235
System/Building/Equipment:	B235 New Security Bldg.
Facility Function:	Accelerators
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On January 14, 2011, a Project Safety Engineer observed electrical work in progress at the new security building B235. One electrician and one helper from Global Modular were installing new disconnects and conduit for two 208 volt HVAC units on the outside wall of the building. The workers had placed lockout devices on the upstream breakers to hold the breakers in the open position, but had not placed LOTO locks and tags on the lockout devices. It appeared to the Project Safety Engineer that work was in progress without proper lockout in place. The Project Safety Engineer notified the Field Construction Manager (FCM). By FCM authority, the electrical work was suspended. Proper lockout was established and work resumed. Work was not performed within the Limited Approach Boundary (LAB) of exposed electrical conductors or circuit parts and workers were not exposed to hazardous energy during this event. However, if the improper lockout condition was not corrected, the workers would have been within the LAB of exposed electrical conductors and circuit parts when the conductors were pulled through the new conduit and terminated to the new switches. This incident is considered to be a near miss.
Similar OR Report Number:	
Facility Manager:	Name: SHERIN, BRIAN J

	Phone: (650) 926-5082 Title: DEPT HEAD CHEMICAL & GENERAL SAFETY
Originator:	Name: JOHNSON, HOPE E Phone: (650) 926-4322 Title: FACILITY MANAGER ADMIN.
HQ OC Notification:	
Other Notifications:	
Authorized Classifier(AC):	

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
01/14/2011	17:20 (PTZ)	Brian Sherin	SLAC
01/14/2011	17:40 (PTZ)	Tom Rizzi	SSO DOE

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