Office of Health, Safety and Security

Monthly Analysis of Electrical Safety Occurrences

November 2012

Purpose

This analysis resource provides the Department of Energy's (DOE) electrical safety community with a compilation of, and informal observations on, electrical safety occurrences reported through the Occurrence Reporting and Processing System (ORPS). The topics addressed in this analysis resource are responsive to requests for this information by the electrical safety community, who utilizes this information through monthly conference calls to foster information exchange and continual learning regarding electrical safety occurrences and their prevention across the DOE complex.

Key Observations

The number of electrical safety occurrences decreased from 13 in October to 6 in November. There were two reported electrical shocks, the number of electrical intrusion occurrences remained at one, and the number of reported lockout/tagout occurrences decreased from six to one. In November workers identified electrical hazards only 17 percent of the time, which is a decline in hazards identification from 86 percent in October.

Electrical Safety Occurrences

The following sections provide a summary of selected occurrences based upon specific areas of concern regarding electrical safety (e.g., bad outcomes or prevention/barrier failures). The complete list and full report of the occurrence reports is provided in Attachment 2.

Electrical Shock

There were two reported electrical shocks in the month of November, which is an increase from October in which there were no reported electrical shocks. These occurrences are summarized below.

1. A radiological protection technician received a minor electrical shock when he reached for the ON/OFF switch on the back of an AMS-3 Continuous Air Monitor low volume air sampler. The technician went to medical and was diagnosed as uninjured. An evaluation in the field and testing in the shop found that the air sampler had no internal electrical problems; however, one of two wires running from the back of the motor to an hour meter had a piece of insulation missing over the terminal where it connected to the meter, thus exposing an energized conductor.

2. A staff member received an electrical shock while plugging in a laptop computer. After turning the computer on, the staff member noticed that the laptop battery was low and connected the power cord to the computer. Then, with the power supply cord plug in the left hand and the right hand placed on the nonconductive table for balance, the staff member squatted down and reached under the table to plug in the laptop to a 120-volt outlet. While inserting the plug, the staff member saw a spark near the outlet and felt a tingle in the left hand. The staff member noticed a small gray spot on the thumb of left hand. There were no burns or injury noted and the staff member was cleared to return to work without restriction.

Figure 1 shows a 3-year trend of electrical shocks for the DOE complex. During this period, the average number of electrical shocks has remained below three (2.6) shocks per month.

Figure 1 – Three-Year Trend of Electrical Shocks

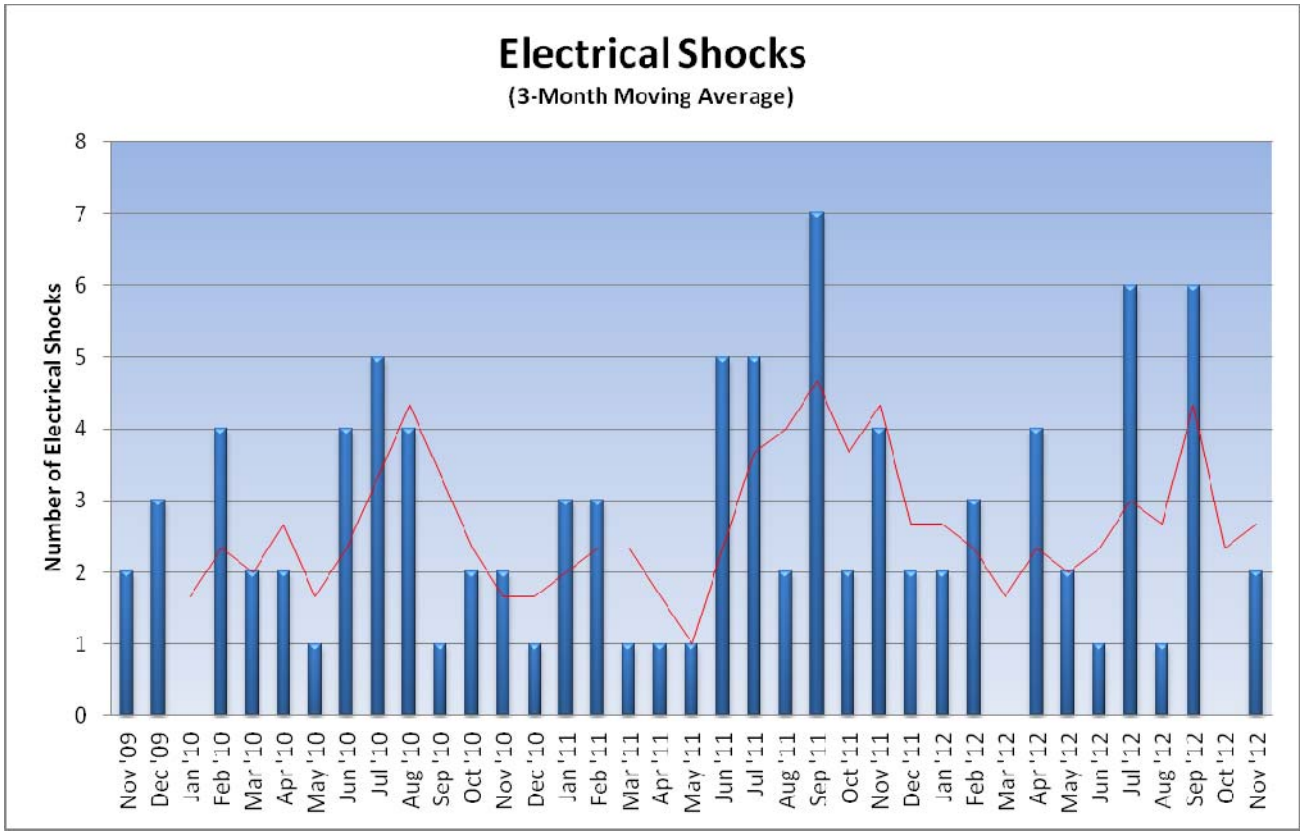


Figure 2 shows electrical shocks by worker type. The number of shocks involving electrical workers has slowly increased, while those involving non-electrical workers decreased after 2011. Since 2008, the majority of shocks (about 73 percent) involve non-electrical workers.

Figure 2 - Electrical Shock by Worker Type

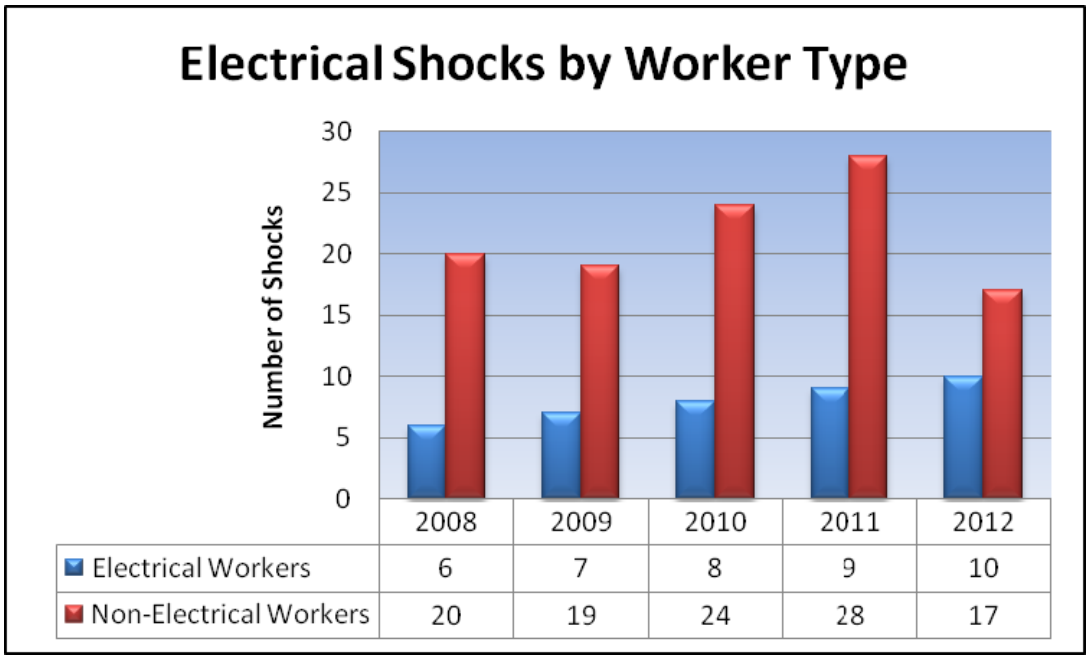
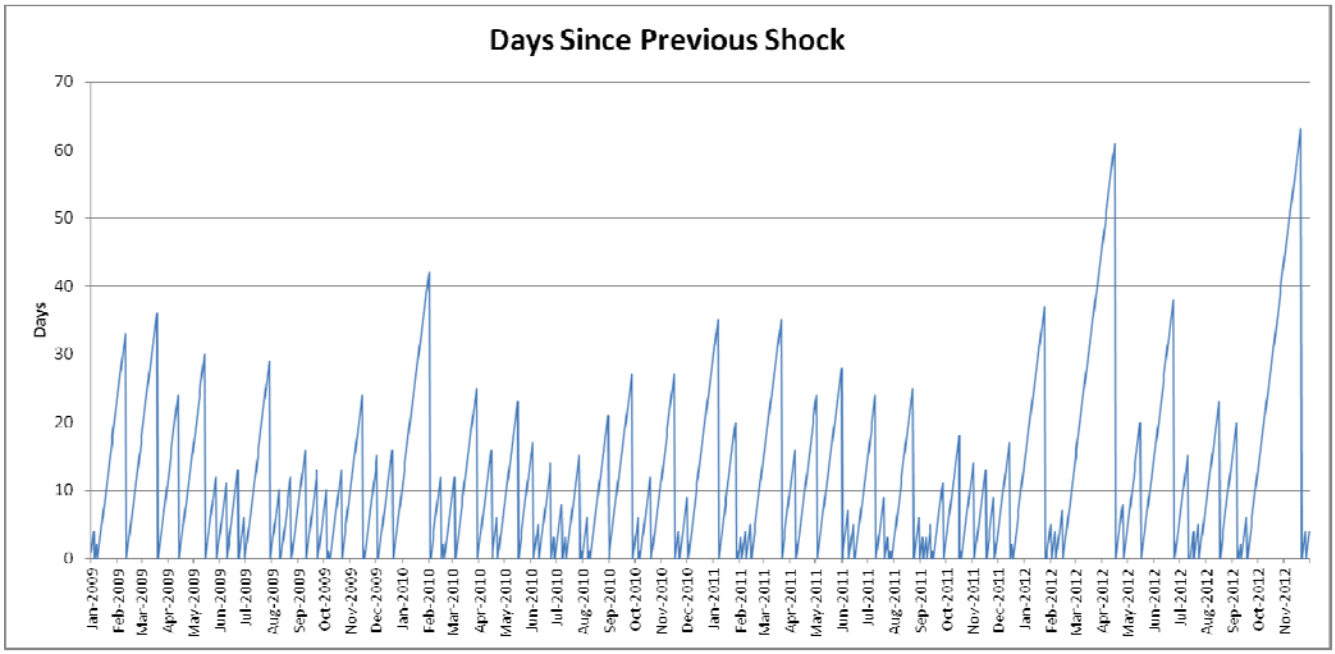


Figure 3 shows the number of days since the previous electrical shock for the DOE complex. The longest interval was 63 days (November 20, 2012) and the present interval is 4 days as of November 30.

Figure 3 - Days since Previous Shock



Electrical Intrusion

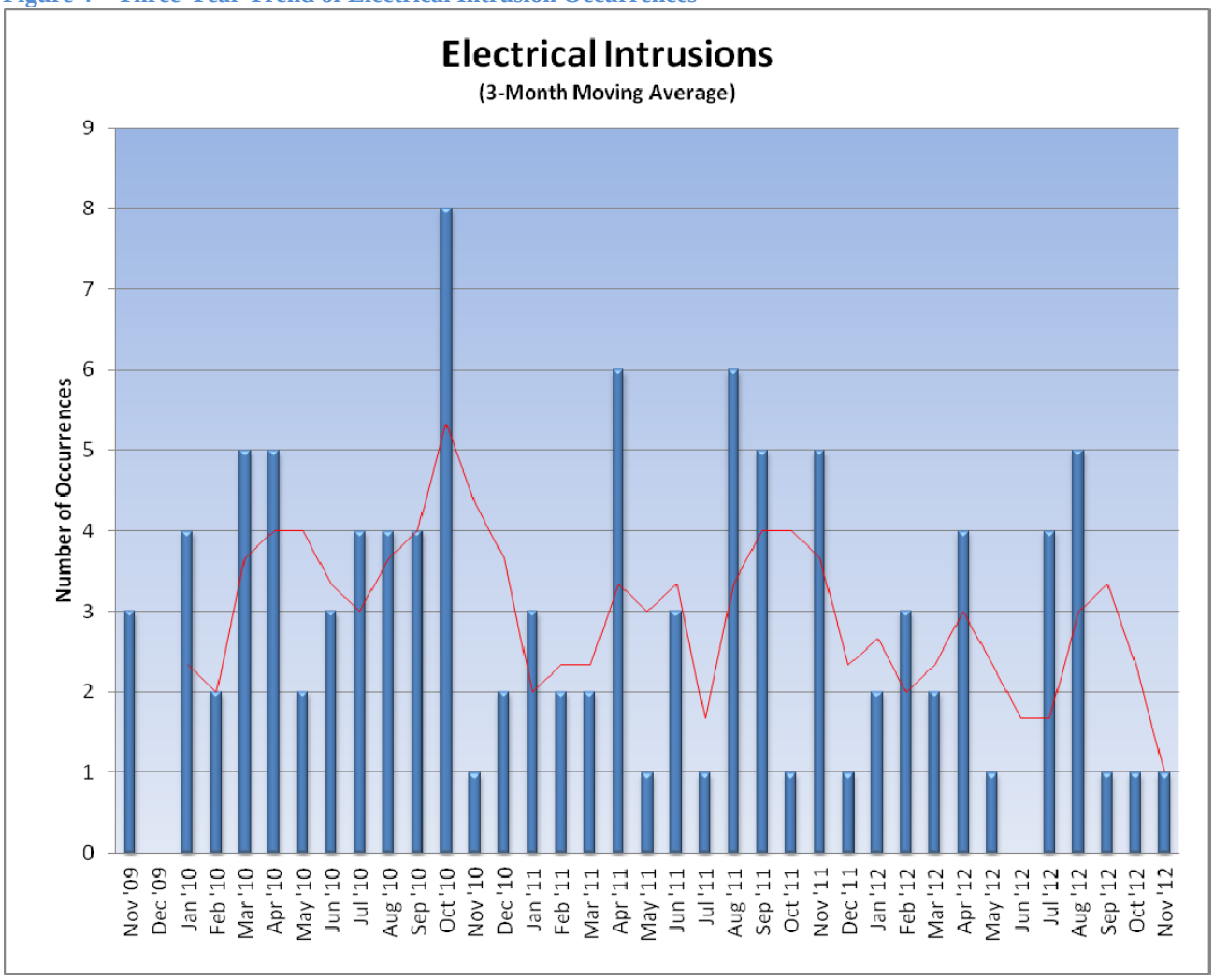
The number of electrical intrusion occurrences (i.e., cutting/penetrating, excavating, or vehicle/equipment contact of overhead electrical conductors) remained at one for November.

In this occurrence, the boom on a trackhoe operated by a subcontractor hit an overhead communication line that was supported by an intertwined steel stringer cable and broke the supporting poles that also carried a 13.8 kV power line. The trackhoe tilted forward on its tracks as the trackhoe transitioned from the paved section of a road to a lower, previously-excavated grade. The tilting motion caused the elevated boom of the trackhoe to contact the overhead communications line. The stringer cable was deflected approximately 1 foot before the operator swung the boom to the right and the wires were released from the boom. The 13.8 kV power line remained elevated and intact since the poles remained in the upright position because of the support afforded by the stringer cable, even though the poles were severed. Although there were no injuries or damage to the trackhoe or power line, the occurrence was represents a near miss.

Since November 2009, there have only been two months in which no electrical intrusion occurrences have been reported.

Figure 4 shows a 3-year trend of electrical intrusion occurrences for the DOE complex. During this period we have seen an average of just under 3 occurrences per month (2.9).

Figure 4 – Three-Year Trend of Electrical Intrusion Occurrences



Hazardous Energy Control

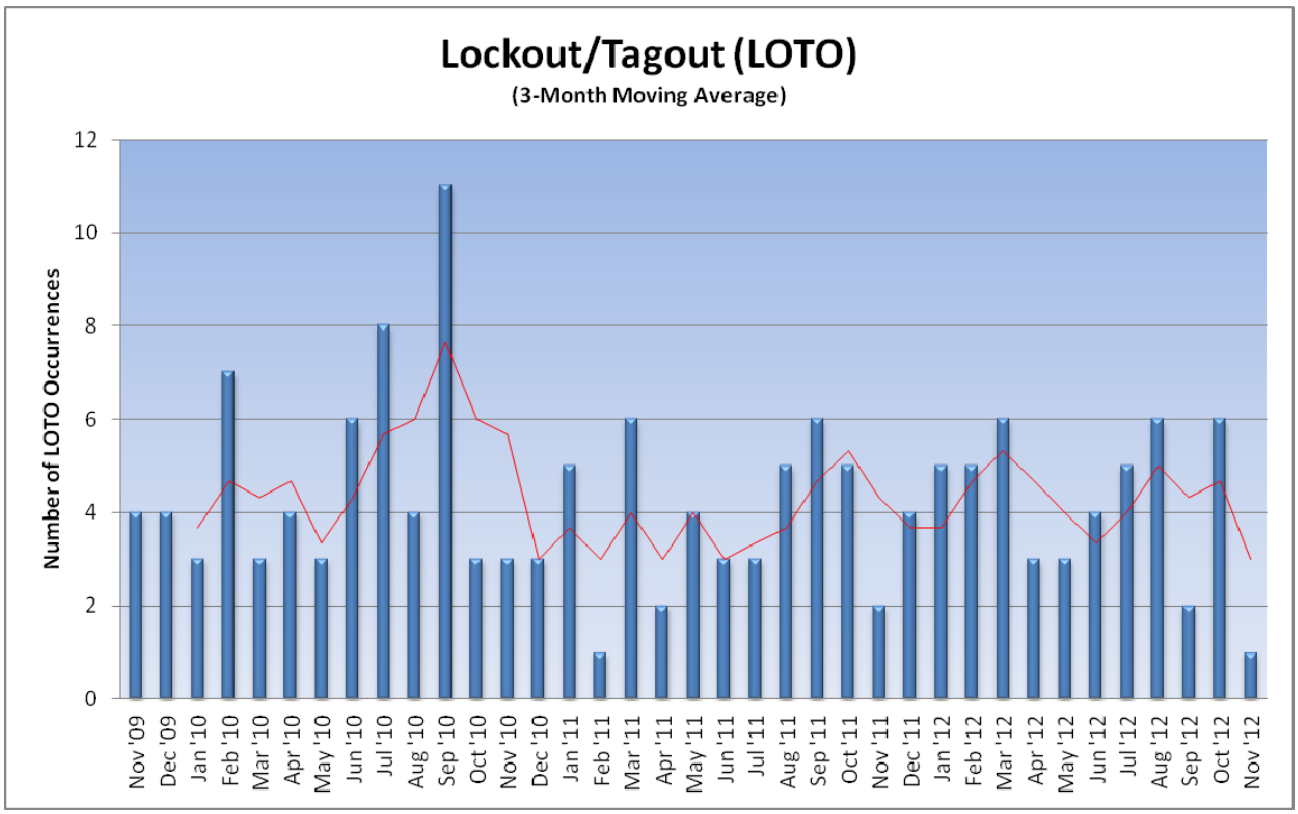
In November there was one reported occurrence involving lockout/tagout (LOTO), which is a decrease from the six occurrences reported in October.

Occurrences Involving Lockout/Tagout

A vendor worked on a circuit that was less than 50 volts to replace a battery in an elevator. Following a review of the work, it was discovered that a 120-volt electrical source was not taken into account and should have been locked and tagged out. A critique of the occurrence revealed that the requirement for a LOTO was not fully understood.

Figure 5 shows a 3-year trend of LOTO occurrences for the DOE complex. The monthly average is 4.3 occurrences.

Figure 5 – Three-Year Trend of Lockout/Tagout Occurrences



Discovery of Uncontrolled Hazardous Energy

A subcontract electrical superintendent heard a popping noise as he started to open the cabinet door to a motor control center (MCC) and found disconnected energized 208-volt wiring inside the MCC. The wiring provided temporary power to a preventative maintenance heater. The superintendent saw burn marks on the door latch and spring caused by arcing from the energized wiring to the cabinet door. The supply cord for the temporary power to the cabinet was unplugged and a lockout/tagout was applied for energy control. There was no electrical shock or injury as a result of this event.

Electrical Near Miss

In November, there were two occurrences that were considered to be an electrical near miss, which is a decrease from the three occurrences last month. One of these occurrences was discussed in the Electrical Intrusions section and the other one was discussed under the Discovery of Uncontrolled Hazardous Energy section.

Monthly Occurrences Tables

Table 1 shows a breakdown of the outcomes, performance issues, and worker types associated with the electrical safety occurrences for November 2012.

Table 1 - Breakdown of Electrical Occurrences

Number of Occurrences (November)	Involving:	Last Month (October)
2	Electrical Shocks	0
0	Electrical Burns	0
1	Hazardous Energy Control (LOTO)	6
0	Inadequate Job Planning	4
0	Inadvertent Drilling/Cutting of Electrical Conductors	1
0	Excavation of Electrical Conductors	0
1	Vehicle Intrusion of Electrical Conductors or Equipment	0
2	Electrical Near Misses	3
2	Electrical Workers	8
4	Non-Electrical Workers	5
5	Subcontractors	6

NOTE: The numbers in the left-hand column are not intended to total the number of occurrences for the month and are only associated with the items in the center column.

In compiling the monthly totals, the search looked for occurrence discovery dates in this month [excluding Significance Category R (Recurring) 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

Table 2 provides a summary of the electrical safety occurrences for CY 2012. The present monthly average decreased from last month's value of 12.8/month. The average number of occurrences a year ago (November 2011) was 11.5/month.

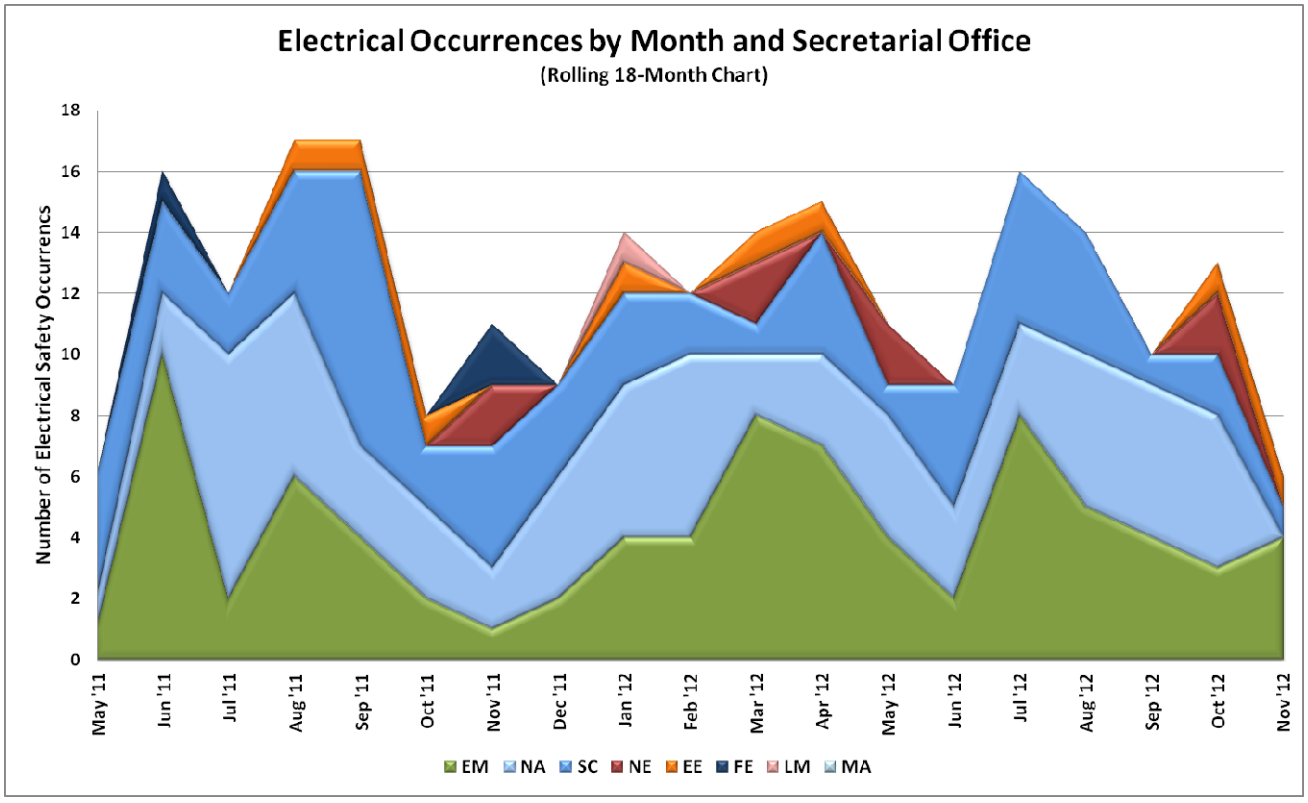
Table 2 - Summary of Electrical Occurrences

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
November	6	2	0	0
October	13	0	0	0

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
September	10	6	0	0
August	14	1	0	0
July	16	6	0	0
June	9	1	0	0
May	11	2	1	0
April	15	4	0	0
March	14	0	0	0
February	12	3	0	0
January	14	2	0	0
2012 total	134 (avg. 12.2/month)	27	1	0
2011 total	136 (avg. 11.3/month)	36	5	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

Figure 6 shows the distribution of electrical safety occurrences by Secretarial Office

Figure 6 - Electrical Occurrences by Month and Secretarial Office



Electrical Severity

The electrical severity of an electrical occurrence is based on an evaluation of electrical factors that include: electrical hazard, environment, shock proximity, arc flash proximity, thermal proximity and any resulting injury(s) to affected personnel. Calculating an electrical severity for an occurrence provides a metric that can be consistently applied to evaluate electrical occurrences across the DOE complex.

Electrical Severity Scores

The electrical severity scores (ES) are calculated using Revision 2 of the Electrical Severity Measurement Tool, which can be found on the EFCOG website at http://www.efcog.org/wg/esh_es/docs/Electrical_Severity_Measurement_Tool.pdf. The six occurrences are classified as shown in Table 3. Actual scores are provided in Attachment 1.

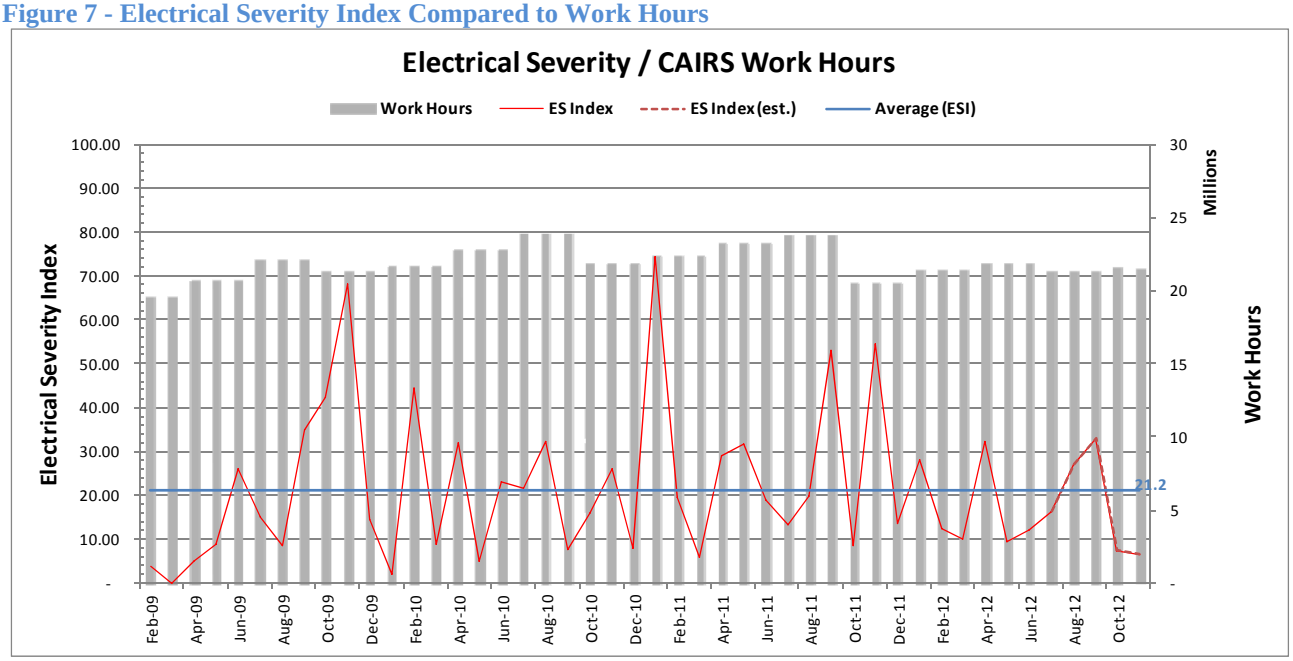
Table 3 – Classification of Electrical Safety Occurrences by ES Score

Occurrence Classification	Electrical Severity Score	Number of Occurrences
HIGH	≥ 1750	0
MEDIUM	31-1749	2
LOW	1-30	3
No Score	0	1

Electrical Severity Index

The Electrical Severity Index (ESI) is a performance metric that was developed to normalize events against organizational work hours. The ESI is calculated monthly and trended. Figure 7 shows a calculated ESI for the DOE complex and Table 4 shows the ESI and how it has changed from the previous month.

Figure 7 - Electrical Severity Index Compared to Work Hours



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

Table 4 - Electrical Severity Index

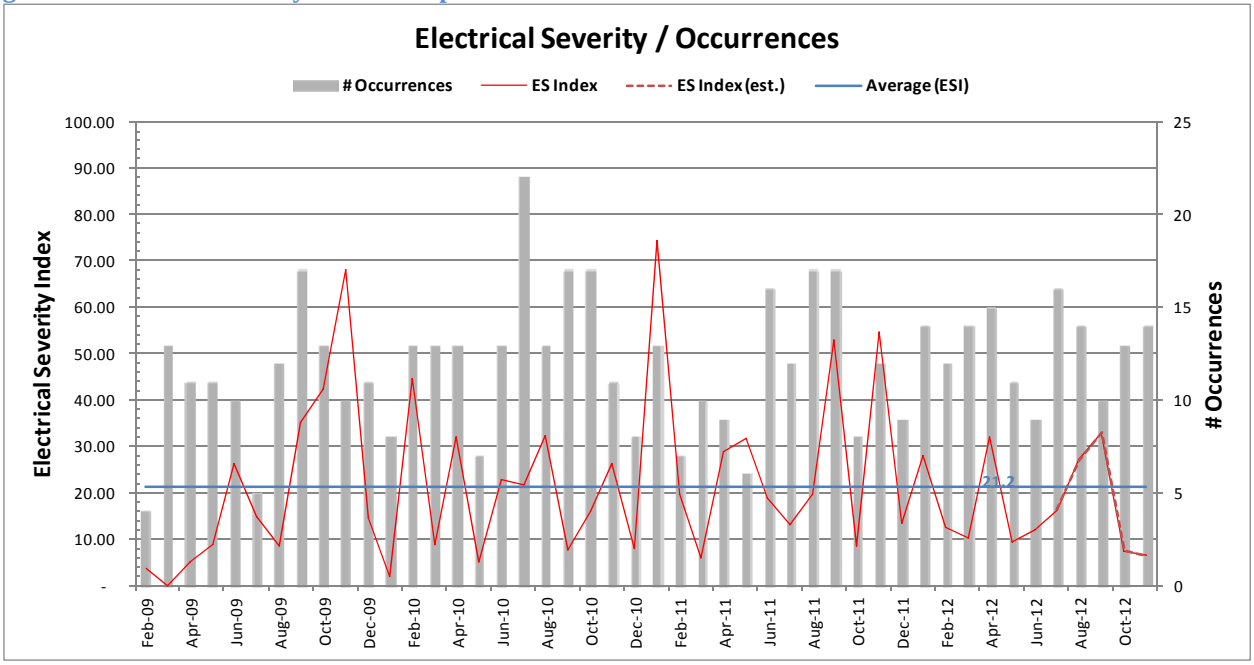
Category	October	November	Δ
Total Occurrences	13	6	-7
Total Electrical Severity	810	700	-110
Estimated Work Hours	21,539,387* (21,539,387)	21,489,592	-49,795
ES Index	7.52* (7.52)	6.51	-1.01
Average ESI	21.5	21.2	-0.3

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

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

Figure 8 shows the ESI with the number of Occurrences instead of Work Hours.

Figure 8 - Electrical Severity Index Compared to Number of Occurrences



The average ESI (21.2) has decreased slightly for the last two months. The lowest average ESI was 19.2 in June 2010.

Figure 9 shows the number of days since the previous high severity occurrence. The present interval is 577 days as of November 30. The previous longest interval was 181 days in 2009.

Figure 9 - Days since Previous High Severity Occurrence

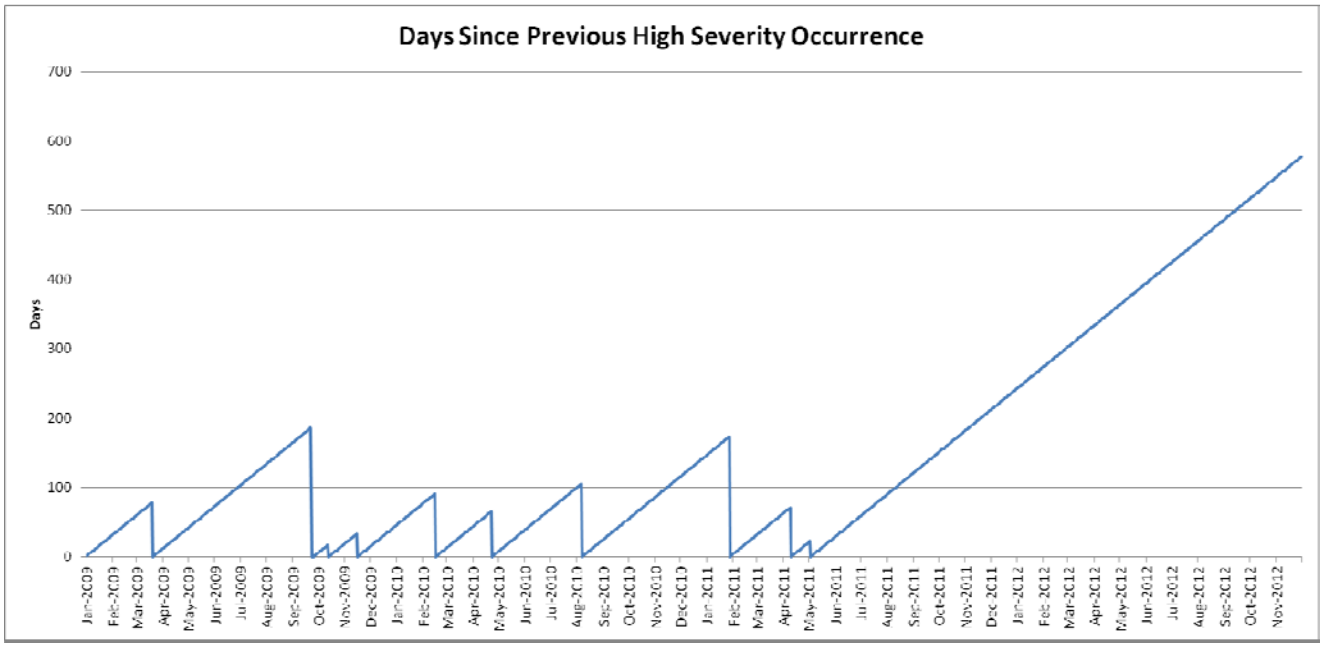
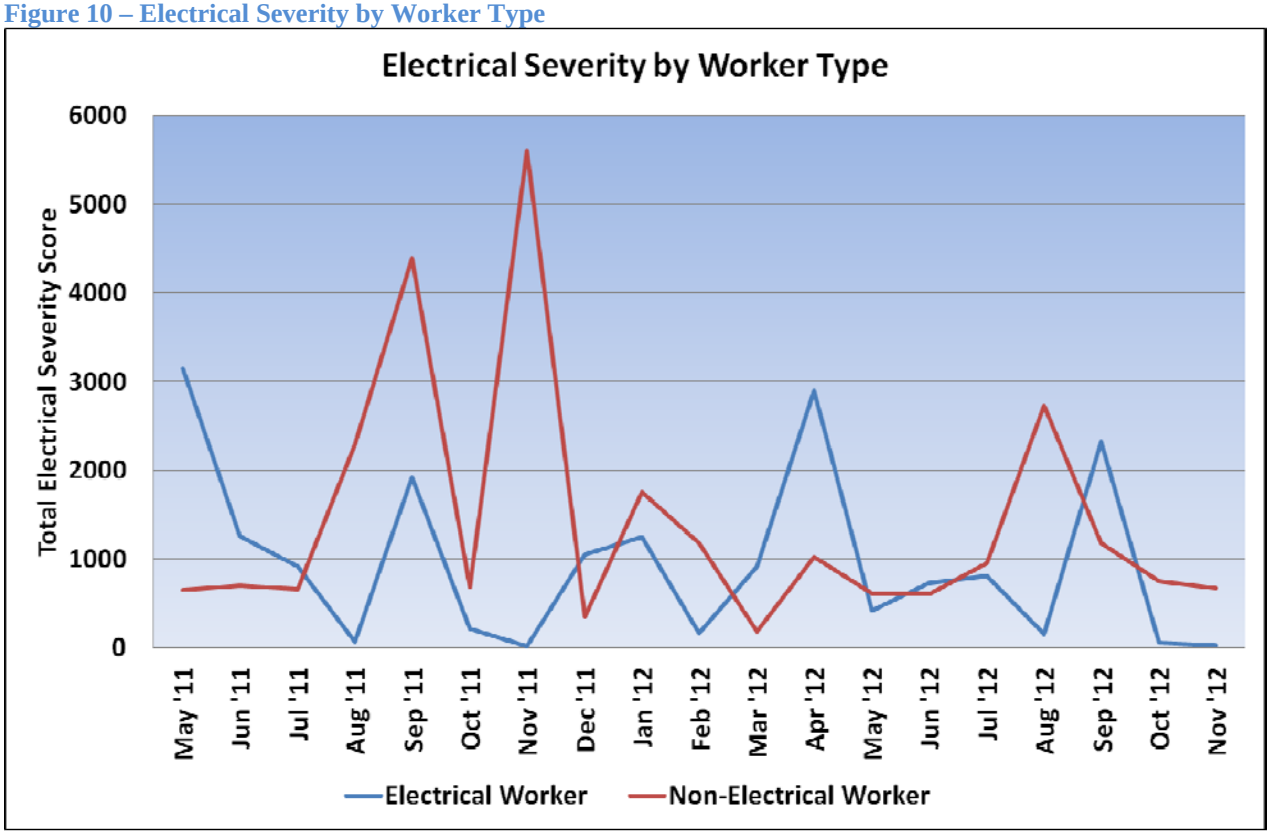


Figure 10 shows the total electrical severity score by worker type for each month.

Figure 10 – Electrical Severity by Worker Type

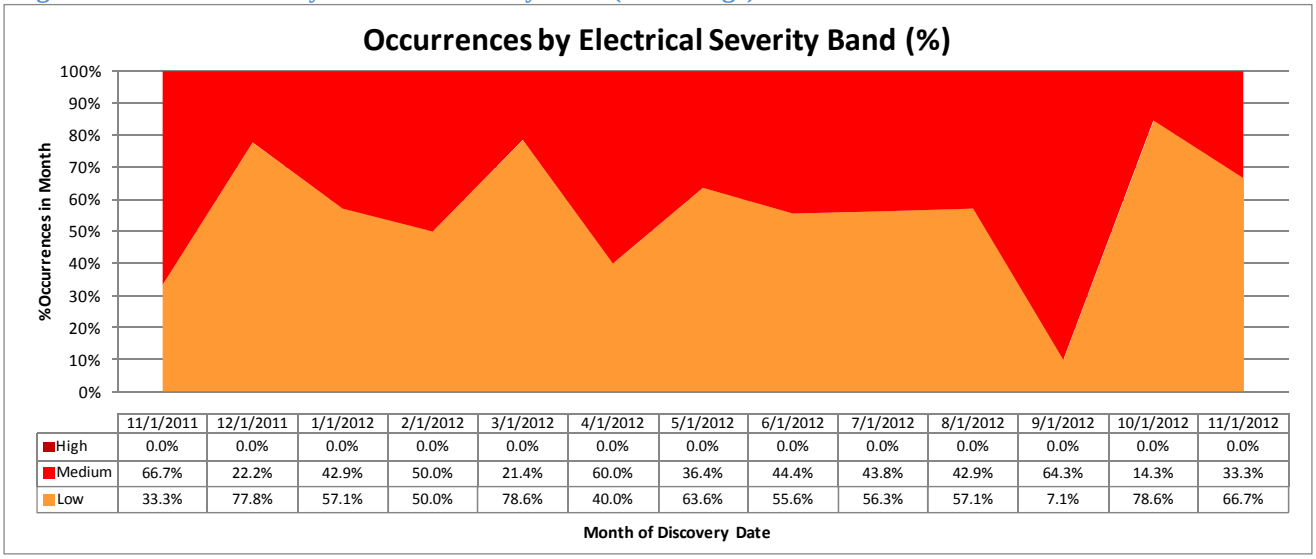


Electrical workers typically have the fewest number of occurrences. Following a spike of 2,320 in September 2012, the ES score for electrical workers has dropped to 30, while non-electrical workers ES scores decreased from 1,180 to 670. The average ES scores for the 18 month period are 1,137 for electrical workers and 1,406 for non-electrical workers.

Summary of Occurrences by Severity Band

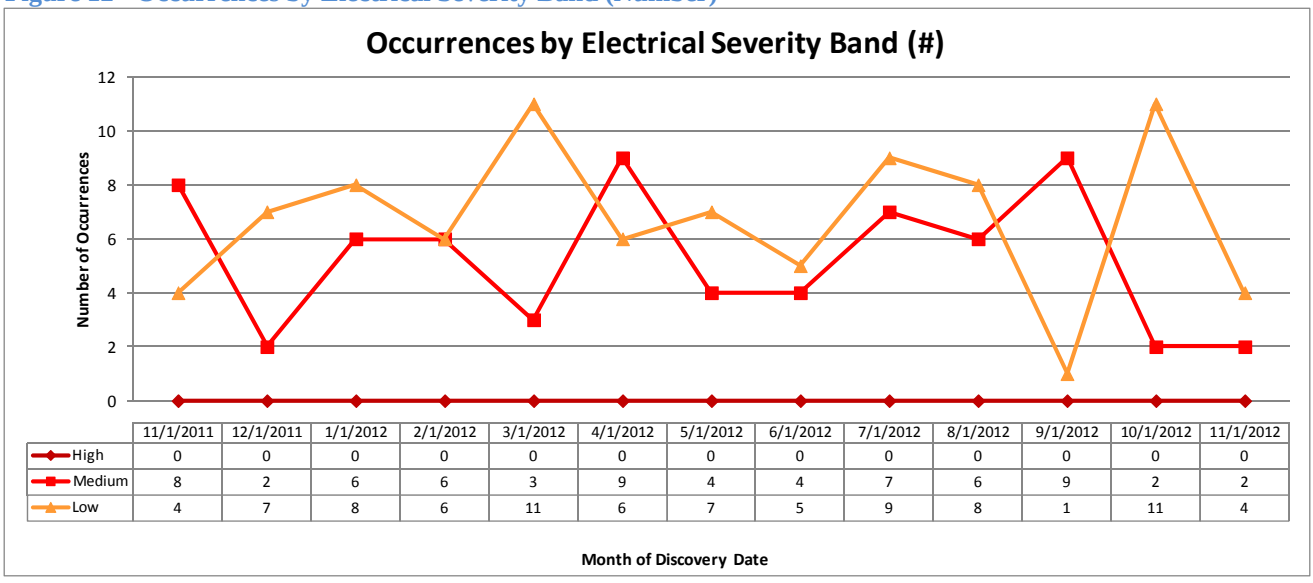
For the interval November 2011 through November 2012 (current month and the past 12), Figures 11 and 12 summarize occurrences by severity band and month of discovery date by percentage of total occurrences in month and number of occurrences in month.

Figure 11 - Occurrences by Electrical Severity Band (Percentage)



	11/1/2011	12/1/2011	1/1/2012	2/1/2012	3/1/2012	4/1/2012	5/1/2012	6/1/2012	7/1/2012	8/1/2012	9/1/2012	10/1/2012	11/1/2012
High	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Medium	66.7%	22.2%	42.9%	50.0%	21.4%	60.0%	36.4%	44.4%	43.8%	42.9%	64.3%	14.3%	33.3%
Low	33.3%	77.8%	57.1%	50.0%	78.6%	40.0%	63.6%	55.6%	56.3%	57.1%	7.1%	78.6%	66.7%

Figure 12 - Occurrences by Electrical Severity Band (Number)



	11/1/2011	12/1/2011	1/1/2012	2/1/2012	3/1/2012	4/1/2012	5/1/2012	6/1/2012	7/1/2012	8/1/2012	9/1/2012	10/1/2012	11/1/2012
High	0	0	0	0	0	0	0	0	0	0	0	0	0
Medium	8	2	6	6	3	9	4	4	7	6	9	2	2
Low	4	7	8	6	11	6	7	5	9	8	1	11	4

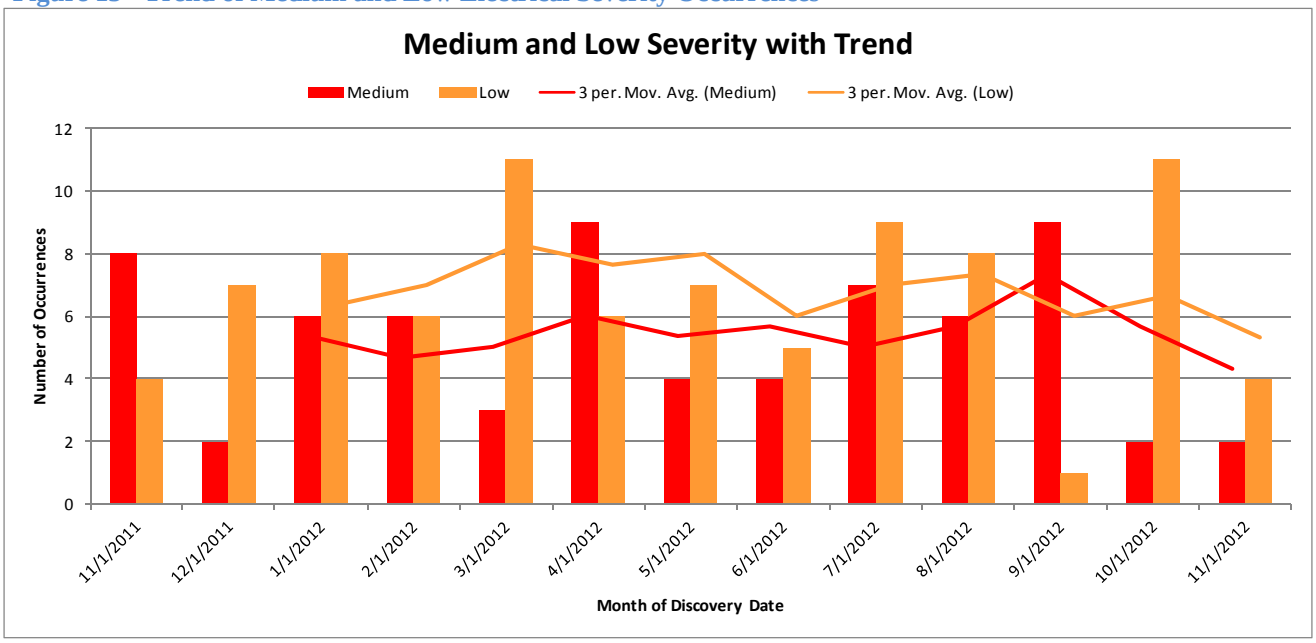
What can be seen from the previous two charts is that the number of occurrences with High electrical severity scores has remained at zero with the last event occurring back in May 2011.

The number of occurrences with Medium did not change while the number of Low and zero severity occurrences decreased.

Medium and Low Severity with Trend

Figure 13 focuses on the Medium and Low severity data series for November 2011 through November 2012. Trend lines are included for each, using a 3-month moving average.

Figure 13 - Trend of Medium and Low Electrical Severity Occurrences



The 3-month moving average shows a decreasing trend for Medium severity occurrences and Low severity occurrences. A higher percentage of Low severity occurrences is preferred.

Additional Resources

Electrical Safety Blog
http://hsselectricalsafety.wordpress.com/

Electrical Safety Wiki
http://electricalsafety.doe-hss.wikispaces.net/home

EFCOG Electrical Safety Subgroup
http://www.efcog.org/wg/esh_es/index.htm

Center of Excellence for Electrical Safety
http://www.lanl.gov/safety/electrical/

Contact

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Attachment 1

Electrical Safety Occurrences – November 2012

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	EE-GO--NREL-NREL-2012-0018	A raceway cover plate touched a partially exposed plug prong, shorted, tripped a breaker, and blackened an outlet and light plug.					X				4	10(2)	10
2	EM--PPPO-FBP-PORTSDD-2012-0029	A trackhoe hit an overhead fiber optics line breaking two 13.8kV power poles near their bases.								X	R	10(3)	0
3	EM-ORO--UCOR-X10ENVRES-2012-0004	Worker shocked while a turning off air sampler because of missing insulation on terminal.	X								3	2E(2)	330
4	EM-RL--MSC-WSCF-2012-0002	A vendor worked on a circuit < 50V to replace a battery and it was discovered that a 120V source should have had a LOTO.				X	X				3	2E(2)	20
5	EM-SR--PSC-SWPF-2012-0006	A subcontract electrical superintendent heard a popping noise when opening the door to a MCC and found disconnected energized 208V wiring inside.									3	2E(2)	10
6	SC--BHSO-BNL-BNL-2012-0028	A staff member received a shock while plugging in a laptop computer into a 120V outlet.	X								3	10(2)	330
	TOTAL		2	0	0	1	2	0	0	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 or equipment intrusion, (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

Attachment 1

Electrical Safety Occurrences – November 2012

No	Report Number	Event Summary	EW[1]	N-EW[2]	SUB[3]	HFW[4]	WFH[5]	PPE[6]	70E[7]	VOLT[8] H	VOLT[8] L	C/I[9]	NEUT[10]	NM[11]
1	EE-GO--NREL-NREL-2012-0018	A raceway cover plate touched a partially exposed plug prong, shorted, tripped a breaker, and blackened an outlet and light plug.		X	X	X					X			
2	EM--PPPO-FBP-PORTSDD-2012-0029	A trackhoe hit an overhead fiber optics line breaking two 13.8kV power poles near their bases.		X	X	X				X				X
3	EM-ORO--UCOR-X10ENVRES-2012-0004	Worker shocked while a turning off air sampler because of missing insulation on terminal.		X	X	X					X			
4	EM-RL--MSC-WSCF-2012-0002	A vendor worked on a circuit < 50V to replace a battery and it was discovered that a 120V source should have had a LOTO.	X		X						X			
5	EM-SR--PSC-SWPF-2012-0006	A subcontract electrical superintendent heard a popping noise when opening the door to a MCC and found disconnected energized 208V wiring inside.	X		X	X X					X			X
6	SC--BHSO-BNL-BNL-2012-0028	A staff member received a shock while plugging in a laptop computer into a 120V outlet.				X					X			
	TOTAL		2 X	4	5	5	1	0	0	1	5	0	0	2

Key

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

ORPS Operating Experience Report

Production GUI - New ORPS

ORPS contains 55941 OR(s) with 59251 occurrences(s) as of 12/20/2012 9:57:10 AM
Query selected 6 OR(s) with 6 occurrences(s) as of 12/20/2012 10:24:09 AM

Download this report in Microsoft Word format.

1)Report Number: EE-GO--NREL-NREL-2012-0018 **After 2003 Redesign**
Secretarial Office: Energy Efficiency and Renewable Energy
Lab/Site/Org: National Renewable Energy Laboratory
Facility Name: National Renewable Energy Laboratory
Subject/Title: Minor electrical short during inspection of information data cables
Date/Time Discovered: 11/15/2012 10:40 (MTZ)
Date/Time Categorized: 11/15/2012 17:16 (MTZ)
Report Type: Notification/Final
Report Dates:

Notification	11/19/2012	18:56 (ETZ)
Initial Update	11/19/2012	18:56 (ETZ)
Latest Update	11/19/2012	18:56 (ETZ)
Final	11/19/2012	18:56 (ETZ)

Significance Category: 4
Reporting Criteria: 10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern for that facility or other facilities or activities in the DOE complex.
The significance category assigned to the management concern should be based on an evaluation of the potential risks and impact on safe operations.
(1 of 4 criteria - This is a SC 4 occurrence)

Cause Codes:
ISM: 2) Analyze the Hazards
Subcontractor Involved: Yes
Interface Communications Corporation, 3rd tier subcontractor
Occurrence Description: On November 15, 2012, a lower-tier subcontractor was performing a quality inspection on information data ports throughout the laboratory wing of NREL's Energy Systems Integration Facility (ESIF). This task involved removing cover plates, removing the data ports underneath, and inspecting labels on the communication wires installed in the raceways.

During the course of the inspections, the subcontractor removed the cover plate from a 2-channel raceway in one of the ESIF's northwest labs. The raceway contained a power outlet in the lower channel and a data port in

the upper channel. An under-the-cabinet fluorescent light was plugged into the power outlet at the time. The subcontractor had been instructed many times as a skill-of-the-craft best practice to never unplug someone else's equipment while working. The subcontractor heeded this instruction and removed the cover plate while the light's power cord was plugged into the outlet. He then continued with his inspection of the communication wires. When he went to replace the data port, the raceway cover plate unexpectedly contacted a partially exposed plug prong and created a short that tripped the breaker and blackened the outlet and light plug. No injuries resulted from this occurrence. Due to the tight-fitting configuration of the raceway, there was no exposure to electrical conductors and no potential for electrical shock. As with any event involving electrical systems, NREL utilized the EFCOG Electrical Severity Measurement tool and determined that this condition rates an Electrical Severity score of 10, which equates to a low hazard.

After the short occurred, the subcontract worker immediately notified an electrician from the 2nd-tier subcontractor, who then notified JE Dunn, the primary contractor for the ESIF project, and NREL Environment, Health and Safety (EHS). The electrician evaluated the equipment and locked and tagged out the circuit for the affected raceway. The receptacle and light cord were both replaced. As a precautionary measure, JE Dunn suspended work performed by the 3rd-tier subcontractor, Interface Communication Corporation, in order to further evaluate the situation. JE Dunn has initiated an incident investigation and requested that the subcontractor submit a corrective action plan.

This occurrence is being reported as it highlights the benefits of always unplugging power cords before removing cover plates. The raceway involved in this incident had a tight-fitting configuration and did not allow for contact with the conductors. However, in general, raceway configurations may vary. An additional best practice would be to lock and tag out raceways if the configuration allows for potential exposure to conductors.

Cause Description:

Operating Conditions: Normal Operations

Activity Category: Construction

Immediate Action(s):

1. The subcontract worker stopped working and immediately notified an electrician from the 2nd-tier subcontractor, Encore Electric.
2. Encore Electric notified JE Dunn, the primary contractor for the ESIF project, and NREL Environment, Health and Safety (EHS).
3. JE Dunn evaluated the equipment.
4. Encore Electric locked and tagged out the circuit for the affected raceway and replaced the receptacle and light cord.
5. JE Dunn suspended work performed by Interface Communication

	Corporation, as a precaution, in order to further evaluate the situation. 6. JE Dunn initiated an incident investigation and requested that the subcontractor submit an appropriate corrective action plan.
FM Evaluation:	No injuries resulted from this occurrence. Minor damage occurred to the raceway receptacle and the fluorescent light plug that was plugged into the affected outlet. Corrective actions are being implemented. Work is expected to resume on Monday, November 19, 2012.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	Infrastructure and Campus Development
Plant Area:	South Table Mountain
System/Building/Equipment:	Energy Systems Integration Facility
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	Always unplug equipment from outlets before removing plate covers.
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01Q--Inadequate Conduct of Operations - Personnel error 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 November 15, 2012, a raceway cover plate unexpectedly contacted a partially exposed plug prong and created a short that tripped a breaker and blackened the outlet and light plug when a subcontractor replaced the cover plate on a 2-channel raceway during quality inspections on information data ports throughout the laboratory wing of the Energy Systems Integration Facility. No injuries resulted from this occurrence. The subcontractor stopped work and immediately notified an electrician who locked and tagged out the circuit for the affected raceway and replaced the receptacle and light cord.
Similar OR Report Number:	
Facility Manager:	Name: JORDAN, MAUREEN Y

Phone	(303) 275-3248
Title	EHS Office Director

Originator:

Name	LITTRELL, BOBBIJO R.
Phone	(303) 275-3230
Title	COMPLIANCE ASSURANCE SPECIALIST

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
11/15/2012	17:16 (MTZ)	Event Notification List	DOE/NREL

Authorized Classifier(AC):

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2)Report Number: EM--PPPO-FBP-PORTSDD-2012-0029 **After 2003 Redesign**
Secretarial Office: Environmental Management
Lab/Site/Org: Portsmouth Gaseous Diffusion Plant
Facility Name: Portsmouth Decontamination and Decommissioning
Subject/Title: Near Miss--Subcontractor Strikes Overhead Fiber Optics Line
Date/Time Discovered: 11/08/2012 08:03 (ETZ)
Date/Time Categorized: 11/08/2012 12:40 (ETZ)
Report Type: Update
Report Dates:

Notification	11/12/2012	17:35 (ETZ)
Initial Update	11/15/2012	13:42 (ETZ)
Latest Update	11/15/2012	13:42 (ETZ)
Final		

Significance Category: R
Reporting Criteria: 10(3) - A near miss to an otherwise ORPS reportable event, where something physically happened that was unexpected or unintended, or where no or only one barrier prevented an event from having a reportable consequence.
The significance category assigned to the near miss must be based on an evaluation of the potential risks and extent of personnel exposure to the hazard. (1 of 3 criteria - This is a SC 3 occurrence)

Cause Codes:
ISM: 2) Analyze the Hazards
3) Develop and Implement Hazard Controls
4) Perform Work Within Controls
5) Provide Feedback and Continuous Improvement

Subcontractor Involved: Yes
WISE Services Inc.

Occurrence Description: On 11-08-12 at approximately 0800 hours, a boom on a track hoe contacted a fiber optics (communications) line resulting in the breakage of two adjacent power poles. Subcontractor personnel were moving a track hoe across a paved road and underneath overhead lines. As the track hoe transitioned from the paved section of the road to a lower, previously excavated grade, the track hoe tilted forward on its tracks. The tilting motion caused the elevated boom of the track hoe to contact an overhead communications line that was supported by an intertwined steel stringer cable. The stringer cable was deflected approximately one foot before the operator swung the boom to the right and the wires were released from the boom. While neither the communications line nor the stringer cable were severed, the tension on the cable caused the two adjacent power poles to break near their bases. The poles also carried a 13.8 KV power line approximately 15 feet above the communications cable. While both poles were severed at the base, they remained in the upright position due to the support afforded by the stringer cable. As a result the 13.8 KV power line remained elevated and intact. There were no injuries and no damage to the track hoe. Work was immediately stopped and equipment was placed in a safe condition.

This is a recurring occurrence (Significance Category R) due to a similar incident, an excavator boom contacting a de-energized overhead line in September 2012.

Cause Description:

Operating Conditions: Normal Operations

Activity Category: Normal Operations (other than Activities specifically listed in this Category)

Immediate Action(s):
--Plant Shift Superintendent (PSS) and the Emergency Response organization were notified of the incident.
--Incident Command was established at the scene, Emergency Personnel responded to the scene and the area was secured.
--Power to surrounding facilities was turned off as a safety precaution.
--Access to all parking areas adjacent to the X-1000 Building (Parking Lot X-2207A and Portal X-1107BP) was restricted until an all-clear was granted.
--Power poles were stabilized.
--The track hoe operator was sent for drug testing.
--FBP Management, Performance Assurance and the on-site DOE Facility Rep were notified.
--All subcontractor construction activities across the project were paused.
--A Fact Finding meeting was held.
--A Problem Report was initiated
--An occurrence report was initiated.

FM Evaluation:	Facility Demolition and Construction Support Services will perform appropriate causal analysis and develop and implement corrective actions.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? Yes By Whom: D&D Operations By When: 12/23/2012
Division or Project:	D&D Operations
Plant Area:	I4
System/Building/Equipment:	Broken Power Poles, Hewes Street, North of X-749B
Facility Function:	Environmental Restoration Operations
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	05E--Mechanical/Structural - Structural Deficiency/Failure 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 10C--Transportation - Industrial Equipment Movement Incident 11G--Other - Subcontractor 12K--EH Categories - Near Miss (Could have been a serious injury or fatality) 14E--Quality Assurance - Work Process Deficiency 14G--Quality Assurance - Procurement Deficiency
HQ Summary:	On November 8, 2012, the boom on a track hoe operated by a subcontractor contacted an overhead communication line that was supported by an intertwined steel stringer cable and broke the supporting poles that also carried a 13.8 KV power line. The track hoe tilted forward on its tracks as the track hoe transitioned from the paved section of a road to a lower, previously-excavated grade. The tilting motion caused the elevated boom of the track hoe to contact the overhead communications line. The stringer cable was deflected approximately one foot before the operator swung the boom to the right and the wires were released from the boom. The 13.8 KV power line remained elevated and intact since the poles remained in the upright position due to the support afforded by the stringer cable, even though the poles were severed. There were no injuries and no damage to the track hoe. Work was immediately stopped.
Similar OR Report Number:	1. EM--PPPO-FBP-PORTSDD-2012-0022
Facility Manager:	Name: Dennis Carr Phone: (740) 897-3532

Title	Fluor-B&W/Portsmouth Program Mgr.

Originator:

Name	BOOK, JACKIE
Phone	(740) 897-2569
Title	QUALITY PROGRAMS COORDINATOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
11/08/2012	13:26 (ETZ)	Dee Powell	DOEPORTS
11/08/2012	14:26 (ETZ)	Dennis Carr	PORTSFBP
11/08/2012	14:27 (ETZ)	Fred Hughes	PORTSFBP

Authorized Classifier(AC): Doug Fogel Date: 11/15/2012

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3)Report Number: EM-ORO--UCOR-X10ENVRES-2012-0004 **After 2003 Redesign**
Secretarial Office: Environmental Management
Lab/Site/Org: Oak Ridge National Laboratory
Facility Name: Melton Valley Closure Project
Subject/Title: RPT receives electrical shock while attempting to turn off low volume air sampler. Medical exam determines that the RPT was not injured.
Date/Time Discovered: 11/21/2012 11:50 (ETZ)
Date/Time Categorized: 11/26/2012 13:30 (ETZ)
Report Type: Update
Report Dates:

Notification	11/27/2012	16:14 (ETZ)
Initial Update	11/27/2012	16:19 (ETZ)
Latest Update	11/28/2012	13:33 (ETZ)
Final		

Significance Category: 3
Reporting Criteria: 2E(2) - Any unexpected discovery of an uncontrolled electrical hazardous energy source (e.g., live electrical power circuit, etc.). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

Cause Codes:
ISM: 2) Analyze the Hazards
Subcontractor Involved: Yes
Enercon Federal Services
Occurrence Description: On November 21, 2012, at approximately 11:45 am in Building 3517, a Radiological Protection Technician (RPT) was preparing to replace a filter

	in an AMS-3 Continuous Air Monitor. When he reached for the on/off switch on the back of the low volume air sampler to turn it off, he received a minor electrical shock. He stopped work, reported the event and went to medical where he was found to be uninjured.
Cause Description:	
Operating Conditions:	Standby Mode
Activity Category:	Maintenance
Immediate Action(s):	RPT stopped work, notified his supervisor who contacted the Facility Manager (FM). FM directed that air sampler be unplugged and management notified. The RPT was taken to Medical and found to be uninjured. The RPT was also drug tested with negative results. UCOR management notified DOE of the event the afternoon of 11/21/2012. A review of the event was conducted at 0615 on 11/26/2012 and a list of actions to be taken prepared. The primary action was to have UCOR Electricians, Electrical Engineer, AHJ and DOE AHJ examine the equipment. The team met at 3517 at 1000 on 11/26/2012. The air sampler was examined in the field and continuity tests performed. No problems were detected in the field and the air sampler was taken to a shop for further examination. Testing of the air sampler in the shop found no internal electrical problems. Examination of the air sampler found that one of the two wires running from the back of the motor to an hour meter had a piece of insulation missing over the terminal where it connected to the meter, thus exposing an energized conductor.
FM Evaluation:	The results of the evaluation in the field and testing in the shop showed that the air sampler had no internal electrical problems. The only problem detected was the missing piece of insulation over the one terminal connecting a wire to a terminal on the hour meter. Thus it is concluded that when the RPT reached over the air sampler for the on/off switch, the side of his hand touched the exposed conductor as his finger touched the switch, resulting in an electrical shock.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: Facility Manager By When:
Division or Project:	ORNL S&M
Plant Area:	ORNL site, Building
System/Building/Equipment:	Building 3517 Continuous Air Monitor

Facility Function: Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)

Corrective Action:

Lessons(s) Learned:

HQ Keywords: 07D--Electrical Systems - Electrical Wiring
08A--OSHA Reportable/Industrial Hygiene - Electrical Shock
11G--Other - Subcontractor
12C--EH Categories - Electrical Safety
14L--Quality Assurance - No QA Deficiency

HQ Summary: On November 21, 2012, a Radiological Protection Technician (RPT) received a minor electrical shock when he reached for the on/off switch on the back of an AMS-3 Continuous Air Monitor low volume air sampler. The RPT went to medical and was diagnosed as uninjured. Examination of the air sampler found that one of the two wires running from the back of the motor to an hour meter had a piece of insulation missing over the terminal where it connected to the meter, thus exposing an energized conductor.

Similar OR Report Number:

Facility Manager:

Name	R. Eversole
Phone	(865) 576-7483
Title	Facility Manager

Originator:

Name	HOLOWCZAK, MARK S
Phone	(865) 574-3611
Title	ENFORCEMENT COORDINATOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
11/21/2012	12:10 (ETZ)	R. Eversole	UCOR
11/21/2012	12:15 (ETZ)	W. Dearman	UCOR
11/21/2012	12:15 (ETZ)	J. Marshall	UCOR
11/21/2012	12:20 (ETZ)	J. Selvey	UCOR
11/26/2012	15:00 (ETZ)	R. Farr	DOE-FR

Authorized Classifier(AC): Dave Hamrin Date: 11/27/2012

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4)Report Number: EM-RL--MSC-WSCF-2012-0002 **After 2003 Redesign**

Secretarial Office: Environmental Management

Lab/Site/Org: Hanford Site

Facility Name: Waste Sampling & Characterization

Subject/Title: Electrical Lock and Tag Violation

Date/Time Discovered: 11/08/2012 09:35 (PTZ)

Date/Time Categorized: 11/08/2012 09:35 (PTZ)

Report Type: Notification

Report Dates:

Notification	11/13/2012	22:34 (ETZ)
Initial Update		
Latest Update		
Final		

Significance Category: 3

Reporting Criteria: 2E(2) - Any unexpected discovery of an uncontrolled electrical hazardous energy source (e.g., live electrical power circuit, etc.). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

Cause Codes: A3B2C03 - Human Performance Less Than Adequate (LTA); Rule Based Error; Too much activity was occurring and error made in problem solving -->couplet - NA
A5B4C01 - Communications Less Than Adequate (LTA); Verbal Communications LTA; Communication between work groups LTA

ISM: 3) Develop and Implement Hazard Controls
4) Perform Work Within Controls

Subcontractor Involved: Yes
Kone

Occurrence Description: On 11/8/12, after post review of a work package performed on 10/24/12 to replace a battery in the WSCF elevator, it was discovered that a 120 volt electrical source was not taken into account. The work was performed on a circuit that was less than 50 volts, therefore no lock and tag was applied. At no time did the workers come into contact with an electrical energy source.

Cause Description: Critique revealed information about the requirement for Lock and Tag was not fully answered before the beginning of the work activity. When the work activity did start it was hindered by urgency of the vendor to complete the work in order to respond to another job elsewhere. This contributed to Less Than Adequate decisions to install lock and tag before the work activity started.

Operating Conditions: Routine operating conditions, maintenance activities in process for 6266 elevator.

Activity Category: Normal Operations (other than Activities specifically listed in this Category)

Immediate Action(s): 1. The event was categorized under Group 2, Subgroup E, (2) SC-3

	2. An Initial Event Report was completed for MSA 3. A critique was scheduled for 11/12/2012 4. The DOE Facility Rep. and WSCF Acting Director notified
FM Evaluation:	This occurrence reveals a need to improve communications between departments in the organization and put in place a good training program to better understand the requirements for electrical safety when performing these work activities.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: By When:
Division or Project:	MSA/Energy and Environmental Services (ESS)
Plant Area:	600 Area
System/Building/Equipment:	Building 6266 Service Elevator
Facility Function:	Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category)
Corrective Action:	
Lessons(s) Learned:	To be determined.
HQ Keywords:	01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01F--Inadequate Conduct of Operations - Training Deficiency 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 01P--Inadequate Conduct of Operations - Inadequate Oral Communication 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14B--Quality Assurance - Training and Qualification Deficiency 14E--Quality Assurance - Work Process Deficiency 14F--Quality Assurance - Design Deficiency
HQ Summary:	On November 8, 2012, after post review of work, which was performed by a vendor on a circuit that was less than 50 volts to replace a battery in the WSCF elevator, it was discovered that a 120-volt electrical source was not taken into account. The work, which was performed in October at the Waste Sampling & Characterization Facility, did not require a lock out and tag out (LO/TO). A critique revealed that the requirement for a LO/TO was not fully understood.

Similar OR Report Number: 1. None

Facility Manager:

Name	Troy F Dale
Phone	(509) 373-7020
Title	WSCF Facility Manager

Originator:

Name	CORNELL, THOMAS M.
Phone	(509) 376-3030
Title	HANFORD SITE OCCURRENCE NOTIF. CNTR.

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
11/08/2012	09:36 (PTZ)	Ben Wallace	DOE-RL
11/08/2012	09:40 (PTZ)	G.D. Trump	MSA-EOC

Authorized Classifier(AC):

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5)Report Number: EM-SR--PSC-SWPF-2012-0006 **After 2003 Redesign**

Secretarial Office: Environmental Management

Lab/Site/Org: Savannah River Site

Facility Name: Salt Waste Processing Facility

Subject/Title: Exposed Wire Arced inside MCC-205

Date/Time Discovered: 11/05/2012 10:00 (ETZ)

Date/Time Categorized: 11/05/2012 11:50 (ETZ)

Report Type: Final

Report Dates:

Notification	11/08/2012	06:45 (ETZ)
Initial Update	12/19/2012	12:25 (ETZ)
Latest Update	12/19/2012	12:25 (ETZ)
Final	12/19/2012	12:25 (ETZ)
Revision 1	12/20/2012	09:16 (ETZ)

Significance Category: 3

Reporting Criteria: 2E(2) - Any unexpected discovery of an uncontrolled electrical hazardous energy source (e.g., live electrical power circuit, etc.). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.

Cause Codes: A3B1C01 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Check of work was LTA
-->couplet - A4B1C04 - Management Problem; Management Methods Less Than Adequate (LTA); Management follow-up or monitoring of activities

did not identify problems

ISM: 4) Perform Work Within Controls

Subcontractor Involved: Yes
S&R Electric Inc.

Occurrence Description: On 11/05/2012 at 1000-hours, energized 208-volt wiring providing temporary power to a preventative maintenance heater were found disconnected with exposed bare wire inside a motor control center (MCC). Electrical supervision made the discovery while conducting a walkdown/inspection of MCC-205. There was no electrical shock or injury to personnel as a result of this event.

While conducting a walkdown / inspection, a subcontract electrical superintendent heard a "popping noise" as he opened the cabinet door to MCC-205 in Room 115 of the SWPF Northern Facility Support Area. The temporary power to the cabinet was secured by unplugging the supply cord and energy control applied through a lockout/tagout. The superintendent observed burn marks on the door latch and spring due to arcing from the energized wiring to the cabinet door.

The MCC-205 is being installed as part of the construction of the SWPF and permanent power has not been connected. As part of the preventative maintenance program, heaters are installed inside the MCC's. The 208-volt temporary power provides power for these heaters. Inspection of the cabinet identified disconnected, energized 208-volts wiring inside the MCC-205.

The superintendent felt no tingle/shock and saw no sparks during this event.

Cause Description: A3B1CO1 - Investigation of this event identified that temporary power was initially installed over six months in the affected cabinet. When the condition was discovered on 11/05/2012, the load side heater wires were properly connected with wire nuts, but the supply side wire was hanging loose and not properly secured with wire nuts or taped as required by the JHA for temporary electrical work. There was significant slack in the supply wire indicating the wire was not pulled loose, but was already loose when the cabinet door was opened. It appears that at some point after initial installation and before discovery of the condition, the supply wire was disconnected and not properly reconnected. A review of construction work packages did not identify work that would have removed the supply wire or a reason for removing the wire.

Because it is not known who may have disconnected the supply wire, why, or when, it is conjecture as to the exact cause. It is most likely ascribed to an A3 B1, Skill Based Error since the temporary wiring was not properly secured with wire nuts or taped as required by the JHA for temporary

	electrical work. Without questioning the employee who apparently did not reconnect the wires, it is difficult to determine the apparent cause with certainty. A4B1C04 - Management will increase awareness and observations to help prevent any re-occurrence of similar circumstances or events.
Operating Conditions:	Construction
Activity Category:	Construction
Immediate Action(s):	Temporary Power to MCC was secured (unplugged and locked out) Pictures taken of as-found condition Wires reconnected to eliminate hazard An extent of condition for other heater temporary wiring in Room 115 was performed.
FM Evaluation:	No personnel were injured or received an electrical shock as a result of this event. The event reinforces the importance of properly controlling electrical work including properly securing temporary power leads. An Extent of Condition review was performed for MCC's in SWPF construction areas with no other incorrect wiring issues identified.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	No
Division or Project:	SWPF
Plant Area:	Room 115
System/Building/Equipment:	MCC 205, Northern Facility Support Area
Facility Function:	Nuclear Waste Operations/Disposal
Corrective Action 01:	**Target Completion Date:**01/15/2013 **Tracking ID:**CR-2012-174 Re-emphasis JHA 79 controls to properly secure temporary wiring with all electricians.
Corrective Action 02:	**Target Completion Date:**01/15/2013 **Tracking ID:**CR-2012-174 Evaluate other potential control methods (locks, administrative seals, landed leads log, etc.)to improve management awareness of panel entries
Corrective Action 03:	**Target Completion Date:**01/15/2013 **Tracking ID:**CR-2012-174 Incident will be reviewed at the first and second shift all hands meeting identifying only electricians are allowed in electrical cabinets.
Corrective Action 04:	**Target Completion Date:**01/15/2013 **Tracking ID:**CR-2012-174

Because the heaters are the method chosen to meet the manufacture's recommendation to control the MCC moisture level prior to being declared operational, evaluate need for CR/NCR on effectiveness of periodic operational surveillances.

Lessons(s) Learned: This event reinforces the importance of properly controlling electrical work including properly securing temporary power leads.

HQ Keywords:
01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
01Q--Inadequate Conduct of Operations - Personnel error
07D--Electrical Systems - Electrical Wiring
08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical)
11G--Other - Subcontractor
12C--EH Categories - Electrical Safety
14E--Quality Assurance - Work Process Deficiency
14G--Quality Assurance - Procurement Deficiency

HQ Summary: On November 5, 2012, a subcontract electrical superintendent heard a popping noise as he started to open the cabinet door to a motor control center (MCC) and found disconnected energized 208-volt wiring inside MCC-205. The wiring provided temporary power to a preventative maintenance heater. The superintendent saw burn marks on the door latch and spring caused by arcing from the energized wiring to the cabinet door. The supply cord for the temporary power to the cabinet was unplugged and a lockout/tagout was applied for energy control. There was no electrical shock or injury as a result of this event.

Similar OR Report Number: 1. N/A

Facility Manager:

Name	SWANSON, BRAD
Phone	(803) 643-2279
Title	PLANT MANAGER

Originator:

Name	PADGETT, JIMMY E.
Phone	(803) 643-7100
Title	TRAINING AND PROCEDURE SUPERVISOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
11/05/2012	11:54 (ETZ)	Scott McMullin	DOE-FR

Authorized Classifier(AC):

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6)Report Number: SC--BHSO-BNL-BNL-2012-0028 **After 2003 Redesign**
Secretarial Office: Science
Lab/Site/Org: Brookhaven National Laboratory

Facility Name: Brookhaven National Laboratory (BOP)

Subject/Title: Employee Experiences a Minor Electrical Shock While Plugging in a Computer

Date/Time Discovered: 11/26/2012 12:15 (ETZ)

Date/Time Categorized: 11/29/2012 11:30 (ETZ)

Report Type: Notification

Report Dates:

Notification	12/03/2012	16:13 (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 for that facility or other facilities or activities in the DOE complex.
The significance category assigned to the management concern should be based on an evaluation of the potential risks and impact on safe operations. (1 of 4 criteria - This is a SC 3 occurrence)

Cause Codes:

ISM:

Subcontractor Involved: No

Occurrence Description: On November 26, 2012, at Brookhaven National Laboratory (BNL) a staff member was setting up a BNL issued laptop computer on a break room table. The staff member was alone in the room. After turning the computer on, the staff member noted that the laptop battery was low and connected the power cord to the computer. Then, with the power supply cord plug in the left hand and the right hand placed on the nonconductive table for balance, the staff member squatted down and reached under the table to plug in the laptop to a 120 volt outlet. While inserting the plug, the staff member noted a spark in the area of the outlet and felt a tingle in the left hand. After the event, the staff member noted a small gray spot on the thumb of left hand. There were no burns or injury to the staff member who did not view this event as significant and therefore did not report to the site medical clinic.

Cause Description:

Operating Conditions: Normal Operations

Activity Category: Normal Operations (other than Activities specifically listed in this Category)

Immediate Action(s): The staff member immediately reported the event to supervision. On November 27, 2012, the staff member reported to the on-site clinic for evaluation. There were no burns or injury noted and the staff member was

	cleared to return to work without restriction.
FM Evaluation:	This event was initially determined to be non-reportable to DOE on November 27, 2012. On November 29, 2012, management elected to declare a SC-3 Management Concern reportable event.
DOE Facility Representative Input:	
DOE Program Manager Input:	
Further Evaluation is Required:	Yes. Before Further Operation? No By Whom: By When:
Division or Project:	Office of Educational Programs
Plant Area:	Office
System/Building/Equipment:	Building 438
Facility Function:	Balance-of-Plant - Offices
Corrective Action:	
Lessons(s) Learned:	
HQ Keywords:	07D--Electrical Systems - Electrical Wiring 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock 12C--EH Categories - Electrical Safety 14L--Quality Assurance - No QA Deficiency
HQ Summary:	On November 26, 2012, a staff member received an electrical shock while plugging in a laptop computer. After turning the computer on, the staff member noted that the laptop battery was low and connected the power cord to the computer. Then, with the power supply cord plug in the left hand and the right hand placed on the nonconductive table for balance, the staff member squatted down and reached under the table to plug in the laptop to a 120-volt outlet. While inserting the plug, the staff member noted a spark near the outlet and felt a tingle in the left hand. The staff member noticed a small gray spot on the thumb of left hand. There were no burns or injury noted and the staff member was cleared to return to work without restriction.
Similar OR Report Number:	

Facility Manager:

Name	WHITE, KENNETH
Phone	((63) 1) -344-
Title	MANAGER, OFFICE OF EDUCATIONAL PROGRAMS

Originator:

Name	SIERRA, EDWARD A
Phone	(631) 344-4080
Title	ORPS COORDINATOR

Attachment 2

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
11/29/2012	11:45 (ETZ)	P. Sullivan	DOE/BHSO
11/29/2012	12:00 (ETZ)	K. White	BNL

Authorized Classifier(AC):

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.