



Office of Health, Safety and Security



Monthly Analysis of Electrical Safety Occurrences

May 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 15 in April to 11 in May and two of these occurrences resulted in electrical shocks. Also the number of electrical intrusion occurrences decreased from four to one while the number of lockout/tagout occurrences remained at three. There was an improvement in hazards identification during May as workers found problems with lockout/tagout implementation and conditions involving uncontrolled hazardous energy. There have been no high electrical severity occurrences in over a year.

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 May occurrence reports is provided in Attachment 2.

Electrical Shock

There were two occurrences that reported electrical shocks for the month of May. One of these occurrences occurred during the use of voltage generating test equipment and the other occurred because of a faulty electrical cord. A summary of the electrical shock occurrences for May is provided below.

1. A senior metrologist felt a mild shock to his right hand while calibrating an Amprobe Model ACD-10 Super voltage/current meter (Unit Under Test) using a Fluke 5700AEP Multi-Function Calibrator. He had just applied 540 VAC to the Amprobe meter and recorded the measurement. At this point, he placed the Fluke calibrator in the standby mode with his left

hand, which triggers a sequence of relays that remove the voltage from the terminals of the calibrator. As he began to remove the test lead from the unit under test with his right hand, he heard relays clicking and then felt a mild shock to his right hand. It is believed that the membrane switch made a secondary contact after it was pressed by the metrologist, which would place the unit back into the operating mode while he was removing the test lead, causing the shock. Other site organizations that use this type of calibration equipment were notified.

2. A federal employee received a slight electrical shock to their right palm while plugging in a portable electric heater. When the electrical cord/plug made contact with the receptacle an arc occurred resulting in the shock. The employee was treated for a superficial burn to the right palm. The employee did not inspect the heater before use per the site guidelines requiring all electrical equipment to be inspected prior to use. The heater cord was found to be damaged and exposed electrical wiring was visible on the cord. The electric heater was tagged out of service.

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 per month. The majority of shocks (about 75 percent) involve non-electrical workers.

Figure 1 – Three-Year Trend of Electrical Shocks

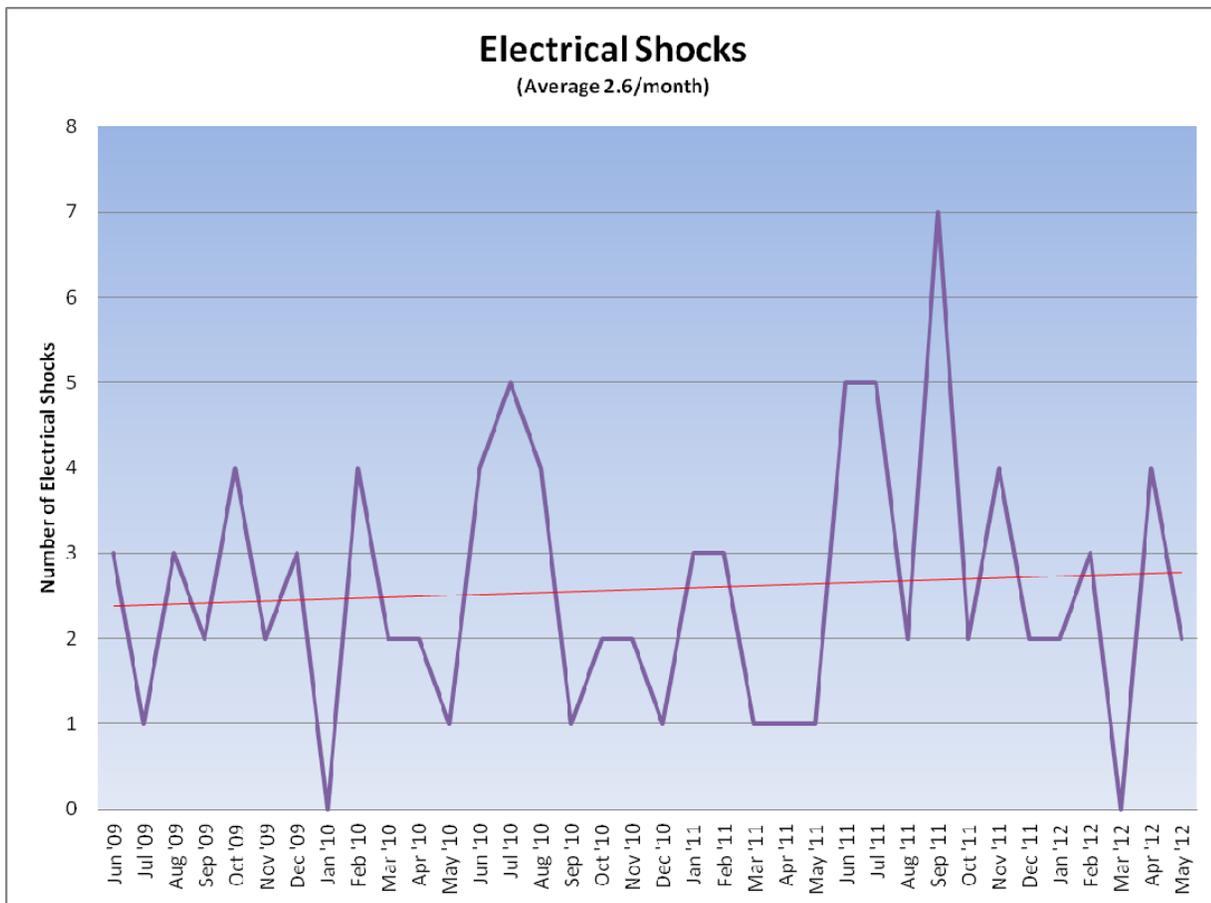
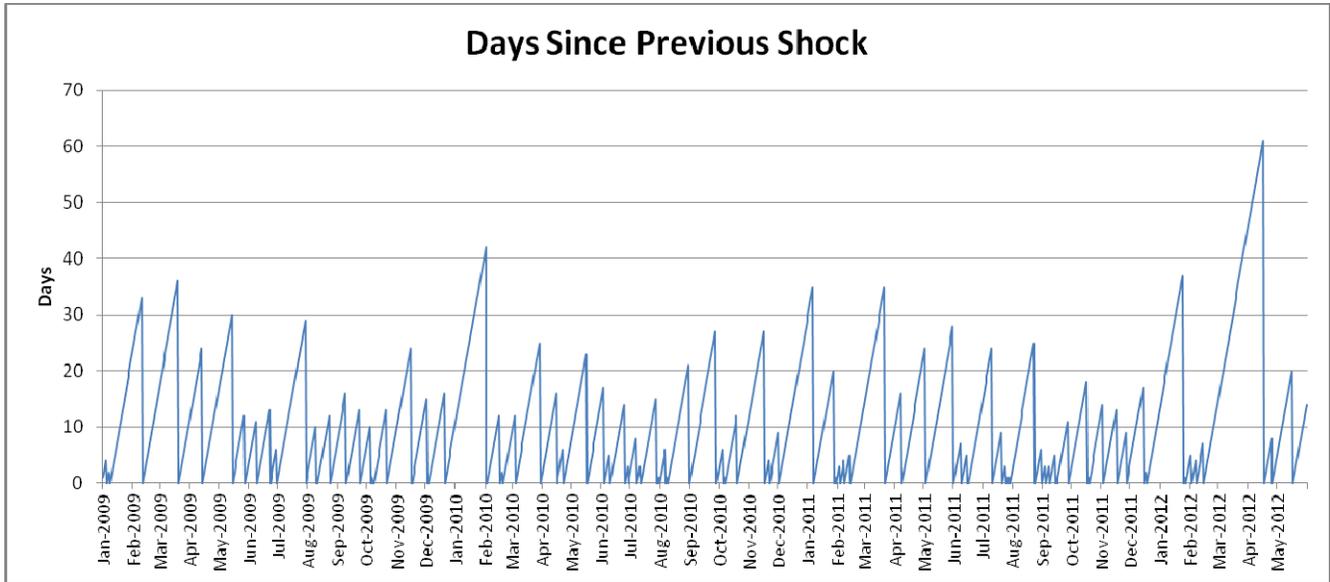


Figure 2 shows the number of days since the previous electrical shock for the DOE complex. The longest interval was 61 days (April 16) and the present interval is 14 days as of May 31.

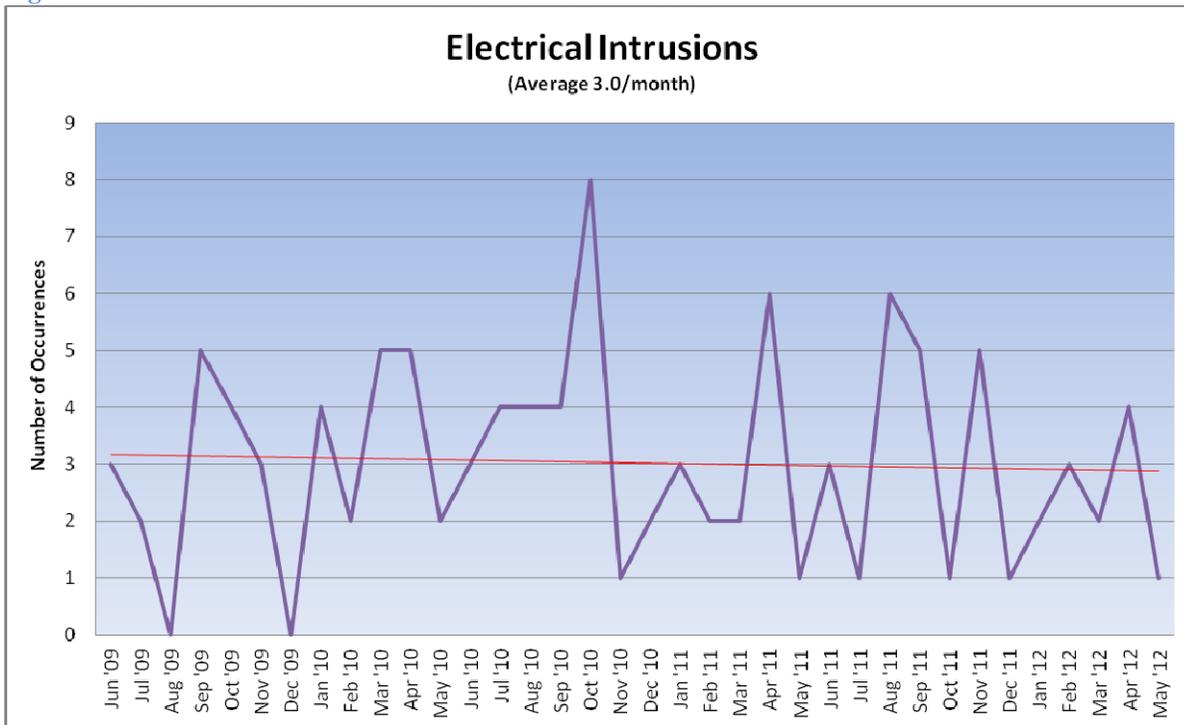
Figure 2 - Days since Previous Shock



Electrical Intrusion

In May, the number of electrical intrusion occurrences (i.e., cutting/penetrating, excavating, or vehicle contact of electrical conductors) decreased from four in April to one this month. This occurrence involved relocating a motion sensor at the entrance of a building. An employee drilled through a junction box and metal stud located below an Exit sign and accidentally drilled through a conduit, hitting a 110-volt line that provided power to the automatic door system. Figure 3 shows a 3-year trend of electrical intrusion occurrences for the DOE complex. During this period we can see a slight decrease in the overall trend.

Figure 3 – Three-Year Trend of Electrical Intrusion Occurrences



Hazardous Energy Control

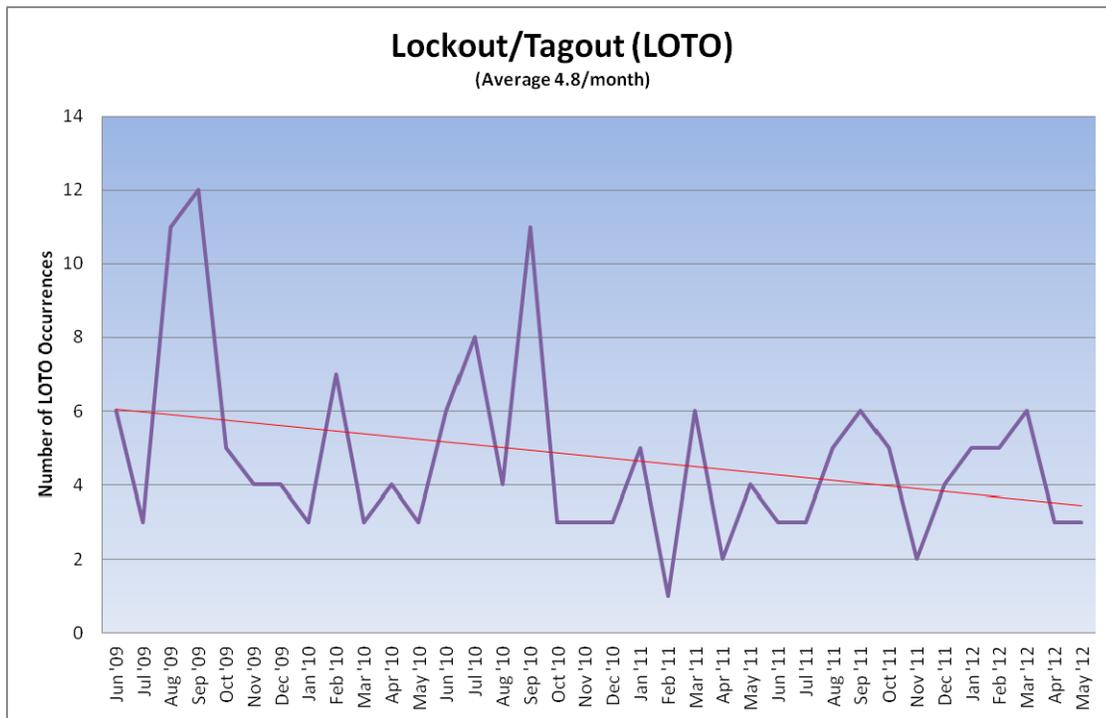
In May there were three reported occurrences involving lockout/tagout (LOTO), which is the same number as reported in April. These occurrences resulted from not hanging locks, not performing a zero-energy verification check, and not have a complete LOTO of all energy sources. One of these occurrences involved a subcontractor/vendor, which underscores the importance of ensuring that subcontractors understand and follow all hazardous energy control procedures and policies and that adequate management oversight is provided to enforce compliance. There also were occurrences involving procedure non-compliances and discovery of hazardous energy. Summaries of these events are provided in the following sections.

Occurrences Involving Lockout/Tagout

1. A commercial Heating, Ventilation, & Air Conditioning (HVAC) vendor worked on a piece of equipment that had not been controlled in accordance with the site LOTO procedure. The vendor was called in to troubleshoot and repair a failed HVAC unit and was briefed by site personnel on site safety, LOTO procedure, hazardous chemical control, and radiological conditions prior to being escorted to the job site. Upon completion of troubleshooting a faulty control wire, the vendor opened the local electrical isolation switch inside the HVAC unit and replaced the faulty wire. After completion of the work, the vendor presented an invoice to the operations supervisor who recognized that the vendor worked on the equipment while it was not controlled in accordance with the LOTO procedure. The LOTO procedure requires that electrical power to equipment be removed and controlled by a LOTO prior to work being performed on the associated equipment.
2. An electrical maintenance supervisor, in preparing to work on blower units, discovered that the LOTO permit did not have a signature indicating that the zero-energy verification had been performed. The supervisor brought this to the attention of the operations facility manager, who confirmed that a zero-energy check on the blowers had not been performed as required by the work permit and per the LOTO procedure. Therefore, the LOTO work permit was incomplete when issued for technicians to start work. The technicians were not working on any electrical components and therefore they were not exposed to electrical hazardous energy.
3. During scheduled maintenance to disconnect an oven and associated power a receptacle, a small arc was observed when one worker separated the conduit connected to the oven and began to cut the wires. The workers had performed a LOTO to isolate the electrical power circuits. The activity was suspended, Management was notified, and a follow up review was initiated. During the review it was determined that the three electrical circuits that had been isolated supported a 220-volt receptacle and two 110-volt receptacles mounted on the back of the oven. The power circuit to the oven itself was contained in the same conduit but had not been identified during the LOTO permit walk down and therefore had not been isolated prior to beginning work.

Figure 4 shows a 3-year trend of LOTO occurrences for the DOE complex. During this period we have seen a general decrease in the number of occurrences involving the implementation of lockout/tagout for electrical work.

Figure 4 – Three-Year Trend of Lockout/Tagout Occurrences



Occurrences Involving Hazardous Energy Control Procedure Noncompliance

While evaluating a proposed work activity, an operations supervisor opened an annunciator panel that contained exposed 120 VAC with no hazardous energy controls in place. At no time was the plane of the panel door broken. The annunciator door panel was closed, and notifications were made.

Occurrences Involving the Discovery of Uncontrolled Hazardous Energy

1. While two electronic technicians were running cabling for network drops above a suspended ceiling, a technician slid a tile back and observed a flash. The technician had climbed a 6-foot step ladder to move the tile to allow access for running the cabling. The technician stopped work and contacted the Electronic Shop Supervisor. Electricians placed the electrical circuit in a safe and stable configuration. There were no injuries.
2. An employee opened the back of an equipment rack and disconnected a signal cable on the back of a heater controller without realizing that an energized electrical circuit was exposed while they were troubleshooting a thermocouple fault. A co-worker became aware of the situation and reported it to management. Further operations in the affected lab were suspended pending investigation and a critique was held.

3. During the replacement of a canal level alarm switch, unexpected 120 VAC power was discovered. The work required pulling the wiring from the level switch back to a junction box so new conduit could be connected to the new switch. The junction box has an Amphenol connector on the side from an out-of-service constant air monitor (CAM) system. When the instrument technician removed the cover from junction box, he discovered terminal strips attached to the cover with wiring connected to the Amphenol connector. He immediately checked the terminal strip with a proximity voltage detector which indicated voltage may be present. The technician placed the job in a safe condition. Further investigation determined it was 120 VAC power from the out-of-service CAM system.
4. During the replacement of a water calculator system, an unexpected 120 VAC power source was discovered. The work required removing and replacing recorders, which are plugged in with a cord and the instrument feeds are low voltage. A connection with a plant interlock control bus was missed when the job was evaluated for LOTO. Prior to removing the recorder, an instrument technician checked the terminal strip with a proximity voltage detector which indicated voltage may be present. The technician placed the job in a safe condition and stopped work.

Electrical Near Miss

In May, there were two occurrences that were considered to be an electrical near miss. This is a decrease from the six near-miss occurrences reported in April. These two near-miss occurrences were discussed in the first and second events in the Hazardous Energy Control section under Occurrences Involving the Discovery of Uncontrolled Hazardous Energy.

Monthly Occurrences Tables

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

Table 1 - Breakdown of Electrical Occurrences

Number of Occurrences	Involving:	Last Month
2	Electrical Shocks	4
1	Electrical Burns	0
3	Hazardous Energy Control (LOTO)	3
4	Inadequate Job Planning	3
1	Inadvertent Drilling/Cutting of Electrical Conductors	2
0	Excavation of Electrical Conductors	2
0	Vehicle Intrusion of Electrical Conductors or Equipment	0
2	Electrical Near Misses	6
6	Electrical Workers	5
5	Non-Electrical Workers	10
1	Subcontractors	4

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 initially 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

The search produced eleven reports.

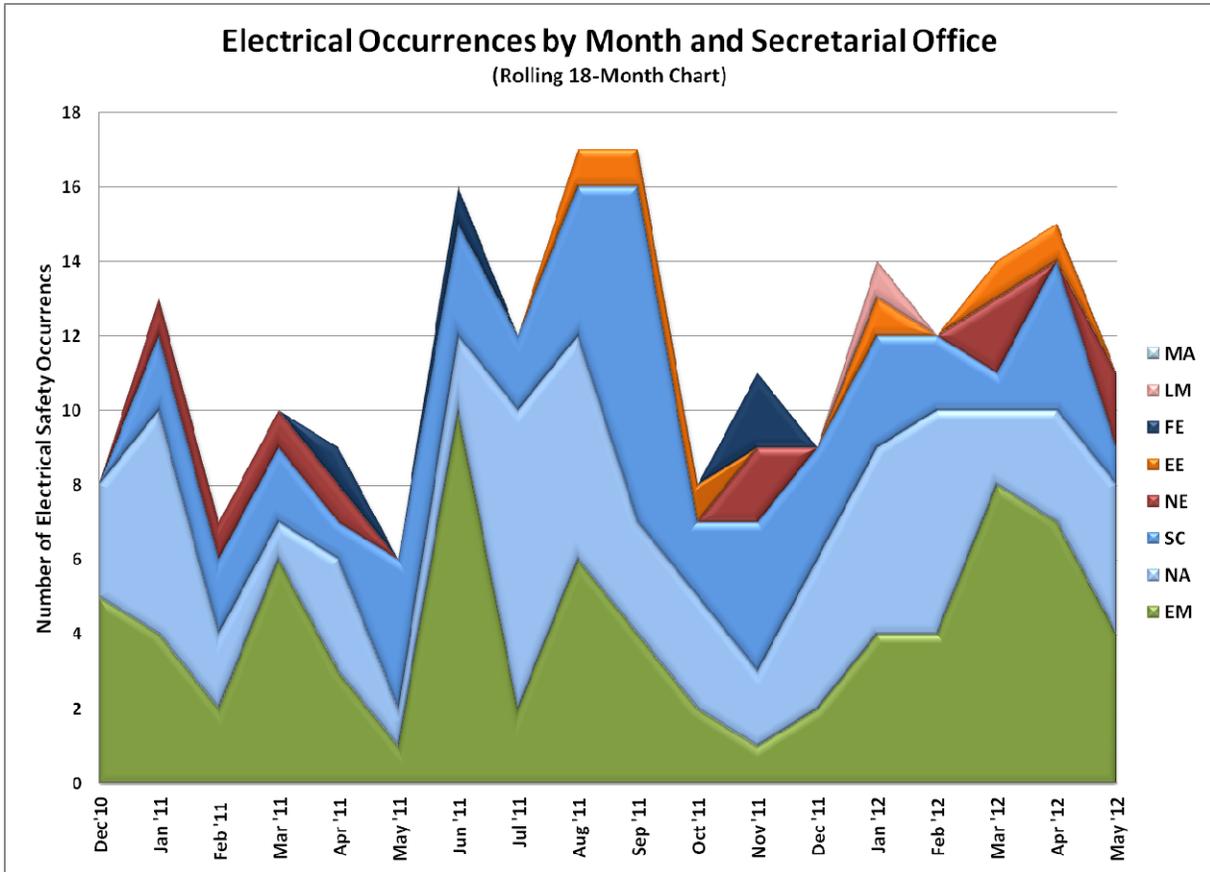
Table 2 provides a summary of the electrical safety occurrences for CY 2012. The present monthly average is the same average seen in 2005 and 2006.

Table 2 - Summary of Electrical Occurrences

Period	Electrical Safety Occurrences	Shocks	Burns	Fatalities
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	66 (avg. 13.2/month)	11	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 5 shows the distribution of electrical safety occurrences by Secretarial Office. The Office of Environmental Management (EM), the Office of Science (SC), and the National Nuclear Security Administration (NA) typically report the most occurrences of all the offices. Since March, EM has shown a decrease in the number of occurrences, while NA increased slightly and SC decreased. The Office of Nuclear Energy, which did not have any occurrences in April, reported occurrences in May.

Figure 5 - 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. One of the electrical occurrences did not have an ES score. The other ten occurrences are classified as shown in Table 3. The actual score for each occurrence is provided in Attachment 1.

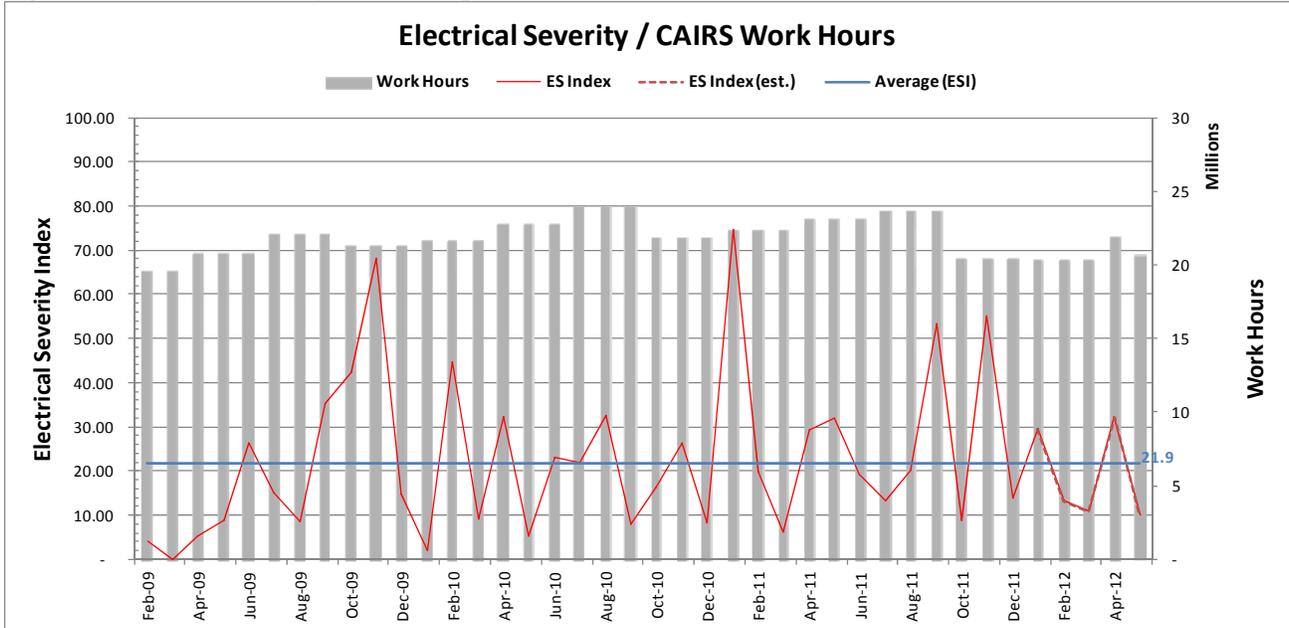
Table 3 – Classification of Electrical Safety Occurrences by ES Score

Occurrence Classification	Electrical Severity Score	Number of Occurrences
HIGH	≥ 1750	0
MEDIUM	31-1749	4
LOW	1-30	6

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 6 shows a calculated ESI for the DOE complex and Table 4 shows the ESI and how it has changed from the previous month.

Figure 6 - 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

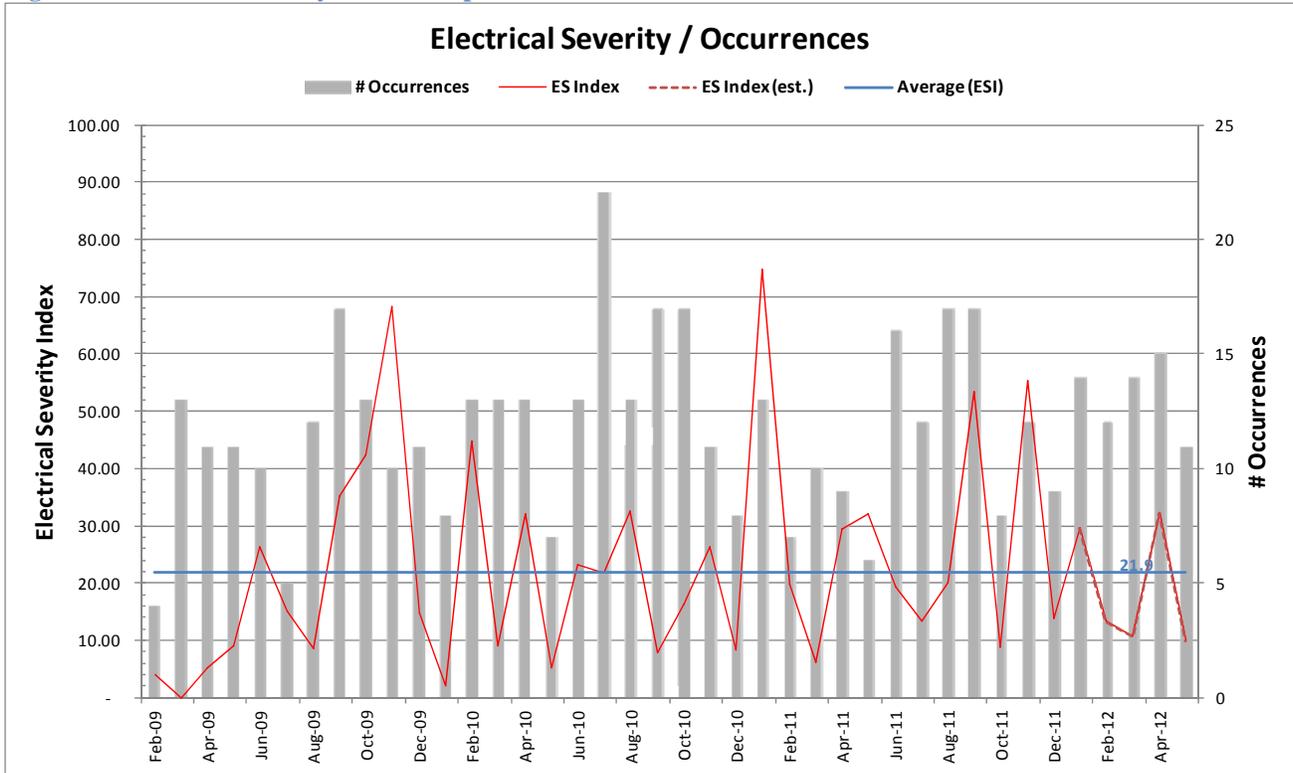
Category	April	May	Δ
Total Occurrences	15	11	-4
Total Electrical Severity	3,520	1,030	-2,490
Estimated Work Hours	20,370,655* (21,561,150)	21,860,922	-1,216,650
ES Index	32.20* (32.20)	9.98	-22.22
Average ESI	22.2	21.9	-0.3

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

$$\text{Electrical Severity Index} = (\Sigma \text{Electrical Severity} / \Sigma \text{Work Hours}) 200,000$$

Figure 7 shows the ESI with the number of Occurrences instead of Work Hours.

Figure 7 - Electrical Severity Index Compared to Number of Occurrences



Following a slight increase last month, the average ESI (21.9) has decreased. The lowest average ESI was 19.2 in June 2010. Figure 8 shows the number of days since the previous high severity occurrence. The present interval is 394 days as of May 31. The previous longest interval was 181 days in 2009.

Figure 8 - Days since Previous High Severity Occurrence

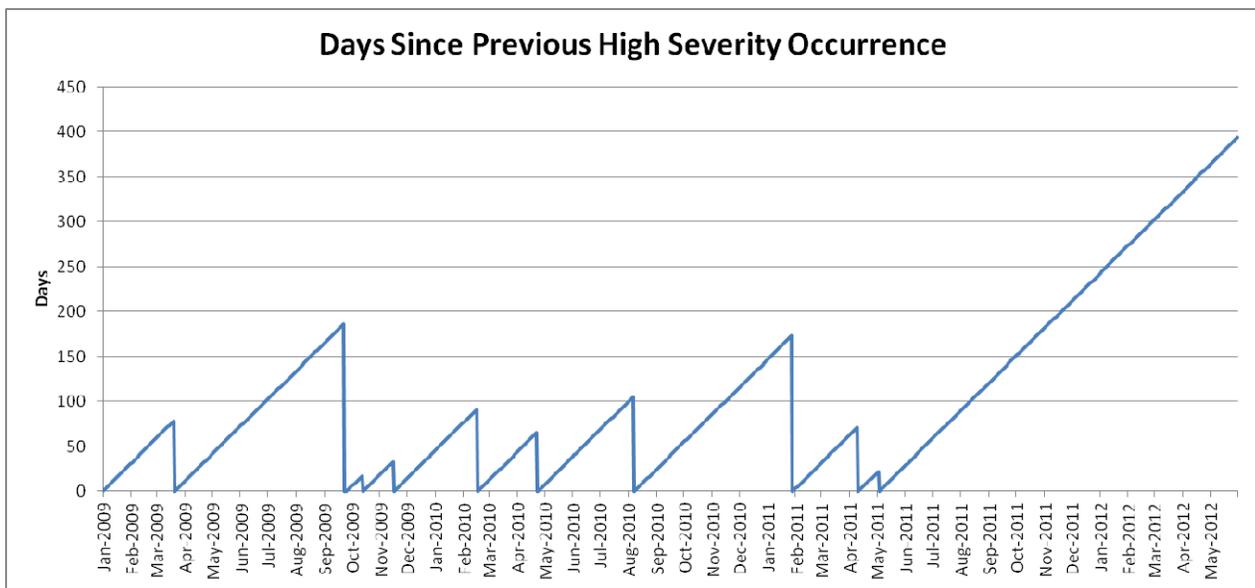
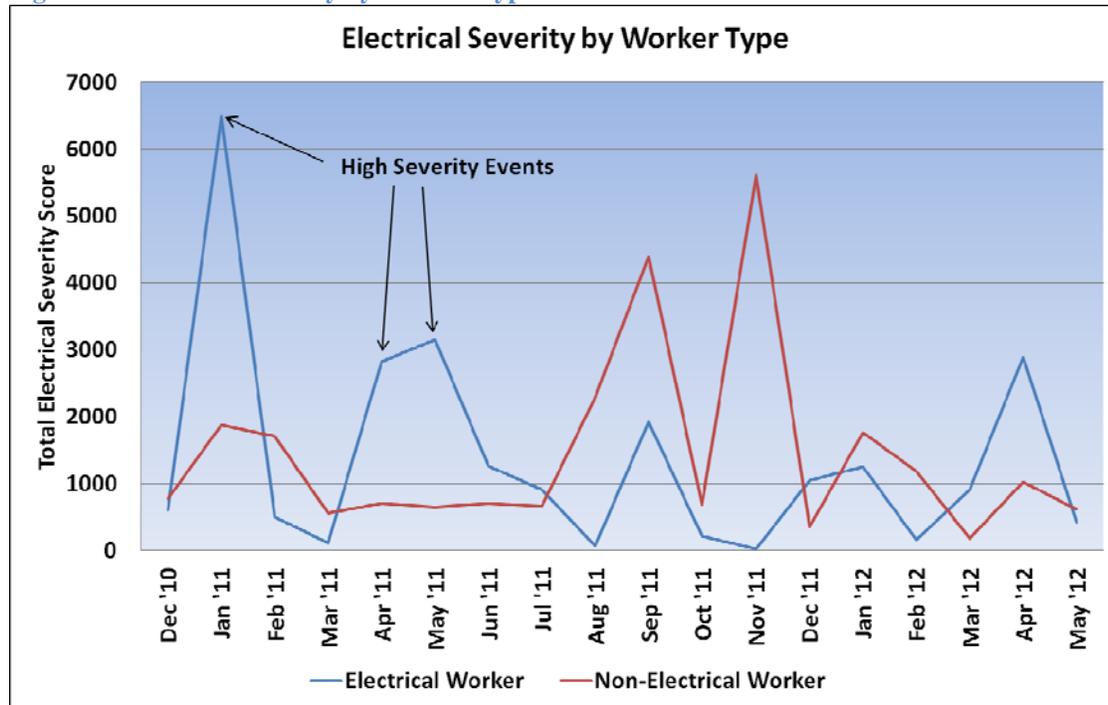


Figure 9 shows the total electrical severity score by worker type for each month.

Figure 9 – Electrical Severity by Worker Type



Electrical Workers were involved in the fewest number of occurrences but had three High-Severity events. Events involving Non-Electrical Workers usually have Low to Medium electrical severity scores but have a higher total score per month because of more occurrences.

Summary of Occurrences by Severity Band

For the interval May 2011 through May 2012 (current month and the past 12), Figures 10 and 11 summarize occurrences by severity band and month of discovery date by percentage of total occurrences in month and number of occurrences in month.

Figure 10 - Occurrences by Electrical Severity Band (Percentage)

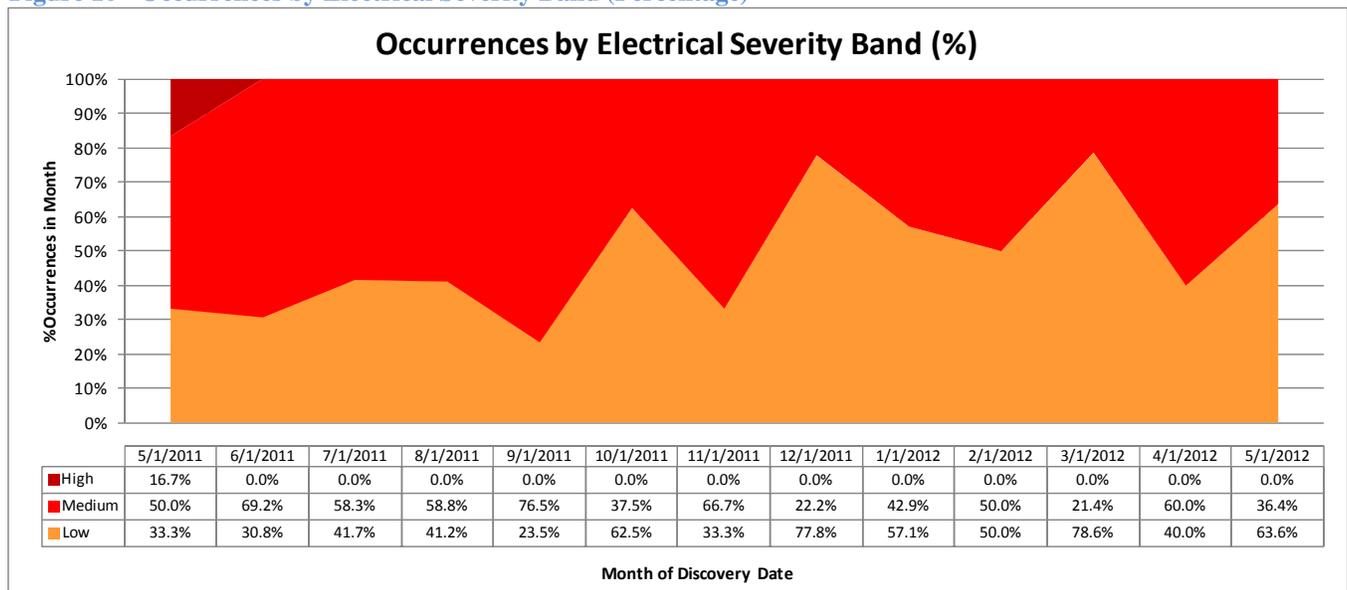
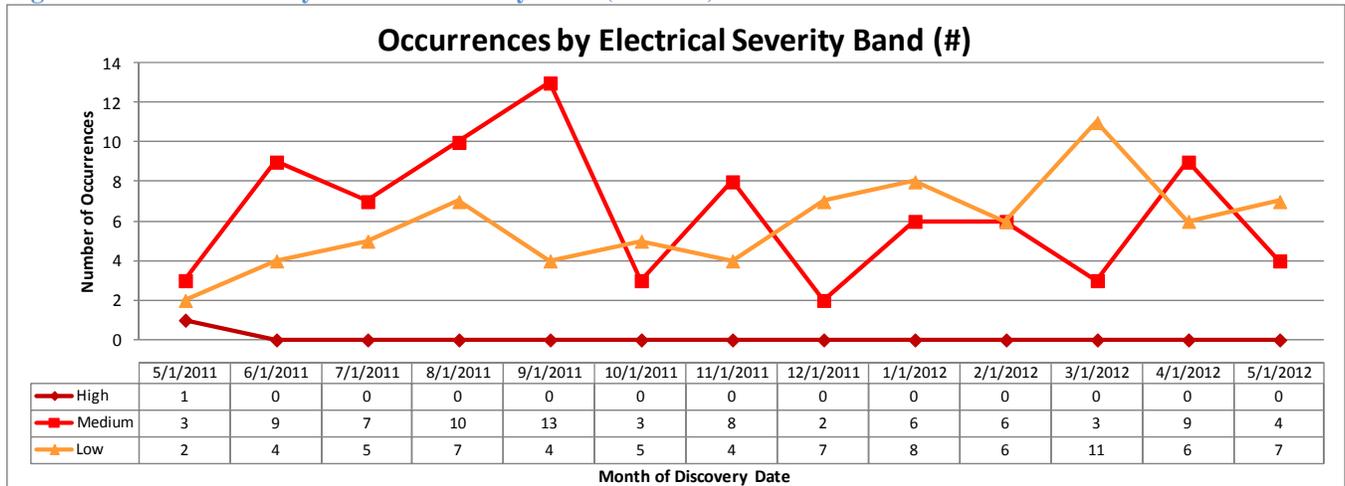


Figure 11 - Occurrences by Electrical Severity Band (Number)

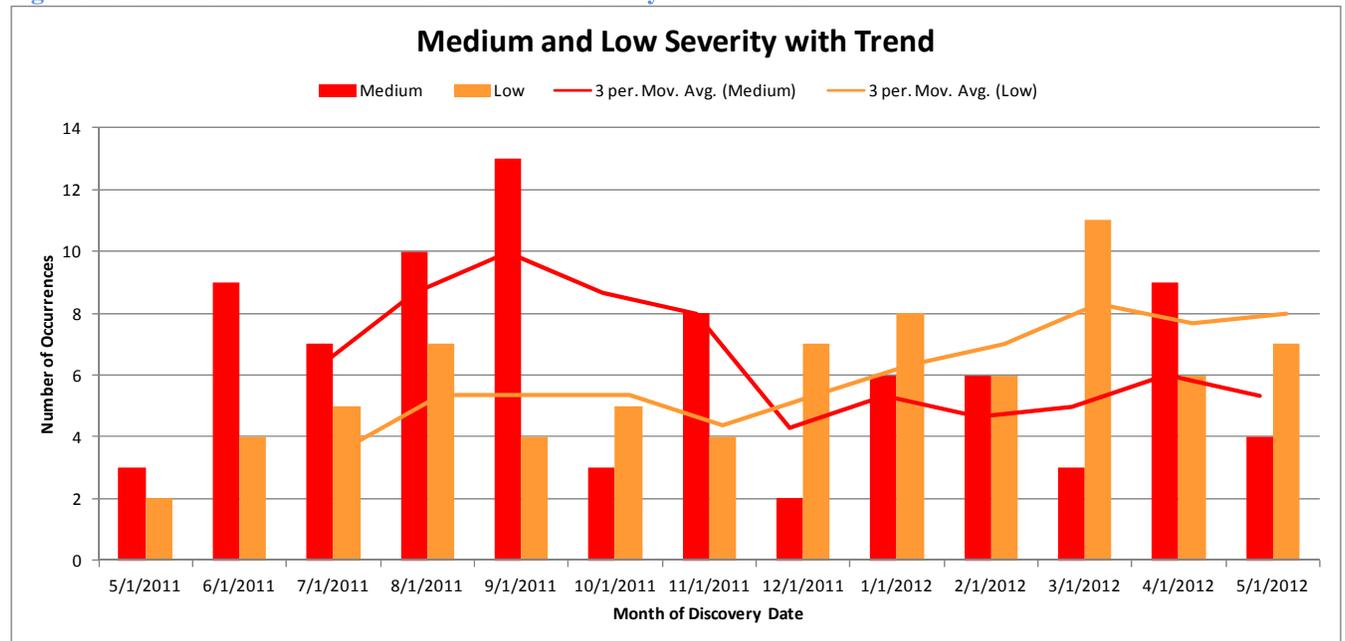


What can be seen from the previous two charts is that the number of occurrences with High electrical severity scores has remained at zero for the past 12 months and that the number of occurrences with Medium scores has decreased below the number of Low severity occurrences.

Medium and Low Severity with Trend

Figure 12 focuses on the Medium and Low severity data series for May 2011 through May 2012. Trend lines are included for each, using a 3-month moving average.

Figure 12 - Trend of Medium and Low Electrical Severity Occurrences



The 3-month moving average shows an increasing trend for Low severity occurrences while Medium severity occurrences decreased since last month. 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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Email: glenn.searfoss@hq.doe.gov

Attachment 1

Electrical Safety Occurrences – May 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	EM--WGI-G2H2-2012-0004	HVAC vendor worked on a piece of equipment that had not been controlled in accordance with the site LOTO procedure.				X					4	2E(3)	110
2	EM--PPPO-BWCS-PGDPDUCON-2012-0007	An electrical maintenance supervisor discovered that a LOTO permit did not have a signature that the zero-energy verification had been performed.				X					4	2E(3)	0
3	EM-RL--CPRC-SNF-2012-0008	A supervisor opened a panel containing exposed 120VAC with no hazardous energy controls in place.					X				4	2E(3)	20
4	EM-SR--SRNS-SRNL-2012-0001	A metrologist felt a mild shock to his right hand while calibrating a voltage/current meter using a multi-function calibrator.	X								2	2E(1)	330
5	NA--PS-BWP-PANTEX-2012-0042	Two electronic technicians observed a flash when they slid a ceiling tile back while running cabling for network drops.									3	2E(2)	30
6	NA--SS-SNL-1000-2012-0005	A worker opened an equipment rack and disconnected a signal cable on a heater controller without realizing that an energized circuit was exposed.									3	2E(2)	20
7	NA--YSO-BWXT-Y12SITE-2012-0021	While disconnecting an oven and power receptacles, a worker saw a small arc when cutting wires in a conduit that had been separated from the oven.				X	X				3	2E(2), 4B(6)	130
8	NA-SR--GOSR-GOSR-2012-0003	A federal employee received a slight electrical shock to their right palm while plugging in a portable electric heater.	X	X							2	2E(1)	330

Attachment 1

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⁾
9	NE-ID--BEA-ATR-2012-0016	While replacing a level alarm switch, unexpected 120VAC power was discovered.					X				3	2E(2)	20
10	NE-ID--BEA-ATR-2012-0018	While replacing a water calculator system, an unexpected 120VAC power source was discovered.					X				3	2E(2)	20
11	SC--TJSO-JSA-TJNAF-2012-0006	An employee accidentally drilled through a conduit and hit an energized 110V line.							X		3	2E(2)	20
	TOTAL		2	1	0	3	4	0	1	0			

Key

(1) ARCF = significant arc flash, (2) LOTO = lockout/tagout, (3) PLAN = job planning, (4) EXCAV = excavation/penetration, (5) CUT/D = cutting or drilling, (6) VEH = vehicle 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 – May 2012

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--WGI-G2H2-2012-0004	HVAC vendor worked on a piece of equipment that had not been controlled in accordance with the site LOTO procedure.		X	X		X				X			
2	EM--PPPO-BWCS-PGDPDUCON-2012-0007	An electrical maintenance supervisor discovered that a LOTO permit did not have a signature that the zero-energy verification had been performed.	X				X				X			
3	EM-RL--CPRC-SNF-2012-0008	A supervisor opened a panel containing exposed 120VAC with no hazardous energy controls in place.		X			X				X			
4	EM-SR--SRNS-SRNL-2012-0001	A metrologist felt a mild shock to his right hand while calibrating a voltage/current meter using a multi-function calibrator.	X			X					X			
5	NA--PS-BWP-PANTEX-2012-0042	Two electronic technicians observed a flash when they slid a ceiling tile back while running cabling for network drops.	X			X					X			X
6	NA--SS-SNL-1000-2012-0005	A worker opened an equipment rack and disconnected a signal cable on a heater controller without realizing that an energized circuit was exposed.	X			X					X			X
7	NA--YSO-BWXT-Y12SITE-2012-0021	While disconnecting an oven and power receptacles, a worker saw a small arc when cutting wires in a conduit that had been separated from the oven.		X		X					X			
8	NA-SR--GOSR-GOSR-2012-0003	A federal employee received a slight electrical shock to their right palm while plugging in a portable electric heater.		X		X					X			

Attachment 1

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			
9	NE-ID--BEA-ATR-2012-0016	While replacing a level alarm switch, unexpected 120VAC power was discovered.	X				X				X			
10	NE-ID--BEA-ATR-2012-0018	While replacing a water calculator system, an unexpected 120VAC power source was discovered.	X				X				X			
11	SC--TJSO-JSA-TJNAF-2012-0006	An employee accidentally drilled through a conduit and hit an energized 110V line.		X		X					X			
	TOTAL		6	5	1	6	5	0	0	0	11	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

ORPS contains 55727 OR(s) with 59037 occurrences(s) as of 6/18/2012 11:31:16 AM
 Query selected 11 OR(s) with 11 occurrences(s) as of 6/18/2012 11:31:31 AM

Download this report in Microsoft Word format. 

1)Report Number: [EM---WGI-G2H2-2012-0004](#) After 2003 Redesign
Secretarial Office: Environmental Management
Lab/Site/Org: Separations Process Research Unit
Facility Name: G2/H2 Facilities
Subject/Title: Inadequate Implementation of Site LO/TO Procedure during HVAC Unit Maintenance
Date/Time Discovered: 05/16/2012 10:25 (ETZ)
Date/Time Categorized: 05/16/2012 11:40 (ETZ)
Report Type: Notification/Final
Report Dates:

Notification	05/17/2012	16:13 (ETZ)
Initial Update	05/17/2012	16:13 (ETZ)
Latest Update	05/17/2012	16:13 (ETZ)
Final	05/17/2012	16:13 (ETZ)

Significance Category: 4
Reporting Criteria: 2E(3) - Any failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout, hazardous energy control program).

Cause Codes:
ISM: 3) Develop and Implement Hazard Controls
Subcontractor Involved: Yes
 Eastern Heating & Cooling

Occurrence Description: A commercial Heating, Ventilation, & Air Conditioning (HVAC) vender was called in to troubleshoot and repair a failed heating and air conditioning unit attached to the operations trailer. The vender was briefed by site personnel on site safety, logout tagout procedure, hazardous chemical control, and radiological conditions prior to being escorted to the job site. Upon completion of trouble shooting a faulty control wire, the vender opened the local electrical isolation switch inside the HVAC unit and replaced the faulted wire. After completion of the work, the vendor presented an invoice to the operations supervisor who recognized that the vender had performed work on a piece of equipment that had not been controlled in accordance with the site LO/TO procedure. SPRU LO/TO procedure requires that electrical power to equipment be removed and controlled by a LO/TO prior to work being performed on the associated equipment.

The HVAC vender was working from a ladder inside the trailer HVAC unit above the elevation of the escort. The escort did not realize that the vender had de-energized the HVAC unit and made repairs until the vender came down the ladder and reported the job completed.

Cause Description:

Operating Conditions: Does not apply

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

Immediate Action(s): Fact Finding meeting convened. Corrective actions will be developed and implemented.

FM Evaluation:

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required: No

Division or Project: Separations Process Research Unit (SPRU)

Plant Area: SP-35

System/Building/Equipment: SP-35, Operations Trailer HVAC Unit

Facility Function: Environmental Restoration Operations

Corrective Action:

Lessons(s) Learned:

HQ Keywords: 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)
08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance
11G--Other - Subcontractor
12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)
14E--Quality Assurance - Work Process Deficiency
14G--Quality Assurance - Procurement Deficiency

HQ Summary: On May 16, 2012, a commercial Heating, Ventilation, & Air Conditioning (HVAC) vendor performed work on a piece of equipment that had not been controlled in accordance with the site Lockout/Tagout (LO/TO) procedure. The vendor was called in to troubleshoot and repair a failed HVAC unit attached to the operations trailer and was briefed by site personnel on site safety, LO/TO procedure, hazardous chemical control, and radiological conditions prior to being escorted to the job site. Upon completion of troubleshooting a faulty control wire, the vendor opened the local electrical isolation switch inside the HVAC unit and replaced the faulty wire. After completion of the work, the vendor presented an invoice to the operations supervisor who recognized that the vendor had performed work on a piece of equipment that had not been controlled in accordance

with the LO/TO procedure. The LO/TO procedure requires that electrical power to equipment be removed and controlled by a LO/TO prior to work being performed on the associated equipment. A fact finding meeting was held.

Similar OR Report Number:

Facility Manager:

Name	SELDEN, EDWARD R.
Phone	(518) 630-5163
Title	OPERATIONS MANAGER

Originator:

Name	DIGSBY, THOMAS L.
Phone	(518) 630-5163
Title	SAFETY MANAGEMENT PROGRAM LEAD

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/16/2012	11:54 (ETZ)	DOE Facility Rep	DOE

Authorized Classifier(AC):

2)Report Number:

[EM--PPPO-BWCS-PGDPDUCON-2012-0007](#) After 2003 Redesign

Secretarial Office:

Environmental Management

Lab/Site/Org:

Paducah Gaseous Diffusion Plant

Facility Name:

Paducah Duf6 Conversion Plant

Subject/Title:

Zero-Energy Verification Not Performed

Date/Time Discovered:

05/30/2012 13:00 (ETZ)

Date/Time Categorized:

05/30/2012 13:15 (ETZ)

Report Type:

Notification/Final

Report Dates:

Notification	06/01/2012	14:11 (ETZ)
Initial Update	06/01/2012	14:11 (ETZ)
Latest Update	06/01/2012	14:11 (ETZ)
Final	06/01/2012	14:11 (ETZ)

Significance Category:

4

Reporting Criteria:

2E(3) - Any failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout, hazardous energy control program).

Cause Codes:

ISM:

4) Perform Work Within Controls

Subcontractor Involved:

No

Occurrence Description: Electrical Maintenance (EM) Supervisor in preparing to work on blower units in the C-1300 Scrubber Room discovered that the LOTO Permit did not have a signature indicating the zero-energy verification had been performed.

On 5/30/2012, a LOTO permit was issued to perform various maintenance activities including the C-1300 Scrubber Room blowers and PH probes for Conversion Line 3. The Instrument Maintenance (IM) technicians were already signed on and in the process of calibrating PH probes when the EM Supervisor was ready to begin work on the blowers. At 12:00 CDT, the EM Supervisor proceeded to pick up the associated LOTO work permit which was the same LOTO permit currently being worked under by instrument maintenance. While in the process of obtaining the LOTO permit, the EM supervisor noted that the required zero-energy check for the blowers had not been signed off. The EM supervisor brought this to the attention of the Operations FM which confirmed that a zero-energy check on the blowers had not been performed as required by the work permit and per the LOTO procedure. Therefore, the LOTO work permit was incomplete when issued for IM to start work.

Operations personnel notified the IM techs that were signed on to the permit and requested that they place equipment in a safe condition, pause work and sign off of the permit. The IM techs were not working on any electrical components and therefore were not exposed to electrical hazardous energy. Subsequently, the zero-energy check was performed and found no hazardous energy present. At no time were any personnel exposed to a hazardous energy condition. A fact finding meeting was held at 12:45 CDT. This incident is under further investigation.

Cause Description:

Operating Conditions: Shutdown for planned spring outage

Activity Category: Maintenance

Immediate Action(s): Appropriate supervision was informed, paused work until hazard controls could be reviewed and corrected.

FM Evaluation:

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required: No

Division or Project: B&W Conversion Services, LLC

Plant Area: Grid Map Location F2

System/Building/Equipment: C-1300

Facility Function: Uranium Conversion/Processing and Handling

Corrective Action:

Lessons(s) Learned:

HQ Keywords:

01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)
 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance
 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)
 14E--Quality Assurance - Work Process Deficiency

HQ Summary:

On May 30, 2012, an electrical maintenance supervisor, in preparing to work on blower units in the C-1300 Scrubber Room, discovered that the lockout/tagout (LOTO) permit did not have a signature indicating that the zero-energy verification had been performed. The supervisor brought this to the attention of the operations facility manager, who confirmed that a zero-energy check on the blowers had not been performed as required by the work permit and per the LOTO procedure. Therefore, the LOTO work permit was incomplete when issued for technicians to start work. The technicians were not working on any electrical components and therefore they were not exposed to electrical hazardous energy. Subsequently, the zero-energy check was performed and found no hazardous energy present. A fact finding meeting was held.

Similar OR Report Number:

Facility Manager:

Name	Tom Robinson
Phone	(270) 538-2229
Title	Plant Manager

Originator:

Name	WHITLEY, DANIEL S.
Phone	(270) 538-2038
Title	COMPLIANCE OFFICER

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/30/2012	13:15 (ETZ)	Mark Mattheiss	BWCS
05/30/2012	13:15 (ETZ)	Tom Robinson	BWCS
05/30/2012	13:20 (ETZ)	Jackie East	BWCS
05/30/2012	13:30 (ETZ)	James Johnson	DOE PPO
05/30/2012	13:37 (ETZ)	Don Dihel	DOE PPO

Authorized Classifier(AC): Michael Stanley Date: 05/31/2012

3)Report Number:

[EM-RL--CPRC-SNF-2012-0008](#) After 2003 Redesign

Secretarial Office:

Environmental Management

Lab/Site/Org:

Hanford Site

Facility Name: Spent Nuclear Fuels Project
Subject/Title: Annunciator Panel Door Opened During Work Activity Evaluation Without Hazardous Energy Control In Place
Date/Time Discovered: 05/10/2012 12:00 (PTZ)
Date/Time Categorized: 05/10/2012 12:25 (PTZ)
Report Type: Notification/Final

Report Dates:

Notification	05/10/2012	19:39 (ETZ)
Initial Update	05/10/2012	19:39 (ETZ)
Latest Update	05/10/2012	19:39 (ETZ)
Final	05/10/2012	19:39 (ETZ)
Revision 1	05/14/2012	12:42 (ETZ)

Significance Category: 4
Reporting Criteria: 2E(3) - Any failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout, hazardous energy control program).

Cause Codes:

ISM: 4) Perform Work Within Controls

Subcontractor Involved: No

Occurrence Description: On 5/10/12, while evaluating a proposed work activity, an Operations Supervisor opened an annunciator panel that contains exposed 120VAC with no hazardous energy controls in place. At no time was the plane of the panel door broken.

Cause Description:

Operating Conditions: Normal operations.

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

Immediate Action(s): The annunciator door panel was confirmed secured; and the event was screened and categorized as reportable and appropriate notifications were made.

FM Evaluation: Appropriate action was taken as soon as the issue was identified. At no time was the plane of the panel door broken.

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required: No

Division or Project: CHPRC/D&D Project/100K Area

Plant Area: 100K Area

System/Building/Equipment: Annunciator Panel/Cold Vacuum Drying Facility

Facility Function: Nuclear Waste Operations/Disposal

Corrective Action:

Lessons(s) Learned:

HQ Keywords: 01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance
 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance
 12C--EH Categories - Electrical Safety
 14E--Quality Assurance - Work Process Deficiency

HQ Summary: On May 10, 2012, while evaluating a proposed work activity, an Operations Supervisor opened an annunciator panel that contains exposed 120VAC with no hazardous energy controls in place. At no time was the plane of the panel door broken. The annunciator door panel was closed, and notifications were made. Appropriate action was taken as soon as the issue was identified.

Similar OR Report Number: 1. None.

Facility Manager:

Name	R. K. Nissen
Phone	(509) 373-4547
Title	Manager, K West Facility

Originator:

Name	FEIL, RHONDA K
Phone	(509) 373-4551
Title	ADMINISTRATIVE SPECIALIST

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/10/2012	12:00 (PTZ)	C. P. Ames	CPRC/D&D
05/10/2012	12:04 (PTZ)	D.H. Splett	RL/OOD
05/10/2012	12:28 (PTZ)	J. D. Mathews	CPRC/D&D
05/10/2012	13:21 (PTZ)	L.T. Blackford	CPRC/W&F
05/10/2012	13:21 (PTZ)	D.M. Boone	CPRC/D&D

Authorized Classifier(AC):

4)Report Number:

[EM-SR--SRNS-SRNL-2012-0001](#) After 2003 Redesign

Secretarial Office:

Environmental Management

Lab/Site/Org:

Savannah River Site

Facility Name:

Savannah River National Laboratory

Subject/Title:

Mild Electrical Shock During Equipment Calibration, SRNL QA

Standards Lab, 736-A

Date/Time Discovered: 05/17/2012 11:55 (ETZ)

Date/Time Categorized: 05/17/2012 14:15 (ETZ)

Report Type: Update

Report Dates:

Notification	05/18/2012	14:30 (ETZ)
Initial Update	05/18/2012	14:35 (ETZ)
Latest Update	05/18/2012	14:35 (ETZ)
Final		

Significance Category: 2

Reporting Criteria: 2E(1) - Any unexpected or unintended personal contact (burn, injury, etc.) with an electrical hazardous energy source (e.g., live electrical power circuit, etc.).

Cause Codes:

ISM: 4) Perform Work Within Controls

Subcontractor Involved: No

Occurrence Description: On Thursday, May 17 at approximately 11:50 AM a senior Metrologist was calibrating an Amprobe Model ACD-10 Super voltage/current meter (Unit Under Test) using a Fluke 5700AEP Multi-Function Calibrator. The Metrologist had just applied 540 VAC to the Amprobe meter and recorded the measurement. At this point, with his left hand he placed the Fluke calibrator in standby mode, which triggers a sequence of relays that remove the voltage from the terminals of the calibrator. He immediately began to remove the test lead from the unit under test with his right hand. As he was removing the lead he heard relays clicking and then felt a mild shock to his right hand. He reported the incident to management and the manager notified the SRNL control room.

The time to categorize this event was longer than normal due to the needed to have the issue reviewed by the SRS Safety Electrical Review Board chairman and a severity evaluation calculated in order to correctly categorize the incident.

Cause Description: At this time, it is hypothesized that the membrane switch made a secondary contact after it was pressed by the technician. The secondary contact would place the unit back into operating mode while the technician was removing the test lead which could cause the shock.

Operating Conditions: Normal Operating Conditions

Activity Category: Facility/System/Equipment Testing

Immediate Action(s): The test equipment was depowered.
The area was barricaded and similar equipment tagged - Do Not Operate.
Shift Operations Manager called the site Operations Center to have Emergency Medical Technicians dispatched to scene.

Employee was transported to sit Medical for follow up.
Employee returned to work without restrictions.
Notifications made to DOE and senior site staff.
A briefing on event was held to identify what was known at the time.
A Fact Finding Meeting will be scheduled after an investigation into the operability of the equipment.
The QA manager alerted other site organizations who use the same type of calibration equipment of this incident. An extent of condition assessment was started in SRNL and other site organizations as with this notification.
A first Alert message to the entire site with pictures was drafted for site-wide distribution.

FM Evaluation: All equipment of this type will be tested locally before returning to service. Any unit found to be out of tolerances will be sent to manufacturer for repair.

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required: Yes.
Before Further Operation? No
By Whom: R&D Investigation
By When: 07/02/2012

Division or Project: Savannah River National Laboratory

Plant Area: A-Area

System/Building/Equipment: 736-A QA Standards Laboratory

Facility Function: Laboratory - Research & Development

Corrective Action:

Lessons(s) Learned: TBD

HQ Keywords: 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock
12C--EH Categories - Electrical Safety
14L--Quality Assurance - No QA Deficiency

HQ Summary: On May 17, 2012, a senior Metrologist felt a mild shock to his right hand while calibrating an Amprobe Model ACD-10 Super voltage/current meter (Unit Under Test) using a Fluke 5700AEP Multi-Function Calibrator. He reported the incident to management and the manager notified the SRNL control room. The test equipment was turned off, the area was barricaded and similar equipment was tagged. The employee was transported to Medical, evaluated and returned to work without restrictions. Other site organizations that use this type of calibration equipment were notified, an extent of condition review was initiated and local tests of this equipment will be performed before returning the units to service.

Similar OR Report Number: 1. no

Facility Manager:

Name	FRANKLIN, KENNETH A
------	---------------------

Phone	(803) 725-7096
Title	OPERATION MANAGER

Originator:

Name	DERMODY, RICHARD J
Phone	(803) 725-3113
Title	LEAD ADMIN. SPECIALIST-A

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/17/2012	11:55 (ETZ)	T. Michalske	SRNL Dir
05/17/2012	11:55 (ETZ)	Robim Dillman	QA Mgr
05/17/2012	11:55 (ETZ)	R. Sprague	SRNL Mgr
05/17/2012	11:55 (ETZ)	Frederick Grimm	ROD Mgr
05/17/2012	11:55 (ETZ)	Frank Lee	SOM
05/17/2012	12:00 (ETZ)	Kenneth Franklin	Fac Mgr
05/17/2012	12:00 (ETZ)	Ronnie Pernell	Fac Mgr
05/17/2012	12:15 (ETZ)	David Grimm	EngMgr
05/17/2012	12:30 (ETZ)	Frederick Roemer	DOE FR
05/17/2012	14:15 (ETZ)	Nixon Peralta	DOE
05/17/2012	15:30 (ETZ)	Dan Burnfield	DNFSB
05/17/2012	15:30 (ETZ)	Mark Sautman	DNFSB

Authorized Classifier(AC): Conrad Hutto Date: 05/18/2012

5)Report Number: [NA--PS-BWP-PANTEX-2012-0042](#) After 2003 Redesign

Secretarial Office: National Nuclear Security Administration

Lab/Site/Org: Pantex Plant

Facility Name: Pantex Plant

Subject/Title: Unexpected Discovery of Hazardous Energy

Date/Time Discovered: 05/01/2012 17:45 (CTZ)

Date/Time Categorized: 05/02/2012 10:11 (CTZ)

Report Type: Update

Report Dates:	Notification	05/02/2012	16:42 (ETZ)
	Initial Update	05/18/2012	14:17 (ETZ)
	Latest Update	06/01/2012	11:49 (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: 5) Provide Feedback and Continuous Improvement

Subcontractor Involved: No

Occurrence Description: On Tuesday, 05/01/12, at approximately 17:45, two Electronic Technicians were running cabling for network drops in Bldg. 12-36 hallway of the executive wing above the suspended ceiling. One of the technicians climbed a 6-foot step ladder and proceeded to move a tile to allow access for running the cabling. When he slid the tile back he observed a flash. The technician stopped work and contacted the Electronic Shop Supervisor. The OC was notified and all proper phone calls were made. The Electric Shop Supervisor was contacted and electricians were dispatched to Bldg. 12-36. Electricians, under direction of the Electrical Section Manager, placed the electrical circuit in a safe and stable configuration.

Categorization of the event was delayed due to imprecise communication among managers.

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

Cause Description:

Operating Conditions: Maintenance Mode

Activity Category: Maintenance

Immediate Action(s): Electronic Technicians stopped work and notified supervision.

Electricians placed the cable in a safe and stable configuration.

On May 2, 2012, the event was categorized as 2E(2) SC 3, Any unexpected discovery of an uncontrolled electrical hazardous energy source.

A critique was conducted on May 2, 2012.

FM Evaluation: 05/18/12 Per agreement between Maintenance and Projects Divisions, the event will be transferred to Projects Division. Bev Hall

06/01/12 Event transferred back to Maintenance Division. Final Report due date extended to 06/25/12 to coincide with NTS Report. Bev Hall

DOE Facility Representative Input:

DOE Program Manager

Input:

Further Evaluation is Required: No
Division or Project: Maintenance
Plant Area: Zone 12 North
System/Building/Equipment: Building 12-36
Facility Function: Balance-of-Plant - Offices
Corrective Action:
Lessons(s) Learned:

HQ Keywords: 01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
 01P--Inadequate Conduct of Operations - Inadequate Oral Communication
 07D--Electrical Systems - Electrical Wiring
 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical)
 12C--EH Categories - Electrical Safety
 14E--Quality Assurance - Work Process Deficiency

HQ Summary: On May 1, 2012, while two electronic technicians were running cabling for network drops in Building 12-36 hallway of the executive wing above a suspended ceiling, a technician slid a tile back and observed a flash. The technician had climbed a 6-foot step ladder to move the tile to allow access for running the cabling. The technician stopped work and contacted the Electronic Shop Supervisor. Management was notified and all proper phone calls were made. The Electric Shop Supervisor was contacted and electricians were dispatched to Building 12-36. Electricians placed the electrical circuit in a safe and stable configuration. There were no injuries to personnel or damage to the equipment or environment as a result of this event.

Similar OR Report Number:

Facility Manager:

Name	Lew Monroe, III
Phone	(806) 477-7770
Title	Plant Maintenance Department Manager

Originator:

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

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/01/2012	18:04 (CTZ)	Noel Williams	PXSO

05/01/2012	18:04 (CTZ)	David Cole	B&W
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Authorized Classifier(AC): Donald Gerber **Date:** 06/01/2012

6)Report Number: [NA--SS-SNL-1000-2012-0005](#) **After 2003 Redesign**
Secretarial Office: National Nuclear Security Administration
Lab/Site/Org: Sandia National Laboratories - SS
Facility Name: SNL Division 1000
Subject/Title: Signal Cable Disconnected From Live Electrical Equipment Without Controls
Date/Time Discovered: 05/17/2012 08:00 (MTZ)
Date/Time Categorized: 05/17/2012 08:15 (MTZ)
Report Type: Notification
Report Dates:

Notification	05/22/2012	13:17 (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:
ISM: 4) Perform Work Within Controls
Subcontractor Involved: No
Occurrence Description: As part of troubleshooting a thermocouple fault, an employee opened the back of an equipment rack and disconnected a signal cable on the back of a heater controller not realizing that it constituted a live electrical situation. No shock occurred, but a live electrical circuit was exposed during the work. When a co-worker became aware of the situation, they reported it to management.
Cause Description: Critique/Fact Finding Performed: 5/17/2012
Operating Conditions: Normal
Activity Category: Research
Immediate Action(s): Further operations in the affected lab were suspended pending investigation and a critique was held.
FM Evaluation: EOC#25408

This event has a severity score (per the EFCOG Severity Reporting Tool) of 20 as follows: Electrical Hazard Factor: 10 (120 VAC Plug and Cord);

Environmental Factor: 0 (Dry); Shock Proximity Factor: 1 (Within the limited approach boundary); Arc Flash Proximity Hazard: 0 (no arc flash hazard); Thermal Hazard: 0 (NA- 120 VAC); No PPE mitigations; Injury Factor: 1 (no injury).

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required:

Yes.
 Before Further Operation? No
 By Whom: Causal Analysis Team
 By When: 07/01/2012

Division or Project:

1000/1114 - Surface and Interface Sciences

Plant Area:

Tech Area I

System/Building/Equipment:

PID Controller in equipment rack/Bldg 897/Lab 3300

Facility Function:

Laboratory - Research & Development

Corrective Action:

Lessons(s) Learned:

HQ Keywords:

08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical)
 12C--EH Categories - Electrical Safety
 14E--Quality Assurance - Work Process Deficiency

HQ Summary:

On May 17, 2012, an employee opened the back of an equipment rack and disconnected a signal cable on the back of a heater controller without realizing that an energized electrical circuit was exposed while they were troubleshooting a thermocouple fault. A co-worker became aware of the situation and reported it to management. Further operations in the affected lab were suspended pending investigation and a critique was held. This event has a severity score (per the EFCOG Severity Reporting Tool) of 20.

Similar OR Report Number:

Facility Manager:

Name	Robert Burkhart
Phone	(505) 844-6497
Title	ES&H Coordinator

Originator:

Name	ROGERS, JESSICA
Phone	(505) 845-4727
Title	OCCURRENCE REPORTING ADMINISTRATOR

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/17/2012	08:16 (MTZ)	Gary Schmidtke	DOE/SSO

05/17/2012	08:28 (MTZ)	EOC	4236
05/17/2012	08:45 (MTZ)	Carlos Gutierrez	1114
05/17/2012	10:40 (MTZ)	J. Stephen Rottler	1000
05/17/2012	10:40 (MTZ)	J. Charles Barbour	1100
05/17/2012	10:40 (MTZ)	Frederick B. McCormick	1110

Authorized Classifier(AC): Carlos Gutierrez **Date:** 05/17/2012

7)Report Number: [NA--YSO-BWXT-Y12SITE-2012-0021](#) **After 2003 Redesign**
Secretarial Office: National Nuclear Security Administration
Lab/Site/Org: Y12 National Security Complex
Facility Name: Y-12 Site
Subject/Title: Discovery of Uncontrolled Electrical Energy During Oven Removal
Date/Time Discovered: 05/08/2012 10:20 (ETZ)
Date/Time Categorized: 05/08/2012 12:20 (ETZ)
Report Type: Notification
Report Dates:

Notification	05/10/2012	15:47 (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.

 4B(6) - A facility or operations shutdown (i.e., a change of operational mode or curtailment of work or processes), directed by senior contractor or senior DOE management for safety reasons, and requiring a corrective action(s) prior to continuing operations.

Cause Codes:
ISM: 1) Define the Scope of Work
 2) Analyze the Hazards
Subcontractor Involved: No
Occurrence Description: On May 8, 2012, a scheduled maintenance activity to disconnect an oven and associated power receptacles was in progress. After the workers had performed the Lockout/Tagout (LOTO) activity to isolate the electrical power circuits, one worker separated the conduit connected to the oven and began to cut the wires. A small arc was observed and the activity was suspended pending management review.

During the follow-up review it was determined that the three electrical circuits that had been isolated supported a 220-volt receptacle and two 110-volt receptacles mounted on the back of the oven. The power circuit to the oven itself was contained in the same conduit but had not been identified during the LOTO permit walk down and therefore had not been isolated prior to beginning work.

Cause Description:

Operating Conditions:

The facility was operating normally.

Activity Category:

Maintenance

Immediate Action(s):

- Work was immediately suspended by the workers.
- Facilities, Infrastructure and Services (FI&S) management was notified of the event.
- The circuit breaker that tripped when the wires were cut was identified, turned to the OFF position and a locking device was attached.
- The employee who cut the wires was sent to Y-12 Occupational Health Services (OHS) for evaluation and was returned to normal work duty without restrictions.

FM Evaluation:

FI&S Management and Y-12 Construction Management suspended all electrical work activities being performed under a LOTO pending a review of each LOTO for adequacy.

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required:

Yes.
Before Further Operation? Yes
By Whom: RS Underwood, JR
By When: 05/14/2012

Division or Project:

FI&S

Plant Area:

Limited

System/Building/Equipment: 9202

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)
- 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance
- 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)
- 14E--Quality Assurance - Work Process Deficiency

HQ Summary:

On May 8, 2012, during scheduled maintenance to disconnect an oven and associated power receptacles, a small arc was observed when one worker separated the conduit connected to the oven and began to cut the wires. The workers had performed a Lockout/Tagout (LOTO) activity to isolate the electrical power circuits. The activity was suspended, Management was notified, and a follow up review was initiated. During the review it was determined that the three electrical circuits that had been isolated supported a 220-volt receptacle and two 110-volt receptacles mounted on the back of the oven. The power circuit to the oven itself was contained in the same conduit but had not been identified during the LOTO permit walk down and therefore had not been isolated prior to beginning work. The employee who cut the wires was sent to Y-12 Occupational Health Services for evaluation and was returned to normal work duty without restrictions.

Similar OR Report Number:

Facility Manager:

Name	F. W. Ray
Phone	(865) 576-8287
Title	Director of Maintenance Execution

Originator:

Name	BURDITT, CAROL A
Phone	(865) 576-3128
Title	

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/08/2012	12:20 (ETZ)	DA Taylor	PA
05/08/2012	12:20 (ETZ)	RS Underwood, JR	FI&S Dir
05/08/2012	12:20 (ETZ)	BW Duncan	FI&S
05/08/2012	13:00 (ETZ)	TR Payne	Y-12 PSS
05/08/2012	13:10 (ETZ)	Duty Fac Rep	NNSA

Authorized Classifier(AC): J. A. Nations Date: 05/10/2012

8)Report Number:

[NA-SR--GOSR-GOSR-2012-0003](#) After 2003 Redesign

Secretarial Office:

National Nuclear Security Administration

Lab/Site/Org:

Savannah River Site

Facility Name:

Government Operated Savannah River

Subject/Title:

Mild Electrical Shock during usage of Portable Office Heater (Federal Employee)

Date/Time Discovered:

05/17/2012 08:20 (ETZ)

Date/Time Categorized: 05/21/2012 09:00 (ETZ)

Report Type: Final

Report Dates:

Notification	05/29/2012	15:19 (ETZ)
Initial Update	05/29/2012	15:21 (ETZ)
Latest Update	05/29/2012	15:21 (ETZ)
Final	06/05/2012	12:43 (ETZ)

Significance Category: 2

Reporting Criteria: 2E(1) - Any unexpected or unintended personal contact (burn, injury, etc.) with an electrical hazardous energy source (e.g., live electrical power circuit, etc.).

Cause Codes: A2B3C02 - Equipment/ material problem; Inspection/ testing LTA; Inspection/ testing LTA

ISM: 2) Analyze the Hazards

Subcontractor Involved: No

Occurrence Description: On May 17, 2012 an NNSA-SRSO federal employee was plugging in a Fahrenheat portable electric heater in building 246-H office #132. Upon the electrical cord/plug making contact with the receptacle, an arc occurred and the employee received a slight electrical shock to the individual right palm. The employee immediately notified their supervisor and in accordance with site protocol was transported to site medical. NNSA-SRSO Safety was notified and the Tritium Facilities (TF) Central Control Room (CCR) was notified of the event; NNSA headquarters was notified on May 18, 2012. The employee who received the shock was given a precautionary Electrocardiogram (EKG) while at site medical and was treated for a superficial burn to the right palm. The employee was released back to work with no restrictions or follow-up necessary. In conjunction with the Savannah River Nuclear Solutions (SRNS) TF Safety Engineer, a post job review of the event was conducted with NNSA-SRSO Safety and the injured employee. The electric heater was tagged out of service and removed from the affected location. It was determined on May 21, 2012 that the event triggered the reporting criteria outlined in DOE O 232.2 [Occurrence Reporting and Processing of Operations Information]. The event is categorized as 2E(1) [Any unexpected or unintended personal contact (burn, injury, etc.) with an electrical hazardous energy source (e.g., live electrical power, circuit, etc.) significance category 2.]

JUSTIFICATION FOR DELAYED SUBMITTAL: On 05/21/2012, NNSA categorized this event as 2E(1) [Any unexpected or unintended personal contact (burn, injury, etc.) with an electrical hazardous energy source (e.g., live electrical power, circuit, etc.) significance category 2.] Proper notifications were made to SRSOC and NNSA HQ. Due to ORPS access complication (alternate user) this report was not submitted until 05/29/2012.

Cause Description: Improper inspection before using the electrical heater
Operating Conditions: Routine Admin office functions
Activity Category: Normal Operations (other than Activities specifically listed in this Category)
Immediate Action(s): Unplugged electrical heater and Do not used tag attached
 Notified supervisor
 Transported employee to site medical for evaluation
 Conducted a lessons learned/investigation meeting
FM Evaluation: An extent of condition was performed and proper usage of portable electrical equipment was re-emphasized to all employees by NNSA management

DOE Facility Representative

Input:
DOE Program Manager
Input:

Further Evaluation is Required: No

Division or Project: NNSA SRSO
Plant Area: H-Area/Tritium
System/Building/Equipment: 246H, room 132
Facility Function: Tritium Activities

Corrective Action 01:	Target Completion	Actual Completion
	Date:05/17/2012	Date:05/17/2012

Ensured employee receive proper medical evaluation/help

Corrective Action 02:	Target Completion	Actual Completion
	Date:05/17/2012	Date:05/17/2012

Tagged damage portable heater out of service

Corrective Action 03:	Target Completion	Actual Completion
	Date:05/23/2012	Date:05/23/2012

Performed an extent of condition. Re-emphasized to all employees inspection requirements for portable equipment

Corrective Action 04:	Target Completion	Actual Completion
	Date:05/29/2012	Date:05/29/2012

Issue lessons learned document

Lessons(s) Learned: Statement: Personnel need to inspect electrical cords for damage prior to use. Also, ensure electrical equipment is turned off before removing or inserting the plug into the receptacle. This resulted in a post job review and the filing of a Significance Category 2E(1) ORPS report.
 Discussion: On May 17, 2012 an NNSA-SRSO federal employee was plugging in a Fahrenheit portable electric heater in building 246-H. Upon

the electrical cord making contact with the receptacle, an arc occurred and the employee received a slight electrical shock to their right palm. The employee immediately notified their supervisor and in accordance with site protocol was transported to site medical.

Analysis: Per site guidelines, all electrical equipment is to be inspected prior to use. This was not done by the affected individual. The heater cord was found to be damaged and exposed electrical wiring was visible on the cord. A cursory inspection of the electrical cord could have prevented the electrical shock to the employee.

HQ Keywords:

- 01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)
- 01Q--Inadequate Conduct of Operations - Personnel error
- 07D--Electrical Systems - Electrical Wiring
- 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock
- 08D--OSHA Reportable/Industrial Hygiene - Injury
- 12C--EH Categories - Electrical Safety
- 14E--Quality Assurance - Work Process Deficiency
- 14H--Quality Assurance - Inspection and Acceptance Testing Deficiency

HQ Summary:

On May 17, 2012, a National Nuclear Security Administration (NNSA)-Savannah River Site Office (SRSO) federal employee received a slight electrical shock to their right palm while plugging in a Fahrenheat portable electric heater in building 246-H office #132. When the electrical cord/plug made contact with the receptacle an arc occurred resulting in the shock. The employee immediately notified their supervisor and was transported to site medical. The employee was treated for a superficial burn to the right palm and was released back to work with no restrictions or follow up necessary. NNSA-SRSO Safety and the Tritium Facilities (TF) Central Control Room were notified of the event. In conjunction with the Savannah River Nuclear Solutions TF Safety Engineer, a post job review of the event was conducted with NNSA-SRSO Safety and the injured employee. Per site guidelines, all electrical equipment is to be inspected prior to use. This was not done by the affected individual. The heater cord was found to be damaged and exposed electrical wiring was visible on the cord. The electric heater was tagged out of service and removed from the affected location.

Similar OR Report Number: 1. EM-SR--SRNS-SRNL-2012-0001

Facility Manager:

Name	PYRAM, STANLEY C.
Phone	(803) 208-1122
Title	PROJECT MANAGER

Originator:

Name	PYRAM, STANLEY C.
Phone	(803) 208-1122
Title	PROJECT MANAGER

HQ OC Notification:

Date	Time	Person Notified	Organization
05/17/2012	17:00 (ETZ)	Lempke Michael	NNSA

Other Notifications:

Date	Time	Person Notified	Organization
05/17/2012	08:30 (ETZ)	Cannon Scott	NNSA

Authorized Classifier(AC): Jonathan Barnett Date: 05/29/2012

9)Report Number:

[NE-ID--BEA-ATR-2012-0016](#) After 2003 Redesign

Secretarial Office:

Nuclear Energy, Science and Technology

Lab/Site/Org:

Idaho National Laboratory

Facility Name:

Advanced Test Reactor

Subject/Title:

Unexpected Discover of an Uncontrolled Electrical Energy Source at the ATR

Date/Time Discovered:

05/09/2012 11:00 (MTZ)

Date/Time Categorized:

05/09/2012 12:04 (MTZ)

Report Type:

Update

Report Dates:

Notification	05/10/2012	17:32 (ETZ)
Initial Update	05/15/2012	16:11 (ETZ)
Latest Update	06/07/2012	12:16 (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:

Subcontractor Involved:

No

Occurrence Description:

At approximately 1100 on 9 May 2012, during work to replace the ATR canal level alarm switch LS-19-1, unexpected 120 VAC power was discovered. The work required the wiring from LS-189-1 be pulled back to a junction box (PBX-149) so new conduit could be connected to the new LS-19-1. PBX-149 has an Amphenol connector on the side from an out-of-service (OOS) Constant Air Monitor (CAM) system. When the instrument technician removed the cover from PBX-149 he discovered terminal strips attached to the cover with wiring connected to the Amphenol connector. Using good work practices, he immediately checked the terminal strip with a proximity voltage detector which indicated voltage may be present. The instrument technician placed the job in a safe condition by replacing the cover and reported the discovery. Further investigation determined it was

120 VAC power from the OOS CAM system.

Cause Description:

Operating Conditions:

The ATR was shut down for the scheduled Cycle 152A-1 outage

Activity Category:

Maintenance

Immediate Action(s):

Appropriate levels of BEA management and DOE-ID were notified of this event.

FM Evaluation:

The job was placed in a safe condition and work was stopped.

Electrical work in the ATR has resumed since this event occurred. In order to place another barrier in place to prevent potential exposure to uncontrolled hazardous electrical energy, the following controls are immediately effective until formally rescinded by facility management:

All electrical work, whether a lockout/tagout (LO/TO) is required or not, will have a form 434.09B, INL LO/TO Isolation Identification, completed. A member of ATR Nuclear Operations Maintenance Management or ATR Operations Management will review the form and discuss the results with the Shift Supervisor (SS). In the event that it is determined that no LO/TO is required, the "General Comment" section on the form will be so annotated and the SS and management representative will sign the form in this section. Prior to releasing an electrical job to work, a proximity sensor or other approved voltage detection instrument will be used at the point of work as an additional check for detection of unexpected electrical energy. Completion of this check will also be annotated in the "General Comment" section of the 434.09B. The completed form will be retained with the LO/TO record sheet or Work Order if a simple LO/TO is used or no LO/TO was required.

Additionally, the use of the cord-and-plug exemption from LO/TO is not authorized for work on plant equipment, including utility area equipment. Use of the cord-and-plug for non-electrical work, such as changing bits on power tools, is still allowed.

A Level 1 Cause Analysis for this and two other ORPS reports (NE-ID--BEA-ATR-2012-0012 and NE-ID--BEA-ATR-2012-0018) is currently in progress. The due date for the analysis is July 7, 2012; therefore, the final three ORPS reports will be submitted no later than July 19, 2012. DOE-ID has been notified.

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required:

No

Division or Project: ATR Programs
Plant Area: ATR
System/Building/Equipment: Advanced Test Reactor (ATR) Canal Level Alarm Switch
Facility Function: Category "A" Reactors
Corrective Action:
Lessons(s) Learned:

HQ Keywords: 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
 12C--EH Categories - Electrical Safety
 14E--Quality Assurance - Work Process Deficiency

HQ Summary: On May 9, 2012, during work to replace the Advanced Test Reactor canal level alarm switch LS-19-1, unexpected 120 VAC power was discovered. The work required the wiring from LS-189-1 be pulled back to a junction box (PBX-149) so new conduit could be connected to the new LS-19-1. PBX-149 has an Amphenol connector on the side from an out-of-service (OOS) Constant Air Monitor (CAM) system. When the instrument technician removed the cover from PBX-149, he discovered terminal strips attached to the cover with wiring connected to the Amphenol connector. He immediately checked the terminal strip with a proximity voltage detector which indicated voltage may be present. The instrument technician placed the job in a safe condition by replacing the cover and reported the discovery. Further investigation determined it was 120 VAC power from the OOS CAM system. Work was stopped and Management was notified.

Similar OR Report Number:

Facility Manager:

Name	SCHUEBERT, EDMOND J
Phone	(208) 533-4246
Title	ATR Operations Facility Manager

Originator:

Name	OWENS, MARJORIE A		
Phone	(208) 533-4563		
Title	ATR OPERATIONS FACILITY ADMINISTRATI		

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/09/2012	12:04 (MTZ)	Jeff Duplessis	DOE-ID

Authorized Classifier(AC): M. Zamber Date: 05/10/2012

10)Report Number: [NE-ID--BEA-ATR-2012-0018](#) After 2003 Redesign

Secretarial Office: Nuclear Energy, Science and Technology
Lab/Site/Org: Idaho National Laboratory
Facility Name: Advanced Test Reactor
Subject/Title: Unexpected Discovery of an Uncontrolled Electrical Energy Source at the ATR
Date/Time Discovered: 05/10/2012 11:30 (MTZ)
Date/Time Categorized: 05/10/2012 11:34 (MTZ)
Report Type: Update

Report Dates:

Notification	05/14/2012	13:05 (ETZ)
Initial Update	05/15/2012	16:12 (ETZ)
Latest Update	06/07/2012	12:18 (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
- 3) Develop and Implement Hazard Controls

Subcontractor Involved:

No

Occurrence Description:

At approximately 1130 on 10 May 2012, during work to replace the ATR water calculator system, unexpected 120 VAC power was discovered. The work required removing existing recorders that will be replaced as part of this job. The recorders are plugged in with a cord and the instrument feeds are low voltage. A connection with a plant interlock control bus was missed when the job was evaluated for Lockout/Tagout (LO/TO). Prior to removing the recorder, the Instrument Technician checked the terminal strip with a proximity voltage detector which indicated voltage may be present.

The Instrument Technician placed the job in a safe condition and stopped work. As this is the second event in two days where an unexpected electrical energy source was discovered, all electrical work was placed on hold until preventive interim controls are determined and put in place to prevent recurrence.

Cause Description:

Operating Conditions:

The ATR was shut down for the Cycle 152A-1 scheduled outage

Activity Category:

Maintenance

Immediate Action(s):

Appropriate levels of BEA management and DOE-ID were notified of this

event.

The job was placed in a safe condition and work was stopped.

All electrical work has been placed on hold until preventive interim controls are determined and put in place.

A critique has been scheduled for 14 May 2012.

FM Evaluation:

Electrical work in the ATR has resumed since this event occurred. In order to place another barrier in place to prevent potential exposure to uncontrolled hazardous electrical energy, the following controls are immediately effective until formally rescinded by facility management:

All electrical work, whether a lockout/tagout (LO/TO) is required or not, will have a form 434.09B, INL LO/TO Isolation Identification, completed. A member of ATR Nuclear Operations Maintenance Management or ATR Operations Management will review the form and discuss the results with the Shift Supervisor (SS). In the event that it is determined that no LO/TO is required, the "General Comment" section on the form will be so annotated and the SS and management representative will sign the form in this section. Prior to releasing an electrical job to work, a proximity sensor or other approved voltage detection instrument will be used at the point of work as an additional check for detection of unexpected electrical energy. Completion of this check will also be annotated in the "General Comment" section of the 434.09B. The completed form will be retained with the LO/TO record sheet or Work Order if a simple LO/TO is used or no LO/TO was required.

Additionally, the use of the cord-and-plug exemption from LO/TO is not authorized for work on plant equipment, including utility area equipment. Use of the cord-and-plug for non-electrical work, such as changing bits on power tools, is still allowed.

A Level 1 Cause Analysis for this and two other ORPS reports (NE-ID--BEA-ATR-2012-0012 and NE-ID--BEA-ATR-2012-0016) is currently in progress. The due date for the analysis is July 7, 2012; therefore, the final three ORPS reports will be submitted no later than July 19, 2012. DOE-ID has been notified.

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required:

No

Division or Project:

ATR Programs

Plant Area: WPC System
System/Building/Equipment: Advanced Test Reactor (ATR) Water Power Calculator
Facility Function: Category "A" Reactors
Corrective Action:
Lessons(s) Learned:

HQ Keywords: 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)
 12B--EH Categories - Conduct of Operations
 14E--Quality Assurance - Work Process Deficiency

HQ Summary: On May 10, 2012, during work to replace the Advanced Test Reactor water calculator system, an unexpected 120 VAC power source was discovered. The work required removing existing recorders that will be replaced. The recorders are plugged in with a cord and the instrument feeds are low voltage. A connection with a plant interlock control bus was missed when the job was evaluated for Lockout/Tagout. Prior to removing the recorder, the Instrument Technician checked the terminal strip with a proximity voltage detector which indicated voltage may be present. The Instrument Technician placed the job in a safe condition and stopped work. All electrical work has been placed on hold until preventive interim controls are determined and put in place. Management was notified and a critique was scheduled.

Similar OR Report Number: 1. Ne-ID--BEA-ATR-2012-0016

Facility Manager:

Name	SCHUEBERT, EDMOND J
Phone	(208) 533-4246
Title	ATR OPERATIONS FACILITY MANAGER

Originator:

Name	OWENS, MARJORIE A
Phone	(208) 533-4563
Title	ATR OPERATIONS FACILITY ADMINISTRATI

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/10/2012	11:34 (MTZ)	R. Denning	DOE-ID

Authorized Classifier(AC): M. Zamber Date: 05/14/2012

11)Report Number: [SC--TJSO-JSA-TJNAF-2012-0006](#) After 2003 Redesign
Secretarial Office: Science
Lab/Site/Org: Thomas Jefferson National Accelerator Site
Facility Name: Thomas Jefferson Nat'l Accelerator
Subject/Title: FML-12-0501- Drilling through a Junction Box and Struck 110V line

Date/Time Discovered: 05/01/2012 13:30 (ETZ)

Date/Time Categorized: 05/01/2012 15:01 (ETZ)

Report Type: Notification

Report Dates:	Notification	05/03/2012	14:13 (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:

ISM:

Subcontractor Involved: No

Occurrence Description: Employee was tasked with relocating the motion sensor at the entrance of the TED Building. This task required an additional 10 inches of wiring. While drilling through the junction box and metal stud located below the "Exit" sign the employee drilled through a conduit and hit a 110 volt line that feeds the automatic door system.

Cause Description:

Operating Conditions: Normal Indoor working conditions

Activity Category: Maintenance

Immediate Action(s):

1. The work was immediately stopped. ** Work will only resume once there is an approved blind penetration permit to include lock out tag out.
2. The employee notified his supervisor, the Electrical Department, and the Division Safety Officer.
3. The Electrical Department personnel immediately locked out the power supply to the door.
4. An initial fact-finding meeting was held in the field, to assess the work area, review the statement from the employee, and ask the employee any related questions.

FM Evaluation:

DOE Facility Representative

Input:

DOE Program Manager

Input:

Further Evaluation is Required: No

Division or Project: Facilities Management and Logistics

Plant Area: Lobby of the TED
System/Building/Equipment: Technical Engineering & Development (TED) Building
Facility Function: Laboratory - Research & Development
Corrective Action:
Lessons(s) Learned:
HQ Keywords: 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control
 01N--Inadequate Conduct of Operations - Inadequate Job Planning (Other)
 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 May 1, 2012, during work to relocate a motion sensor at the entrance of the Technical Engineering & Development Building, an employee drilled through a conduit and hit a 110 volt line. The task required an additional 10 inches of wiring. While drilling through the junction box and metal stud located below the Exit sign the employee drilled through a conduit and hit the 110 volt line that feeds the automatic door system. The work was immediately stopped and management was notified. The Electrical Department personnel immediately locked out the power supply to the door. A fact finding meeting was held. Work will only resume once there is an approved blind penetration permit to include a lockout/tagout.

Similar OR Report Number:

Facility Manager:

Name	JOHNSON, CHRISTINA J.
Phone	(757) 269-7611
Title	REPORTING OFFICER

Originator:

Name	JOHNSON, CHRISTINA J.
Phone	(757) 269-7611
Title	REPORTING OFFICER

HQ OC Notification:

Date	Time	Person Notified	Organization
NA	NA	NA	NA

Other Notifications:

Date	Time	Person Notified	Organization
05/02/2012	15:01 (ETZ)	Steve Neilson	TJSO

Authorized Classifier(AC): Christina Johnson Date: 05/01/2012

Attachment 2

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.