



Office of Health, Safety and Security

Electrical Safety Report



March 2011

Electrical Safety Occurrences

The number of electrical safety events for March increased from seven in February to ten. One of these events involved an electrical shock. In that event an employee received a mild shock as he exited a mobile office trailer while simultaneously touching the metal door knob and a metal stairway. The voltage between the door and the metal staircase was measured at 113-volts. Further investigation identified that a circuit breaker to a window air conditioning /heating unit had been thrown. The unit had been wired to two circuit breakers; one for each of the two separate AC feed legs, instead of one large circuit breaker, for both feed legs. One of the feed legs was still energized. Electrical service to the trailer remains disconnected pending repair.

This month there were two electrical penetration events. In the first event, construction workers had cut a hole in a building roof and accidentally cut two previously unidentified embedded conduits, one of which contained energized conductors. A lockout/tagout (LOTO) had been established as a conservative measure for lighting and power circuits because of embedded conduit in the area; however the cut conduit was not part of the LOTO. In the second event, personnel were removing a boiler control panel as part of a demolition project and cut an energized 110-Volt wire. A worker had visually determined that the wires downstream of a terminal block had been previously disconnected and assumed there was no power to the downstream side of the terminal block instead of following demolition procedures for identifying electrical sources.

Also this month there were six reported LOTO events. Two of the events were more administrative in nature. One worker performed safe to work checks, independent verification, and work group acceptance with expired LOTO qualifications while another worker failed to sign in a work package before opening a control panel that was under a master clearance. Two of the events involved issues with locking devices. In one event, a locking device and hasp came loose from a tagged distribution circuit breaker and in the other event, a lock on a 480-volt circuit breaker was found cut by bolt cutters. The remaining two events involved potential exposures to energized parts when workers attempted to fix electrical circuits without following LOTO procedures. Remember, if we follow our hazardous energy control procedures for installing, verifying, signing on, and removing locks and tags, we can eliminate these types of recurring events. The month of May is National Electrical Safety Month and our focus this year is on increasing everyone's awareness of hazardous energy control issues. The EFCOG Electrical Safety Task Group has prepared training material, posters, and other important information for this year's campaign, which can be found at http://www.efcog.org/wg/esh_es/electrical_safety_month.htm. This year's slogan is "When in Doubt, Lock it out!"

On a positive note, workers found electrical hazards in 60 percent of the events. For example, in one event electricians discovered an energized wire during a safe-to-work check in a motor starter enclosure. It was later determined that the Electrical Elementary Diagram control drawing did not show the energized energy source. Safe-to-work checks can help us find dangerous conditions that might have been missed during the job planning process.

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

| Number of Events | Involving: |
|------------------|--|
| 1 | Electrical Shocks |
| 0 | Electrical Burns |
| 6 | Hazardous Energy Control |
| 2 | Inadequate Job Planning |
| 2 | Inadvertent Drilling/Cutting of Electrical Conductor |
| 0 | Excavation of Electrical Conductors |
| 0 | Vehicle Intrusion of Electrical Conductors |
| 2 | Electrical Near Miss |
| 6 | Electrical Workers |
| 4 | Non-Electrical Workers |
| 3 | Subcontractors |

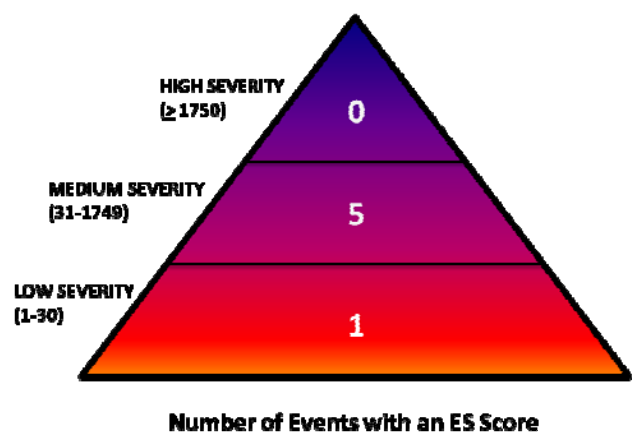
In compiling the monthly totals, the search initially looked for occurrence discovery dates in this month (excluding Significance Category R reports), and for the following ORPS "HQ keywords": 01K – Lockout/Tagout Electrical, 01M - Inadequate Job Planning (Electrical), 08A – Electrical Shock, 08J – Near Miss (Electrical), 12C – Electrical Safety

Below is the current summary of 2011 electrical safety occurrences:

| Period | Electrical Safety Occurrences | Shocks | Burns | Fatalities |
|------------|-------------------------------|--------|-------|------------|
| March | 10 | 1 | 0 | 0 |
| February | 7 | 3 | 0 | 0 |
| January | 13 | 3 | 1 | 0 |
| 2011 total | 30 (avg. 10/month) | 7 | 1 | 0 |
| 2010 total | 155 (avg. 12.9/month) | 28 | 2 | 0 |
| 2009 total | 128 (avg. 10.7/month) | 25 | 3 | 0 |
| 2008 total | 113 (avg. 9.4/month) | 26 | 1 | 0 |
| 2007 total | 140 (avg. 11.7/month) | 25 | 2 | 0 |
| 2006 total | 166 (avg. 13.8/month) | 26 | 3 | 0 |
| 2005 total | 165 (avg. 13.8/month) | 39 | 5 | 0 |
| 2004 total | 149 (avg. 12.4/month) | 25 | 3 | 1 |

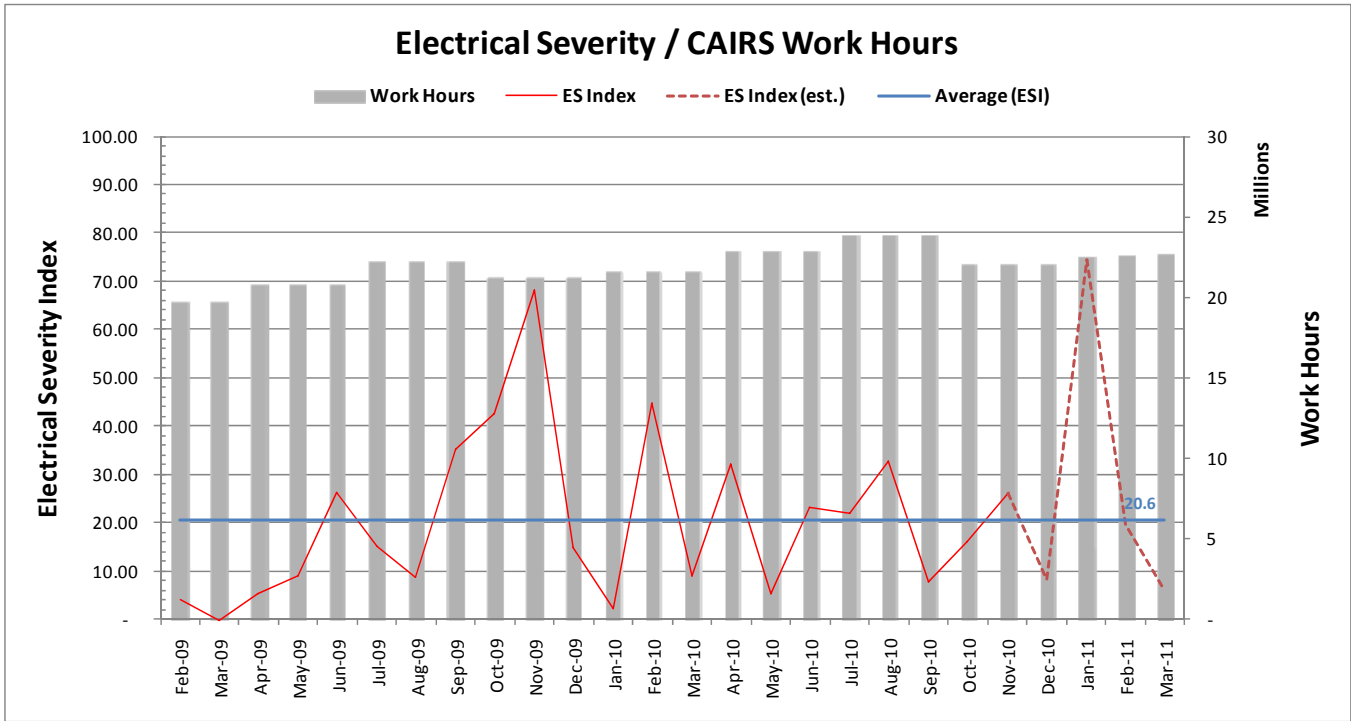
Electrical Severity Scores

The electrical severity scores are calculated using Revision 2 of the Electrical Severity Measurement Tool, which was released October 20, 2010. Five of the electrical events this month did not have an Electrical Severity (ES) score. The other five events were distributed as shown in the triangle, with the highest ES score being 330. The actual score for each event is provided in the event tables.



Electrical Severity Index

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



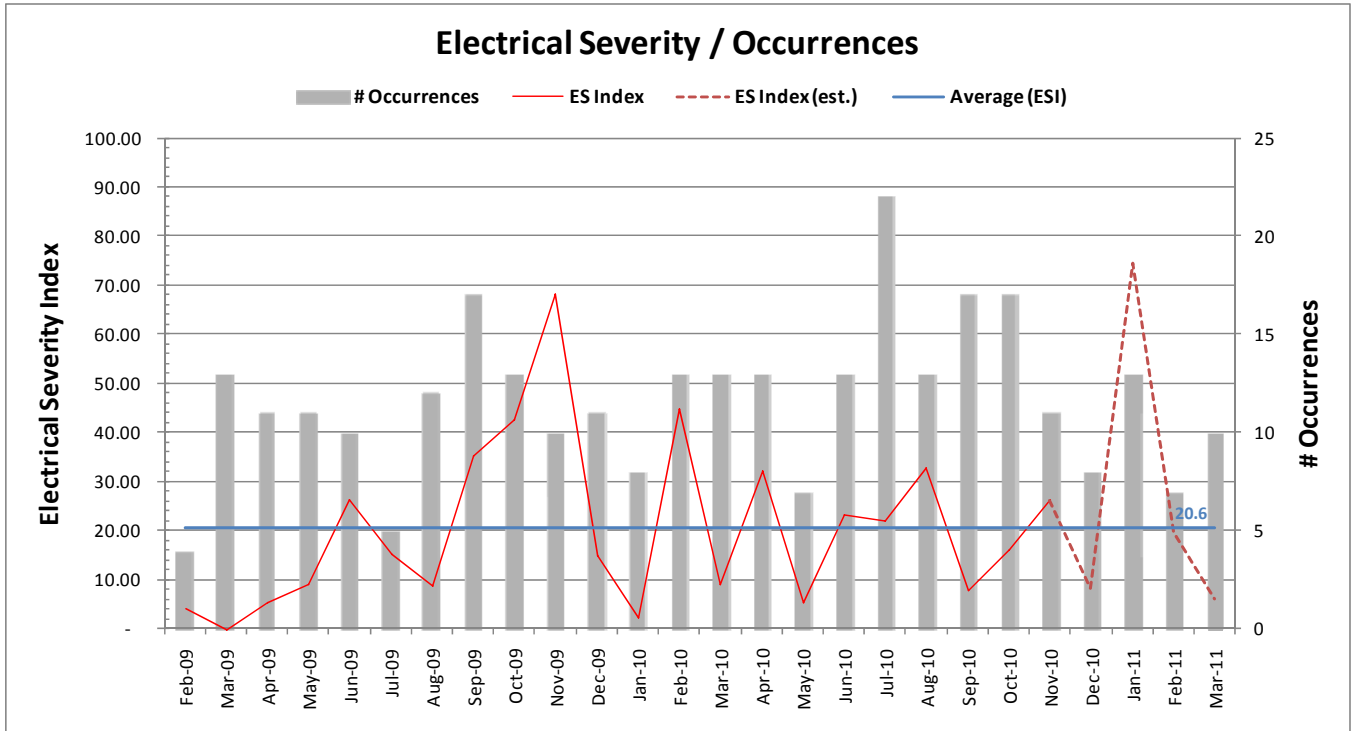
Note: An estimated ESI is calculated until accurate CAIRS man-hours are available. The chart will be updated monthly.

| Category | February | March | Δ |
|----------------------------------|-----------------------------|------------|---------|
| Total Occurrences | 7 | 10 | +3 |
| Total Electrical Severity | 2,210 | 670 | -1,540 |
| Estimated Work Hours | 22,525,865* (22,517,197) | 22,615,034 | -89,169 |
| ES Index | 19.62* (19.63) | 5.93 | -13.7 |
| Average ESI | 21.2 | 20.6 | -0.6 |

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

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

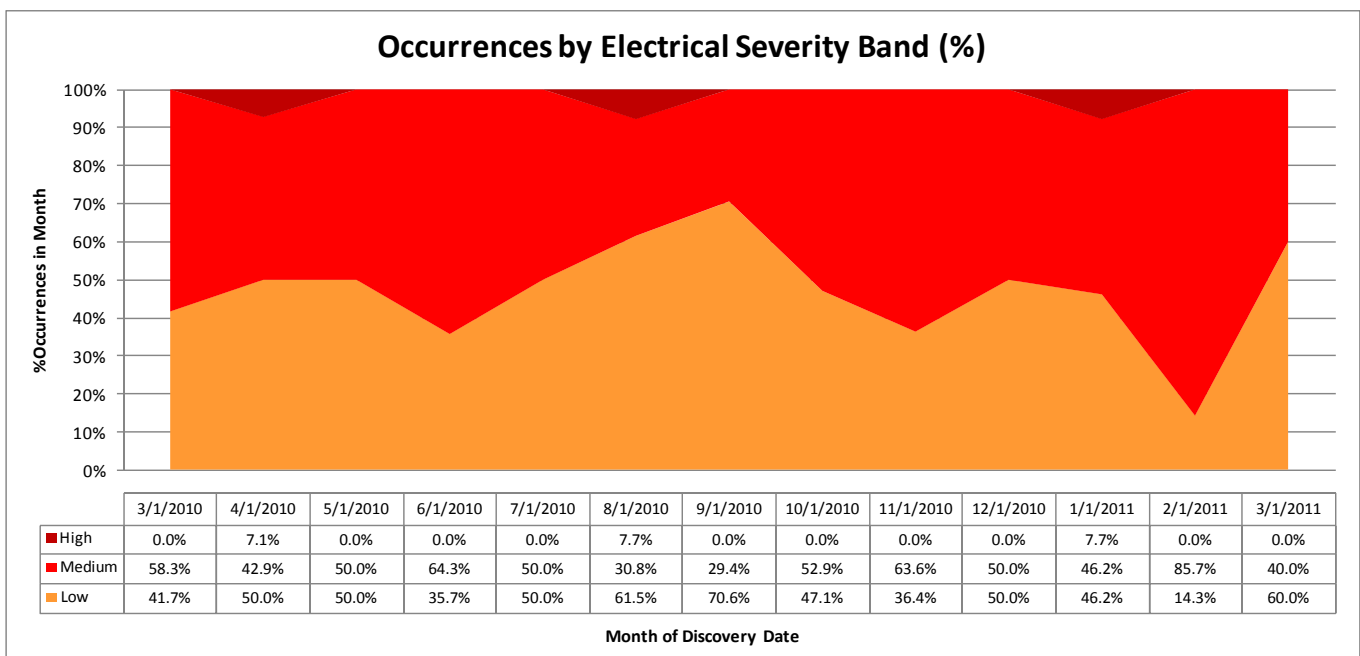
The following chart shows ESI with the number of Occurrences instead of work hours.



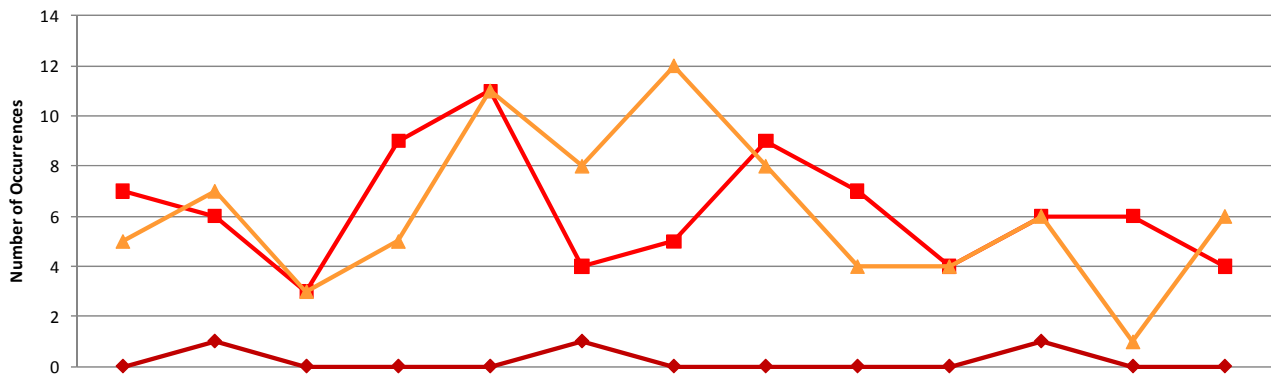
Summary of Occurrences by Severity Band

For the interval March 2010 through March 2011 (current month and the past 12), the two charts below summarize occurrences by severity band and month of discovery date:

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



Occurrences by Electrical Severity Band (#)

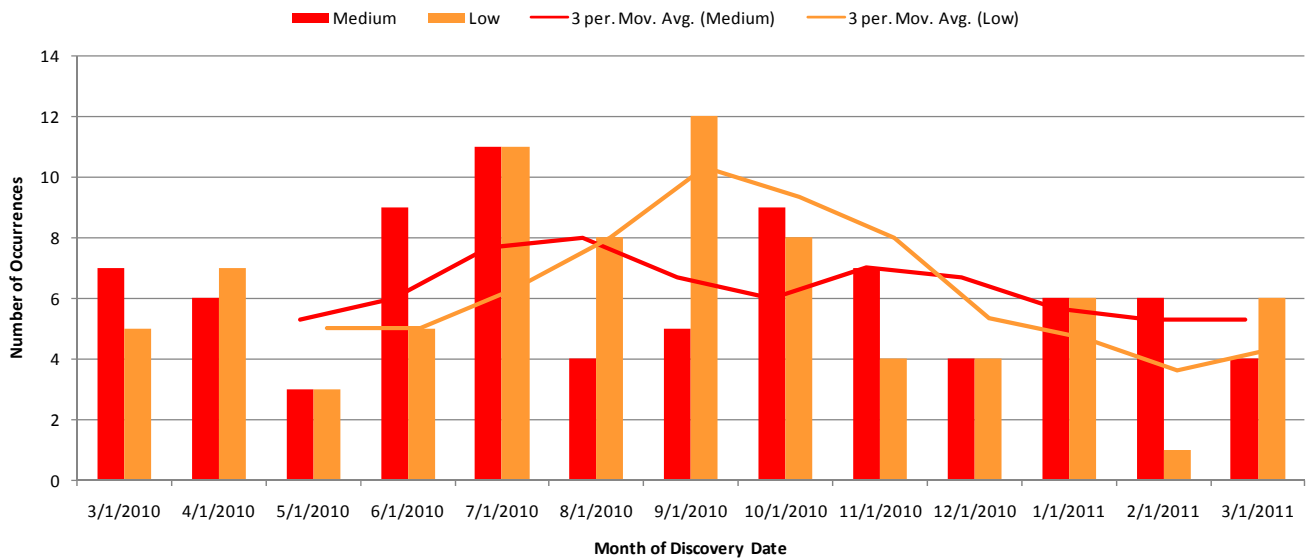


| | 3/1/2010 | 4/1/2010 | 5/1/2010 | 6/1/2010 | 7/1/2010 | 8/1/2010 | 9/1/2010 | 10/1/2010 | 11/1/2010 | 12/1/2010 | 1/1/2011 | 2/1/2011 | 3/1/2011 |
|--------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|----------|----------|----------|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

Medium and Low Severity with Trend

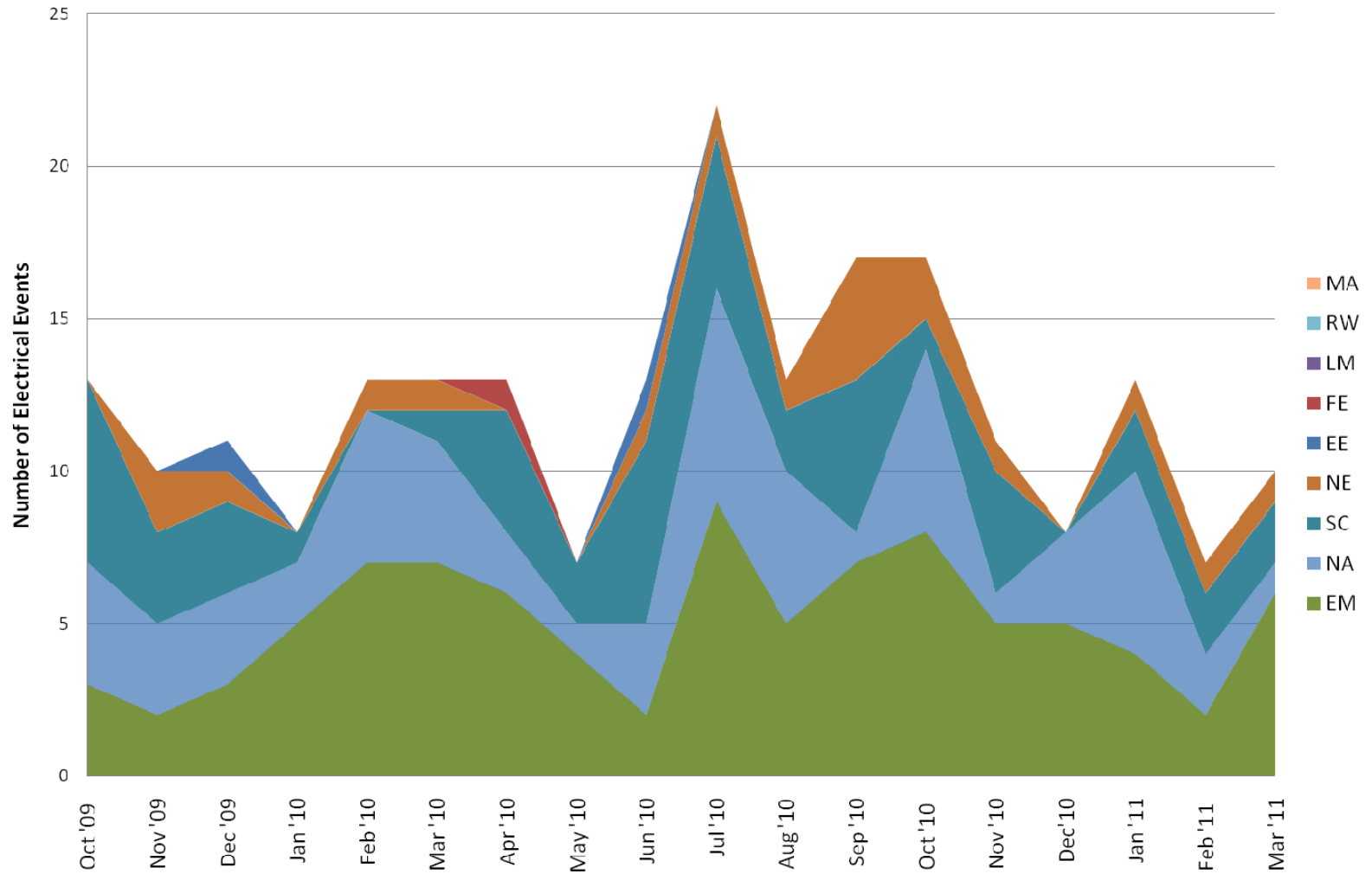
The following chart focuses on the Medium and Low severity data series for March 2010 through March 2011. Trend lines are included for each, using a 3-month moving average.

Medium and Low Severity with Trend



Electrical Events by Month and Secretarial Office

(Rolling 18-month Chart)



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

Electrical Safety Occurrences – March 2011

| No | Report Number | Event Summary | SHOCK | BURN | ARCF ⁽¹⁾ | LOTO ⁽²⁾ | PLAN ⁽³⁾ | EXCAV ⁽⁴⁾ | CUT/D ⁽⁵⁾ | VEH ⁽⁶⁾ | SC ⁽⁷⁾ | RC ⁽⁸⁾ | ES ⁽⁹⁾ |
|----|--------------------------------|--|-------|------|---------------------|---------------------|---------------------|----------------------|----------------------|--------------------|-------------------|-------------------|-------------------|
| 1 | EM-ID--BBWI-AMWTF-2011-0003 | A worker performed safe to work checks, independent verification, and work group acceptance with expired LOTO qualification. | | | | X | X | | | | 3 | 2C(2), 10(2) | 0 |
| 2 | EM-RL--CPRC-CENTPLAT-2011-0002 | A worker did not follow the LOTO procedure while fixing a damaged lighting fixture. | | | | X | | | | | 3 | 2C(2) | 110 |
| 3 | EM-RP--BNRP-RPPWTP-2011-0005 | A worker opened a control panel under a master clearance without signing the work package. | | | | X | | | | | 3 | 2C(2) | 0 |
| 4 | EM-RP--WRPS-TANKFARM-2011-0006 | An energized wire was discovered during safe-to-work checks in a motor starter enclosure. | | | | | X | | | | 3 | 2C(2) | 0 |
| 5 | EM-SR--SRNS-HBLINE-2011-0006 | A worker did not follow LOTO procedures while fixing an improperly terminated energized conductor. | | | | X | | | | | 3 | 2C(2) | 110 |
| 6 | EM-SR--SRNS-KAREA-2011-0001 | Workers cut conduit containing energized electrical wiring. | | | | | | | X | | 3 | 2C(2) | 10 |
| 7 | NA--PS-BWP-PANTEX-2011-0019 | A worker received a shock while simultaneously touching a metal door knob and a metal stairway. | X | | | | | | | | 2 | 2C(1) | 330 |
| 8 | NE-ID--BEA-ATR-2011-0006 | A locking device, lock/tag, and hasp came loose from a tagged 120V distribution breaker. | | | | X | | | | | 4 | 10(2) | 0 |
| 9 | SC--PSO-PPPL-PPPL-2011-0002 | A lock on a 480V circuit breaker was found cut by bolt cutters. | | | | X | | | | | 4 | 10(2) | 0 |
| 10 | SC-ORO--JCIO-BIOMASS-2011-0001 | An energized 110V wire was cut while removing a boiler control panel. | | | | | | | X | | 3 | 2C(2) | 110 |
| | TOTAL | | 1 | 0 | 0 | 6 | 2 | 0 | 2 | 0 | | | |

Key

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

ES Scores: High is ≥ 1750 , Medium is 31-1749, and Low is 1-30

Electrical Safety Occurrences – March 2011

| No | Report Number | Event Summary | EW ⁽¹⁾ | N-EW ⁽²⁾ | SUB ⁽³⁾ | HFW ⁽⁴⁾ | WFH ⁽⁵⁾ | PPE ⁽⁶⁾ | 70E ⁽⁷⁾ | VOLT ⁽⁸⁾ | | C/I ⁽⁹⁾ | NEUT ⁽¹⁰⁾ | NM ⁽¹¹⁾ |
|----|--------------------------------|--|-------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|----|--------------------|----------------------|--------------------|
| | | | | | | | | | | H | L | | | |
| 1 | EM-ID--BBWI-AMWTF-2011-0003 | A worker performed safe to work checks, independent verification, and work group acceptance with expired LOTO qualification. | X | | | | X | | | | X | | | |
| 2 | EM-RL--CPRC-CENTPLAT-2011-0002 | A worker did not follow the LOTO procedure while fixing a damaged lighting fixture. | | X | | X | | X | | | X | | | |
| 3 | EM-RP--BNRP-RPPWTP-2011-0005 | A worker opened a control panel under a master clearance without signing the work package. | X | | | | X | | | | X | | | |
| 4 | EM-RP--WRPS-TANKFARM-2011-0006 | An energized wire was discovered during safe-to-work checks in a motor starter enclosure. | X | | | | X | | | | X | | | |
| 5 | EM-SR--SRNS-HBLINE-2011-0006 | A worker did not follow LOTO procedures while fixing an improperly terminated energized conductor. | X | | | | X | X | | | X | | | |
| 6 | EM-SR--SRNS-KAREA-2011-0001 | Workers cut conduit containing energized electrical wiring. | | X | | X | | | | | X | | | X |
| 7 | NA--PS-BWP-PANTEX-2011-0019 | A worker received a shock while simultaneously touching a metal door knob and a metal stairway. | | X | X | X | | | | | X | | | |
| 8 | NE-ID--BEA-ATR-2011-0006 | A locking device, lock/tag, and hasp came loose from a tagged 120V distribution breaker. | X | | | | X | | | | X | | | |
| 9 | SC--PSO-PPPL-PPPL-2011-0002 | A lock on a 480V circuit breaker was found cut by bolt cutters. | X | | X | | X | | | | X | | | |
| 10 | SC-ORO--JCIO-BIOMASS-2011-0001 | An energized 110V wire was cut while removing a boiler control panel. | | X | X | X | | | | | X | | | X |
| | TOTAL | | 6 | 4 | 3 | 4 | 6 | 2 | 0 | 0 | 10 | 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 55160 OR(s) with 58470 occurrences(s) as of 4/15/2011 10:55:09 AM
 Query selected 10 OR(s) with 10 occurrences(s) as of 4/15/2011 10:55:22 AM

Download this report in Microsoft Word format. 

| | | | |
|--------------------------------|--|------------|-------------|
| 1)Report Number: | EM-ID--BBWI-AMWTF-2011-0003 After 2003 Redesign | | |
| Secretarial Office: | Environmental Management | | |
| Lab/Site/Org: | Idaho National Laboratory | | |
| Facility Name: | ADVANCED MIXED WASTE TREATMENT FAC | | |
| Subject/Title: | Individual With Lapsed Qualification Performs Authorized Employee Function on Lock/Tag Out | | |
| Date/Time Discovered: | 03/01/2011 13:30 (MTZ) | | |
| Date/Time Categorized: | 03/01/2011 14:30 (MTZ) | | |
| Report Type: | Update | | |
| Report Dates: | Notification | 03/03/2011 | 12:29 (ETZ) |
| | Initial Update | 03/16/2011 | 18:43 (ETZ) |
| | Latest Update | 03/16/2011 | 18:43 (ETZ) |
| | Final | | |
| Significance Category: | 3 | | |
| Reporting Criteria: | <p>2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin.</p> <p>10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 3 occurrence)</p> | | |
| Cause Codes: | | | |
| ISM: | 4) Perform Work Within Controls | | |
| Subcontractor Involved: | No | | |
| Occurrence Description: | <p>On 03/01/2011 a DOE Facility Representative (FR) performing an assessment of AMWTP LOTO program identified two issues:</p> <p>1. During review of an active lockout tagout (LOTO) the FR identified</p> | | |

Safe to Work checks, Independent Verification, and Work Group Acceptance for LOTO F-1602 were performed by an individual whose qualification appeared to have lapsed six days prior to the work. At the time of discovery no one was working under the LOTO.

The reason for the LOTO was to remove an electrical hazard due to removing some electrical disconnects in a cell area and was in place waiting for completion of a facility modification to de-terminate the wire at the Motor Control Center. No work had ever been performed under the LOTO during the duration of it being in place, 10/9/2009 through 3/1/2011.

The modification physical work was verified to have been completed 11/9/2010 and the LOTO remained in place awaiting administrative closure of the modification paperwork.

Update 3/16/2011

2. While discussing the first issue, the FR identified that a recent revision to the LOTO procedure allowed non-LOTO qualified personnel to sign for verification of energy isolation (safe-to-work checks or zero-energy checks). The FR identified this as a non-compliance with 29CFR1910.147 which requires verification of energy isolation to be performed by an authorized employee. The CFR defines an authorized employee as a person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment.

While performing an extent of conditions for issues 1 and 2 above, 3 more issues were identified:

3. On 02/09/11 a non-LOTO qualified Operations Technician (OT) signed for completion of safe-to-work checks on a Lockout/Tagout Record Sheet. This would have been in compliance with the new procedure issued on 02/07/11 but was out of compliance with 29CFR1910.147 (see item 2 above). The check was performed back through 11/2010 to see if this OT had performed any other LOTO actions. It was discovered that she had performed a south boxline entry on 12/23/2010 which would have necessitated her to install a personal lock and tag. Further investigation revealed that the OT had lost her qualification on 11/15/2008. During pre-job briefs, the supervisor is required to check to ensure personnel are qualified to perform the tasks to which they are assigned. The supervisor involved with the boxline entry in question was not sure how the expired LOTO qualification was missed.

4. On Friday, 3/4/11, at approximately 0900 a Maintenance Technician (MT) while reviewing the work package for work on WMF-676 Boiler-A noted that the associated Lockout/Tagout (LOTO) Record Sheet (F-2437) referenced the old Permit to Work (PTW)-3590 as the Work Control Document Number and returned to Work Control with a question as to how to update the LOTO record sheet to reference the new PTW-3740 which had been prepared on 3/3/11. The LOTO record sheet F-2437 already had one work control document number added and neither of the

two existing work control document numbers had been released by the work groups. The Safe System Work Controller (SSWC) filled in blocks on the existing LOTO record sheet F-2437 for the new Work Control Document Number (PTW-3740), the Tag Numbers Required, and signed for Preparer. She also filled in the block for Applicable Safe-to-Work Checks (block 8) as "not required" which is a step that is to be performed by the Primary Authorized Employee prior to authorizing the LOTO. She then placed the LOTO record sheet on the Work Control countertop. The MT had stepped out of Work Control to check other assignments and upon returning picked up LOTO record sheet F-2437 and although he noticed that the PAE authorization signature block (block 7) was blank, he did not question the missing signature. He was not sure it was needed since block 8 for safe-to-work checks had already been filled in with the verbiage "not required" as is appropriate for addition of work to an existing LOTO. The MT was confused as to which section of the LOTO procedure applied as the title for adding a new line item was titled "Performing Additional Work under an Existing Level II LO/TO" and this was the continuation of work that was already in progress and not new (different) work. The MT performed and signed for acceptance of the LOTO and then took the work package paperwork to the Plant Shift Manager (PSM) to get approval of the new PTW-3740. The PSM was only handed PTW-3740 for review and approval, and was not given the LOTO record sheet. After the PTW was approved, the work was completed and appropriate LOTO release steps were performed and the LOTO was removed. During final closeout of the LOTO record sheet it was noted that the PAE authorization signature for PTW-3740 was not signed.

5. On Friday, 3/4/11, at approximately 1835 (shift ends at 1900), two Maintenance Technicians (MT) completed work involving the relocation of a wireless transmitter from the WMF-636 shroud wall. The lockout/tagout (LOTO) was in place to prevent movement of the shroud wall while the MTs worked on the wireless transmitter from a scissor lift. At the completion of work, the MTs removed their personal locks and tags from the lockbox and proceeded to Work Control to get authorization to remove the LOTO. The work group failed to sign the Lockout/Tagout Record Sheet to indicate that their work was complete and that they release the lockout/tagout so that locks and tags may be removed from isolation devices. The work group release signature is required by procedure. The Primary Authorized Employee (PAE) manning Work Control performed steps needed to remove the locks and tags from the isolation devices and signed for final removal of the LOTO. The PAE did not notice the missing signature and did not open the procedure to ensure all necessary steps to remove the LOTO had been completed. Checking that the work group has signed the Lockout/Tagout Record Sheet to release the LOTO is a required by procedure to be performed by the PAE prior to authorizing LOTO removal. The PAE opened the lockbox and gave the keys to the MTs to remove locks and tags from the isolation devices. The MTs took the

| | |
|------------------------------------|--|
| | <p>Lockout/Tagout Record Sheet and keys, removed the locks and tags from the isolation devices and returned the Lockout/Tagout Record Sheet and removed locks and tags to the PAE. The PAE performed final closure of the LOTO. At no time did anyone note that the work group release signature was missing.</p> |
| Cause Description: | |
| Operating Conditions: | Normal |
| Activity Category: | Normal Operations (other than Activities specifically listed in this Category) |
| Immediate Action(s): | <p>Plant management verified the technician in question was in fact not qualified at the time he performed the LOTO steps.</p> <p>The modification physical work was verified to have been completed.</p> <p>Management directed the removal of the LOTO based on actual infield activities having been completed and the need no longer existed for the LOTO.</p> <p>Based on the non-compliance with 29CFR1910.147, AMWTP's LOTO procedure was revised to reflect that a LOTO-qualified authorized employee is required to perform or observe the safe-to-work checks. Based on the extent of conditions check finding more issues, management issued a timely order requiring senior management oversight/mentoring of Lockout/Tagout actions from authorization through removal.</p> |
| FM Evaluation: | <p>Both the LOTO process and pre-job briefings have undergone significant upgrade since this incident occurred.</p> <p>At the time of the incident a pre-job brief was not required prior to hanging of a LOTO. Now the LOTO is part of the job brief at which time worker qualifications are verified as current.</p> <p>The LOTO program has also been revised to focus the role of the authorized employee and allow other qualified workers to do tasks that are not specific to the placement of the LOTO.</p> <p>Based on these two significant upgrades the opportunity for recurrence of this incident has been minimized greatly.</p> <p>Update 03/16/2011 It is apparent to management that attention to detail during the performance of lockout and tagout is less than adequate. Management has put oversight requirements in place to ensure lockout and tagout activities are receiving proper attention and to re-enforce management's expectation for proper execution of the lockout and tagout procedure.</p> |
| DOE Facility Representative | |

| | |
|--|---|
| Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | No |
| Division or Project: | AMWTF |
| Plant Area: | WMF-676 |
| System/Building/Equipment: | WMF-676 |
| Facility Function: | Nuclear Waste Operations/Disposal |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | <p>01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous)</p> <p>01F--Inadequate Conduct of Operations - Training Deficiency</p> <p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)</p> <p>01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical)</p> <p>12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)</p> <p>14B--Quality Assurance - Training and Qualification Deficiency</p> <p>14D--Quality Assurance - Documents and Records Deficiency</p> <p>14E--Quality Assurance - Work Process Deficiency</p> |
| HQ Summary: | <p>On March 1, 2011, while performing an assessment of the AMWTF Lockout Tagout (LOTO) program, a DOE facility representative discovered that an individual's qualification appeared to have lapsed six days before he performed safe to work checks, independent verification, and work group acceptance for LOTO F-1602. Plant management verified that the technician was not qualified at the time that he performed the LOTO steps. The LOTO was established to remove an electrical hazard due to removing some electrical disconnects in a cell area and was still in place awaiting completion of another facility modification . No work was ever performed under the LOTO during its duration. Management directed the removal of the LOTO because the infield activities had been completed and the LOTO was no longer needed. Since this event occurred, both the LOTO process and pre-job briefings have undergone significant improvements. At the time of the incident, a pre-job brief was not required before hanging a LOTO. Now the LOTO is part of the job brief, at which time worker qualifications are verified as current. The LOTO program has also been revised to focus on the role of the Authorized Employee and allow other qualified workers to do tasks that are not specific to the placement of the LOTO. Based on these two significant upgrades, the opportunity for recurrence of this event has been minimized greatly.</p> |
| Similar OR Report Number: | |

| | | | | |
|-----------------------------------|---|-------------------------------------|-------------------|--------------|
| Facility Manager: | Name | HINGSTON, PETER J | | |
| | Phone | (208) 557-7311 | | |
| | Title | PLANT SHIFT MANAGER | | |
| Originator: | Name | SISSON, CLINTON E | | |
| | Phone | (208) 521-3523 | | |
| | Title | AMWTP CHARACTERIZATION FAC. NUCLEAR | | |
| HQ OC Notification: | Date | Time | Person Notified | Organization |
| | NA | NA | NA | NA |
| Other Notifications: | Date | Time | Person Notified | Organization |
| | 03/01/2011 | 15:45 (MTZ) | Jeffery Duplessis | DOE-ID |
| | 03/09/2011 | 16:15 (MTZ) | Ed Garza | DOE-ID |
| Authorized Classifier(AC): | | | | |
| 2)Report Number: | EM-RL--CPRC-CENTPLAT-2011-0002 After 2003 Redesign | | | |
| Secretarial Office: | Environmental Management | | | |
| Lab/Site/Org: | Hanford Site | | | |
| Facility Name: | Central Plateau Remediation Project | | | |
| Subject/Title: | Lockout/Tagout Violation Following Unintentional Damage to U Canyon Light Fixture | | | |
| Date/Time Discovered: | 03/07/2011 16:00 (PTZ) | | | |
| Date/Time Categorized: | 03/08/2011 16:30 (PTZ) | | | |
| Report Type: | Notification | | | |
| Report Dates: | Notification | 03/10/2011 | 18:15 (ETZ) | |
| | Initial Update | | | |
| | Latest Update | | | |
| | Final | | | |
| Significance Category: | 3 | | | |
| Reporting Criteria: | 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin. | | | |
| Cause Codes: | | | | |
| ISM: | 2) Analyze the Hazards | | | |
| Subcontractor Involved: | No | | | |

| | |
|---|---|
| Occurrence Description: | On March 7, 2011, at 1445 Hours, an electrical conductor feeding a lighting fixture was unintentionally damaged while insulators were repositioning a hanging light fixture in preparation to install a glove bag in the U-Canyon Operating Gallery, in 200 West Area. When the conductor was damaged, a spark or a flash was observed. An attempt was made to mitigate the hazard by using tape to secure the conductor. |
| Cause Description: | |
| Operating Conditions: | U Canyon is not yet Cold & Dark but work is under way to prepare for demolition. |
| Activity Category: | Facility Decontamination/Decommissioning |
| Immediate Action(s): | <ol style="list-style-type: none"> 1. Workers immediately notified supervision and exited the Operating Gallery. 2. Notifications were made to RL and CHPRC senior management. 3. The work package was suspended pending completion of the investigation. 4. A critique was scheduled and conducted on 3/8/11, at 2 p.m. |
| FM Evaluation: | The work site remains in a safe condition. The work package for this specific work scope is suspended as well as other work in U Canyon until follow up investigation is complete. |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | <p>Yes.</p> <p>Before Further Operation? Yes</p> <p>By Whom: D&D personnel</p> <p>By When: 03/25/2011</p> |
| Division or Project: | CHPRC/D&D Project/D4/U Canyon |
| Plant Area: | 221-U/200 West Area |
| System/Building/Equipment: | 221-U/U Canyon/Light Fixture Conduit |
| Facility Function: | Environmental Restoration Operations |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | <p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical)</p> <p>07D--Electrical Systems - Electrical Wiring</p> <p>12I--EH Categories - Lockout/Tagout (Electrical or Mechanical)</p> <p>14E--Quality Assurance - Work Process Deficiency</p> |
| HQ Summary: | On March 7, 2011, an electrical conductor feeding a lighting fixture was unintentionally damaged while insulators were repositioning a hanging light fixture in preparation to install a glove bag in the U-Canyon Operating Gallery, in the 200 West Area. When the conductor was damaged, a spark or a flash was observed. An attempt was made to |

| | mitigate the hazard by using tape to secure the conductor. Workers immediately notified their supervision and exited the Operating Gallery. Management notifications were made. The work package and other U-Canyon work were suspended pending completion of the investigation. A critique was conducted on March 8. | | | | | | | | | | | | | | | |
|-----------------------------------|---|-----------------|--------------|--|--------------|----------------|-----------------|----------------|------------|----------------|---------------|----------|------------|---------------------------|---------------|--------|
| Similar OR Report Number: | | | | | | | | | | | | | | | | |
| Facility Manager: | <table border="1"> <tr> <td>Name</td> <td colspan="3">R. A. Trevino</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-2933</td> </tr> <tr> <td>Title</td> <td colspan="3">D&D Project Area Manager</td> </tr> </table> | | | | Name | R. A. Trevino | | | Phone | (509) 373-2933 | | | Title | D&D Project Area Manager | | |
| Name | R. A. Trevino | | | | | | | | | | | | | | | |
| Phone | (509) 373-2933 | | | | | | | | | | | | | | | |
| Title | D&D Project Area Manager | | | | | | | | | | | | | | | |
| Originator: | <table border="1"> <tr> <td>Name</td> <td colspan="3">FEIL, RHONDA K</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-4551</td> </tr> <tr> <td>Title</td> <td colspan="3">ADMINISTRATIVE SPECIALIST</td> </tr> </table> | | | | Name | FEIL, RHONDA K | | | Phone | (509) 373-4551 | | | Title | ADMINISTRATIVE SPECIALIST | | |
| Name | FEIL, RHONDA K | | | | | | | | | | | | | | | |
| Phone | (509) 373-4551 | | | | | | | | | | | | | | | |
| Title | ADMINISTRATIVE SPECIALIST | | | | | | | | | | | | | | | |
| HQ OC Notification: | <table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table> | | | | Date | Time | Person Notified | Organization | NA | NA | NA | NA | | | | |
| Date | Time | Person Notified | Organization | | | | | | | | | | | | | |
| NA | NA | NA | NA | | | | | | | | | | | | | |
| Other Notifications: | <table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>03/07/2011</td> <td>16:00 (PTZ)</td> <td>K. L. Kehler</td> <td>CPRC/D&D</td> </tr> <tr> <td>03/07/2011</td> <td>16:15 (PTZ)</td> <td>R. V. Johnson</td> <td>RL/OOD</td> </tr> </tbody> </table> | | | | Date | Time | Person Notified | Organization | 03/07/2011 | 16:00 (PTZ) | K. L. Kehler | CPRC/D&D | 03/07/2011 | 16:15 (PTZ) | R. V. Johnson | RL/OOD |
| Date | Time | Person Notified | Organization | | | | | | | | | | | | | |
| 03/07/2011 | 16:00 (PTZ) | K. L. Kehler | CPRC/D&D | | | | | | | | | | | | | |
| 03/07/2011 | 16:15 (PTZ) | R. V. Johnson | RL/OOD | | | | | | | | | | | | | |
| Authorized Classifier(AC): | | | | | | | | | | | | | | | | |
| 3)Report Number: | EM-RP--BNRP-RPPWTP-2011-0005 After 2003 Redesign | | | | | | | | | | | | | | | |
| Secretarial Office: | Environmental Management | | | | | | | | | | | | | | | |
| Lab/Site/Org: | Hanford Site | | | | | | | | | | | | | | | |
| Facility Name: | RPP Waste Treatment Plant | | | | | | | | | | | | | | | |
| Subject/Title: | B86 Lock-Out/Tag-Out process violation | | | | | | | | | | | | | | | |
| Date/Time Discovered: | 03/02/2011 09:30 (PTZ) | | | | | | | | | | | | | | | |
| Date/Time Categorized: | 03/10/2011 15:17 (PTZ) | | | | | | | | | | | | | | | |
| Report Type: | Notification | | | | | | | | | | | | | | | |
| Report Dates: | <table border="1"> <tr> <td>Notification</td> <td>03/16/2011</td> <td>09:17 (ETZ)</td> </tr> <tr> <td>Initial Update</td> <td></td> <td></td> </tr> <tr> <td>Latest Update</td> <td></td> <td></td> </tr> <tr> <td>Final</td> <td></td> <td></td> </tr> </table> | | | | Notification | 03/16/2011 | 09:17 (ETZ) | Initial Update | | | Latest Update | | | Final | | |
| Notification | 03/16/2011 | 09:17 (ETZ) | | | | | | | | | | | | | | |
| Initial Update | | | | | | | | | | | | | | | | |
| Latest Update | | | | | | | | | | | | | | | | |
| Final | | | | | | | | | | | | | | | | |
| Significance Category: | 3 | | | | | | | | | | | | | | | |
| Reporting Criteria: | 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary | | | | | | | | | | | | | | | |

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| | investigations made before work is authorized to begin. |
| Cause Codes: | |
| ISM: | 4) Perform Work Within Controls |
| Subcontractor Involved: | No |
| Occurrence Description: | On Wednesday, March 2, 2011, a BNI Electrician crew working in the B86, Water Treatment facility, observed that an employee had opened a control panel which was under the control of a master clearance. The Electricians informed their Superintendent the employee had not yet received a pre-job briefing nor signed in on the work package Lock-Out/Tag-Out (LO/TO) authorized Master clearance list. |
| Cause Description: | |
| Operating Conditions: | N/A |
| Activity Category: | Construction |
| Immediate Action(s): | The Electrician crew reported the potential violation to Supervision and Construction Management initiated an investigation into the potential violation. |
| FM Evaluation: | |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | No |
| Division or Project: | Waste Treatment Project |
| Plant Area: | 600 |
| System/Building/Equipment: | B86 Water Treatment facility |
| Facility Function: | Nuclear Waste Operations/Disposal |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency |
| HQ Summary: | On March 2, 2011, a BNI electrician crew working in the B86, Water Treatment facility, observed that an employee had opened a control panel that was under the control of a master clearance. The electricians informed their superintendent that the employee had not yet received a pre-job briefing and had not signed in on the work package Lock-Out/Tag-Out (LO/TO) authorized master clearance list. Construction Management initiated an investigation into the potential LO/TO violation. |
| Similar OR Report Number: | 1. N/A |

| | | | | |
|-----------------------------------|------------|-------------------------------|-----------------|--------------|
| Facility Manager: | Name | OJEDA, MIGUEL | | |
| | Phone | (509) 373-8629 | | |
| | Title | ISSUES MANAGEMENT COORDINATOR | | |
| Originator: | Name | OJEDA, MIGUEL | | |
| | Phone | (509) 373-8629 | | |
| | Title | ISSUES MANAGEMENT COORDINATOR | | |
| HQ OC Notification: | Date | Time | Person Notified | Organization |
| | NA | NA | NA | NA |
| Other Notifications: | Date | Time | Person Notified | Organization |
| | 03/10/2011 | 15:17 (PTZ) | Tucker Campbell | BNI/Con |
| | 03/10/2011 | 15:35 (PTZ) | Dave Leeth | BNI/Con |
| | 03/10/2011 | 15:40 (PTZ) | Thom Nash | BNI/Con |
| | 03/10/2011 | 16:01 (PTZ) | Doug Hoffman | DOE/FR |
| | 03/10/2011 | 17:09 (PTZ) | Davis | ONC |
| Authorized Classifier(AC): | | | | |

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|-------------------------------|---|------------|-------------|
| 4)Report Number: | EM-RP--WRPS-TANKFARM-2011-0006 After 2003 Redesign | | |
| Secretarial Office: | Environmental Management | | |
| Lab/Site/Org: | Hanford Site | | |
| Facility Name: | Tank Farms | | |
| Subject/Title: | Unexpected Energy Source Discovered After Work Was Authorized To Begin | | |
| Date/Time Discovered: | 03/09/2011 14:25 (PTZ) | | |
| Date/Time Categorized: | 03/09/2011 15:20 (PTZ) | | |
| Report Type: | Notification | | |
| Report Dates: | Notification | 03/11/2011 | 12:44 (ETZ) |
| | Initial Update | | |
| | Latest Update | | |
| | Final | | |
| Significance Category: | 3 | | |
| Reporting Criteria: | 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary | | |

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|---|---|
| | investigations made before work is authorized to begin. |
| Cause Codes: | |
| ISM: | 2) Analyze the Hazards |
| Subcontractor Involved: | No |
| Occurrence Description: | On March 9, 2011, while executing work package TFC-WO-11-1852, an energized electrical wire was discovered during the safe-to-work check in the Motor Starter Enclosure for 242-A Evaporator's Vessel Vent. A safe-to-work check was being performed prior to start of work inside the Motor Starter Enclosure. The Motor Control Center's (MCC 2) Cubicle B8 was locked and tagged to de-energize the 242-A Vessel Vent's Motor Starter Enclosure. There were no injuries and the workers were wearing the prescribed personal protective equipment. Initial investigation showed that the Electrical Elementary Diagram control drawing did not show the energized energy source. |
| Cause Description: | |
| Operating Conditions: | The 242-A Evaporator in is shutdown mode. |
| Activity Category: | Facility/System/Equipment Testing |
| Immediate Action(s): | Electrician secured the Motor Starter Enclosure in a safe configuration. The work package was suspended. An event investigation scheduled. |
| FM Evaluation: | |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | Yes. Before Further Operation? No By Whom: Ellis, Martin W By When: |
| Division or Project: | Washington River Protection Solutions, LLC (WRPS) |
| Plant Area: | 200 East |
| System/Building/Equipment: | Vessel Vent/242-A/Motor Start Enclosure |
| Facility Function: | Nuclear Waste Operations/Disposal |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 01M--Inadequate Conduct of Operations - Inadequate Job Planning (Electrical) 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency |

| | 14E--Quality Assurance - Work Process Deficiency | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------------|--|------------------|--------------|--|------|-----------------|-----------------|--------------|------------|----------------|--------------|------|------------|--------------------------------|------------------|------|------------|-------------|----------------|------|------------|-------------|--------------|---------|------------|-------------|--------------|---------|
| HQ Summary: | On March 9, 2011, while executing work package TFC-WO-11-1852, an energized electrical wire was discovered during the safe-to-work check in the motor starter enclosure for the 242-A Evaporator's Vessel Vent. A safe-to-work check was being performed before starting work inside the enclosure. The Motor Control Center's Cubicle B8 was locked and tagged to de-energize the 242-A Vessel Vent's motor starter enclosure. There were no injuries and the workers were wearing the prescribed personal protective equipment. Initial investigation showed that the electrical elementary diagram control drawing did not show the energized energy source. An electrician secured the motor starter enclosure in a safe configuration. The work package was suspended and an event investigation was scheduled. | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Similar OR Report Number: | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Facility Manager: | <table border="1"> <tr> <td>Name</td> <td colspan="3">Ellis, Martin W</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-4696</td> </tr> <tr> <td>Title</td> <td colspan="3">Manager, Performance Assurance</td> </tr> </table> | | | | Name | Ellis, Martin W | | | Phone | (509) 373-4696 | | | Title | Manager, Performance Assurance | | | | | | | | | | | | | | |
| Name | Ellis, Martin W | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phone | (509) 373-4696 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Title | Manager, Performance Assurance | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Originator: | <table border="1"> <tr> <td>Name</td> <td colspan="3">WATERS, SHAUN F</td> </tr> <tr> <td>Phone</td> <td colspan="3">(509) 373-3457</td> </tr> <tr> <td>Title</td> <td colspan="3">OPERATIONS SPECIALIST</td> </tr> </table> | | | | Name | WATERS, SHAUN F | | | Phone | (509) 373-3457 | | | Title | OPERATIONS SPECIALIST | | | | | | | | | | | | | | |
| Name | WATERS, SHAUN F | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Phone | (509) 373-3457 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Title | OPERATIONS SPECIALIST | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HQ OC Notification: | <table border="1"> <tr> <td>Date</td> <td>Time</td> <td>Person Notified</td> <td>Organization</td> </tr> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </table> | | | | Date | Time | Person Notified | Organization | NA | NA | NA | NA | | | | | | | | | | | | | | | | |
| Date | Time | Person Notified | Organization | | | | | | | | | | | | | | | | | | | | | | | | | |
| NA | NA | NA | NA | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other Notifications: | <table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>03/09/2011</td> <td>15:41 (PTZ)</td> <td>Moser, D. R.</td> <td>WRPS</td> </tr> <tr> <td>03/09/2011</td> <td>15:41 (PTZ)</td> <td>Wilkinson, R. E.</td> <td>WRPS</td> </tr> <tr> <td>03/09/2011</td> <td>15:41 (PTZ)</td> <td>Gregory, R. E.</td> <td>WRPS</td> </tr> <tr> <td>03/09/2011</td> <td>15:43 (PTZ)</td> <td>Yasek, R. M.</td> <td>DOE-ORP</td> </tr> <tr> <td>03/09/2011</td> <td>15:45 (PTZ)</td> <td>Davis, K. W.</td> <td>MSA-ONC</td> </tr> </tbody> </table> | | | | Date | Time | Person Notified | Organization | 03/09/2011 | 15:41 (PTZ) | Moser, D. R. | WRPS | 03/09/2011 | 15:41 (PTZ) | Wilkinson, R. E. | WRPS | 03/09/2011 | 15:41 (PTZ) | Gregory, R. E. | WRPS | 03/09/2011 | 15:43 (PTZ) | Yasek, R. M. | DOE-ORP | 03/09/2011 | 15:45 (PTZ) | Davis, K. W. | MSA-ONC |
| Date | Time | Person Notified | Organization | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03/09/2011 | 15:41 (PTZ) | Moser, D. R. | WRPS | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03/09/2011 | 15:41 (PTZ) | Wilkinson, R. E. | WRPS | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03/09/2011 | 15:41 (PTZ) | Gregory, R. E. | WRPS | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03/09/2011 | 15:43 (PTZ) | Yasek, R. M. | DOE-ORP | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03/09/2011 | 15:45 (PTZ) | Davis, K. W. | MSA-ONC | | | | | | | | | | | | | | | | | | | | | | | | | |
| Authorized Classifier(AC): | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5)Report Number: | EM-SR--SRNS-HBLINE-2011-0006 After 2003 Redesign | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Secretarial Office: | Environmental Management | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Lab/Site/Org: | Savannah River Site | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Facility Name: | HB-Line | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Subject/Title: | Energized Electrical Conductor Found Disconnected To Cabinet Cooling Fan (U) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date/Time Discovered: | 03/15/2011 16:25 (ETZ) | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date/Time Categorized: | 03/15/2011 16:25 (ETZ) | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|--------------------------------|---|------------|-------------|
| Report Type: | Notification | | |
| Report Dates: | Notification | 03/16/2011 | 17:28 (ETZ) |
| | Initial Update | | |
| | Latest Update | | |
| | Final | | |
| Significance Category: | 3 | | |
| Reporting Criteria: | 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin. | | |
| Cause Codes: | | | |
| ISM: | | | |
| Subcontractor Involved: | No | | |
| Occurrence Description: | <p>An Electrical and Instrumentation (E&I) Mechanic performing a field walk down in preparation for future work discovered an energized electrical conductor in an equipment cabinet located in the Phase 2 Control Room of HB-Line that was not properly terminated. The end of the wire with the exposed conductor had been taped. Subsequent investigation determined that an unqualified Operations worker had accessed the cabinet to attempt to unplug a cooling fan which was about to fail and believed to be a potential fire hazard. During the tracing of the fan wiring, a wire pulled free from a butt-splice connection. Without the benefit of appropriate personal protective equipment (i.e., low voltage gloves) and proper training as a Qualified Electrical Worker (QEW), the individual decided to tape the end of the wire to prevent accidental contact by other personnel. However, in non-emergency situations, work must be performed in accordance with site procedures and requirements.</p> | | |
| Cause Description: | | | |
| Operating Conditions: | HB-Line was in Operations Mode. | | |
| Activity Category: | Normal Operations (other than Activities specifically listed in this Category) | | |
| Immediate Action(s): | <p>A time out was called and the E&I First Line Manager (FLM) was notified of the problem. Following Shift Operations Manager (SOM) approval and further investigation of the issue, proximity testing identified the presence of voltage (i.e., 120V) on the wire. Appropriate notifications were made, and the cabinet was barricaded to prevent inadvertent contact with the wire.</p> <p>A Fact Finding Meeting was held 3/16/2011 at 0900 hours to identify</p> | | |

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| | issues and to determine appropriate path-forward / actions relative to the event. |
| FM Evaluation: | <p>Appropriate notifications were made regarding the issue. The cabinet was barricaded to prevent inadvertent contact with wire.</p> <p>The SRS Electrical Safety subject matter expert has calculated the electrical severity of this event using guidance developed by the EFCOG/DOE Electrical Safety Subgroup. The calculated severity for this event is (Medium Significance). This event scores as follows: Electrical Hazard: 10 (120V exposed wiring); Environment Factor: 0 (dry); Shock Proximity Factor: 10 (prohibited approach boundary-exposed wiring taped over w/o electrical PPE); Arc Flash: 0; Thermal Factor: 0; PPE mitigations for shock (None), and Injury Factor:1 (no shock or injury). Electrical Severity=$10(1+0+10+0+0)*1=110$.</p> <p>Electrical Severity (ES) = (Electrical Hazard Factor) * (1 + Environment Factor + Shock Proximity Factor + Arc Flash Proximity Factor + Thermal Proximity Factor) * (Injury Factor)</p> |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | <p>Yes. Before Further Operation? No By Whom: R. Abshire By When: 04/28/2011</p> |
| Division or Project: | SRNS/M&O/NMD/HMD |
| Plant Area: | H-Area |
| System/Building/Equipment: | Electrical |
| Facility Function: | Reprocessing |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | <p>01A--Inadequate Conduct of Operations - Inadequate Conduct of Operations (miscellaneous) 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01Q--Inadequate Conduct of Operations - Personnel error 08H--OSHA Reportable/Industrial Hygiene - Safety Noncompliance 12C--EH Categories - Electrical Safety 14E--Quality Assurance - Work Process Deficiency</p> |
| HQ Summary: | On March 15, 2011, an Electrical and Instrumentation Mechanic, who was performing a field walk down in preparation for future work, discovered an energized electrical conductor in an equipment cabinet located in the Phase 2 Control Room of HB-Line that was not properly terminated. The |

end of the wire with the exposed conductor had been taped. Subsequent investigation determined that an unqualified Operations worker had accessed the cabinet to attempt to unplug a cooling fan that was about to fail and believed to be a potential fire hazard. During the tracing of the fan wiring, a wire pulled free from a butt-splice connection. Without the benefit of appropriate personal protective equipment (i.e., low voltage gloves) and proper training as a Qualified Electrical Worker, the individual decided to tape the end of the wire to prevent accidental contact by other personnel. However, in non-emergency situations, work must be performed in accordance with site procedures and requirements. Appropriate notifications were made regarding the issue and the cabinet was barricaded to prevent inadvertent contact with the wire. A fact finding meeting was held.

Similar OR Report Number:

Facility Manager:

| | |
|-------|--------------------------|
| Name | Gallahue, K. J. |
| Phone | (803) 208-8888 |
| Title | HB-Line Facility Manager |

Originator:

| | |
|-------|-------------------------|
| Name | STALLINGS, GERALD L |
| Phone | (803) 208-8459 |
| Title | OCCURRENCE INVESTIGATOR |

HQ OC Notification:

| Date | Time | Person Notified | Organization |
|------|------|-----------------|--------------|
| NA | NA | NA | NA |

Other Notifications:

| Date | Time | Person Notified | Organization |
|------------|-------------|---------------------|--------------|
| 03/15/2011 | 16:25 (ETZ) | S. Howell | AREA MGR |
| 03/15/2011 | 16:25 (ETZ) | K. Gallahue | FM |
| 03/15/2011 | 16:25 (ETZ) | C. Anderson | OPSMGR |
| 03/15/2011 | 16:25 (ETZ) | D. Hart | MAINTMGR |
| 03/15/2011 | 16:45 (ETZ) | J. Carswell | FR |
| 03/15/2011 | 16:50 (ETZ) | C. Gardner | TECHMGR |
| 03/15/2011 | 17:15 (ETZ) | M. Sautman (text) | DNFSB |
| 03/15/2011 | 17:20 (ETZ) | D. Eyler | NMO VP |
| 03/15/2011 | 17:25 (ETZ) | D. Burnfield (text) | DNFSB |
| 03/15/2011 | 17:34 (ETZ) | A. Ross | SRSOC |

Authorized Classifier(AC):

Abshire, R. R. Date: 03/16/2011

6)Report Number:

[EM-SR--SRNS-KAREA-2011-0001](#) After 2003 Redesign

Secretarial Office:

Environmental Management

Lab/Site/Org:

Savannah River Site

| | | | |
|--------------------------------|---|------------|-------------|
| Facility Name: | K - Area | | |
| Subject/Title: | Cut of Unidentified Embedded Energized Conduit | | |
| Date/Time Discovered: | 03/24/2011 10:55 (ETZ) | | |
| Date/Time Categorized: | 03/24/2011 10:55 (ETZ) | | |
| Report Type: | Notification | | |
| Report Dates: | Notification | 03/28/2011 | 09:14 (ETZ) |
| | Initial Update | | |
| | Latest Update | | |
| | Final | | |
| Significance Category: | 3 | | |
| Reporting Criteria: | 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin. | | |
| Cause Codes: | | | |
| ISM: | | | |
| Subcontractor Involved: | No | | |
| Occurrence Description: | <p>On 3/1/11 and 3/2/11, Construction cut a hole in the PAV Roof for installation of an HVAC duct. An existing Lockout (100-K-11-018) was established for lights and receptacles due to embedded conduit in the construction area as a conservative measure. Upon removal of the slab on 3/4/11, it was discovered that two previously unidentified embedded conduits had been cut. One conduit contained two conductors and the other contained four conductors. Voltage checks were conducted on each conductor and an absence of voltage was determined. The Lockout was removed and each affected breaker was energized to determine if they were the power source of any of the cut conductors. The breakers were determined to not be the power source for any of the cut conductors. Additional troubleshooting was performed and it was discovered that the breaker for Panel W, Breaker 22, Circuit 23, Elevator Lighting Transfer Relay, was tripped. The breaker was reset, and voltage checks identified that the circuit was the power source for the conduit with the two conductors.</p> | | |
| Cause Description: | | | |
| Operating Conditions: | Normal Operations | | |
| Activity Category: | Normal Operations (other than Activities specifically listed in this Category) | | |
| Immediate Action(s): | The area around the cut conduits was barricaded. The breaker was de-energized. Heat shrink material was installed on each individual conductor | | |

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| | to prevent inadvertent contact with potentially energized conductors. Notifications were made to the Shift Operations Manager, Engineering, and Construction Management. |
| FM Evaluation: | |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | Yes. Before Further Operation? No By Whom: Engineering By When: |
| Division or Project: | M&O/NMSP/KAC |
| Plant Area: | KAC |
| System/Building/Equipment: | KAC PAV |
| Facility Function: | Plutonium Processing and Handling |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | 01B--Inadequate Conduct of Operations - Loss of Configuration Management/Control 07D--Electrical Systems - Electrical Wiring 08J--OSHA Reportable/Industrial Hygiene - Near Miss (Electrical) 12C--EH Categories - Electrical Safety 14D--Quality Assurance - Documents and Records Deficiency 14E--Quality Assurance - Work Process Deficiency |
| HQ Summary: | On March 4, 2011, while removing a slab that had been cut in the PAV Roof for installation of an HVAC duct, workers discovered that two unidentified embedded electrical conduits had been cut. Before construction workers had cut the hole in the roof, an existing lockout (100-K-11-018) had been established for lights and receptacles as a conservative measure because of known embedded conduit in the area. One of the cut conduits contained two conductors and the other contained four conductors. Voltage checks confirmed the absence of voltage on all conductors. The lockout was removed and each circuit breaker was energized to determine if it was the power source for any of the cut conductors. None of them was the power source. Additional troubleshooting discovered that the circuit breaker for Panel W, Breaker 22, Circuit 23, Elevator Lighting Transfer Relay, had tripped. The breaker was reset, and voltage checks identified that this circuit was the power source for the conduit containing the two conductors. The area around the cut conduits was barricaded and the circuit breaker was de-energized. Heat shrink material was installed on each conductor to prevent inadvertent contact with potentially energized conductors. Management notifications were made. |

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|-----------------------------------|--|---------------------|-----------------|--------------|
| Similar OR Report Number: | | | | |
| Facility Manager: | Name | KOKOVICH, MARK A | | |
| | Phone | (803) 557-3871 | | |
| | Title | OPERATIONS SUPPORT | | |
| Originator: | Name | STEPHENS, PAMELA W. | | |
| | Phone | (803) 557-3285 | | |
| | Title | OPERATIONS SUPPORT | | |
| HQ OC Notification: | Date | Time | Person Notified | Organization |
| | NA | NA | NA | NA |
| Other Notifications: | Date | Time | Person Notified | Organization |
| | 03/24/2011 | 10:55 (ETZ) | M. J. Lewczyk | Fac. Mgr |
| | 03/24/2011 | 10:55 (ETZ) | B. J. Williams | SRSOC |
| | 03/24/2011 | 10:55 (ETZ) | W. M. Bell | DOE FR |
| | 03/24/2011 | 10:55 (ETZ) | D. L. Melvin | KAC SEM |
| | 03/24/2011 | 10:55 (ETZ) | M. A. Kokovich | Dep. FM |
| | 03/24/2011 | 10:55 (ETZ) | M. F. Gibson | Ops Mgr |
| Authorized Classifier(AC): | Pamela W. Stephens Date: 03/28/2011 | | | |

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|-------------------------------|---|------------|-------------|
| 7)Report Number: | NA--PS-BWP-PANTEX-2011-0019 After 2003 Redesign | | |
| Secretarial Office: | National Nuclear Security Administration | | |
| Lab/Site/Org: | Pantex Plant | | |
| Facility Name: | Pantex Plant | | |
| Subject/Title: | Subcontractor Receives Mild Shock | | |
| Date/Time Discovered: | 03/22/2011 16:15 (CTZ) | | |
| Date/Time Categorized: | 03/22/2011 18:14 (CTZ) | | |
| Report Type: | Update | | |
| Report Dates: | Notification | 03/24/2011 | 13:45 (ETZ) |
| | Initial Update | 03/24/2011 | 13:52 (ETZ) |
| | Latest Update | 03/24/2011 | 13:52 (ETZ) |
| | Final | | |
| Significance Category: | 2 | | |
| Reporting Criteria: | 2C(1) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, | | |

| | |
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| | etc.) hazardous energy. |
| Cause Codes: | |
| ISM: | |
| Subcontractor Involved: | Yes DivCon Inc. |
| Occurrence Description: | <p>This occurrence is categorized as an 2C1 (SC2), Failure to follow a prescribed hazardous energy control process (e.g., Lock Out Tag Out) or disturbance of a previously unknown or mislocated hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas) resulting in a person contacting (burn, shock, etc.) hazardous energy.</p> <p>Although this occurrence is not the result of a failure to follow a prescribed hazardous energy control process (Lock Out Tag Out)it is resultant from the disturbance of an energy source known to support the facility, but unknown to be defective due to subcontractor owned equipment failure.</p> <p>On 03-22-2011, a DivCon employee,(DivCon works at Pantex under several lower tier subcontractors), received what was described as a “mild tingle” (minute electrical shock) as he was exiting the company owned mobile office trailer while simultaneously touching the metal door knob and a metal stairway.</p> <p>The DivCon manager immediately reported this issue to the Zone 10 Facility Manager (FM). Upon notification, the FM was informed that the DivCon employee was not injured, and the FM requested that DivCon secure the area and not touch the trailer or metal parts. With the area placed in a safe mode, the FM made appropriate notifications to the Projects Division Management, the Operations Center (OC), and others as required.</p> <p>There were no personnel injuries, no damage to equipment or facilities, nor any threat to security or the environment as a result of this event.</p> |
| Cause Description: | |
| Operating Conditions: | The facility was operating normally |
| Activity Category: | Normal Operations (other than Activities specifically listed in this Category) |
| Immediate Action(s): | Upon notification, B&W Pantex Electrical Safety arrived at the scene and monitored the voltage. They measured the voltage reading between the door and the metal staircase to be 113 volts. With this discovery, they shut off the power to the trailer and verified absence of energy on the outer metal parts of the trailer. |

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| | <p>Upon further investigation, they identified that a breaker to a window AC/Heat unit had been thrown. This AC/Heat unit had been wired to two breakers, one for each of the two separate Alternating Current (AC) feed legs, instead of one large breaker, for both feed legs. One of the feed legs was still energized. The power to the trailer was left disconnected and the attending FM applied a lock to the power disconnect.</p> <p>With these discoveries, B&W Pantex Electrical Safety notified their management and the determination was made to request that the OC dispatch Emergency Medical Technicians (EMTs) to the scene to evaluate the DivCon employee who had suffered the mild shock. The DivCon employee restated that he was not hurt and refused any service offered by the attending EMT personnel.</p> <p>NNSA Duty Officer, Operations Center, Projects Division and Maintenance Management were notified.</p> <p>An event critique was scheduled and conducted 03-23-11 at 1100 hrs, where it was identified that the current reporting requirements for hazardous energy control allows for two selections, 2C1-(SC2) and 2-2C-SC3. B&W Pantex Electrical Safety applied the Energy Facility Contractors Group (EFCOG), electrical safety subgroup's electrical severity score with a final determination of 330 (low on this scale) which recommended the categorization to be reported at a Significance Category (SC)3. However, as a person had received an electrical shock, it was agreed to submit this report as a 2C-1-(SC2).</p> <p>The power to the mobile office trailer remains disconnected and locked pending resolution of defects.</p> |
| FM Evaluation: | All electrical service to this mobile office trailer remains disconnected pending repair. |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | No |
| Division or Project: | Projects Division |
| Plant Area: | Zone 10 |
| System/Building/Equipment: | Zone 10 Lot 20 |
| Facility Function: | Balance of Plant - Infrastructure (Other Functions not specifically listed in this Category) |
| Corrective Action: | |
| Lessons(s) Learned: | |

HQ Keywords: 01S--Inadequate Conduct of Operations - Incorrect/Inadequate Installation
 08A--OSHA Reportable/Industrial Hygiene - Electrical Shock
 11G--Other - Subcontractor
 12C--EH Categories - Electrical Safety
 14E--Quality Assurance - Work Process Deficiency

HQ Summary: On March 22, 2011, a DivCon (a lower tier subcontractor at Pantex) employee received what was described as a “mild tingle” (minor electrical shock) as he was exiting the company owned mobile office trailer while simultaneously touching the metal door knob and a metal stairway. The area was placed in a safe condition and appropriate management notifications were made. The voltage reading between the door and the metal staircase was measured at 113-volts. With this discovery, power was shut off to the trailer. Further investigation identified that a breaker to a window AC/Heating Unit had been thrown. This AC/Heating Unit had been wired to two breakers, one for each of the two separate Alternating Current feed legs, instead of one large breaker, for both feed legs. One of the feed legs was still energized. The power to the trailer was left disconnected and a lock was applied to the power disconnect. The DivCon employee restated that he was not hurt and refused any service offered by the attending EMT personnel. An event critique was held on March 23. Pantex Electrical Safety personnel calculated the DOE electrical severity index with a score of 330. The power to the mobile office trailer remains disconnected and locked pending the resolution of the defects. There were no personnel injuries, no damage to equipment or facilities, nor any threat to security or the environment as a result of this event.

Similar OR Report Number:

Facility Manager:

| | |
|-------|-----------------------------------|
| Name | Ian Hughes |
| Phone | (806) 477-7530 |
| Title | Subcontractor Receives Mild Shock |

Originator:

| | |
|-------|------------------------|
| Name | MCNABB, RON O |
| Phone | (806) 477-6855 |
| Title | SUPPORT REPRESENTATIVE |

HQ OC Notification:

| Date | Time | Person Notified | Organization |
|------|------|-----------------|--------------|
| NA | NA | NA | NA |

Other Notifications:

| Date | Time | Person Notified | Organization |
|------------|-------------|----------------------------|--------------|
| 03/22/2011 | 18:14 (CTZ) | Noel Williams Duty Officer | PXSO |

Authorized Classifier(AC): George Weathers Date: 03/23/2011

8)Report Number: [NE-ID--BEA-ATR-2011-0006](#) After 2003 Redesign

Secretarial Office: Nuclear Energy, Science and Technology

| | | | |
|--------------------------------|---|------------|-------------|
| Lab/Site/Org: | Idaho National Laboratory | | |
| Facility Name: | Advanced Test Reactor | | |
| Subject/Title: | Locking Device Malfunction at the Advanced Test Reactor | | |
| Date/Time Discovered: | 03/29/2011 09:25 (MTZ) | | |
| Date/Time Categorized: | 03/31/2011 09:05 (MTZ) | | |
| Report Type: | Notification/Final | | |
| Report Dates: | Notification | 04/04/2011 | 18:21 (ETZ) |
| | Initial Update | 04/04/2011 | 18:21 (ETZ) |
| | Latest Update | 04/04/2011 | 18:21 (ETZ) |
| | Final | 04/04/2011 | 18:21 (ETZ) |
| Significance Category: | 4 | | |
| Reporting Criteria: | 10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence) | | |
| Cause Codes: | | | |
| ISM: | 5) Provide Feedback and Continuous Improvement | | |
| Subcontractor Involved: | No | | |
| Occurrence Description: | <p>At 0925 on 29 March 2011, during a walkdown of Lockout/Tagout (LO/TO) the locking device/lock/tag/and hasp all came loose from the tagged 120 VAC distribution breaker. An investigation was initiated to determine why the LO/TO components came off when checked by the person performing the walkdown. The investigation identified that if a small diameter/small shank multi-hasps is used in conjunction with a small, metal, 120 VAC locking device, there is potential for the locking device to slide off the breaker.</p> <p>This event did not fall into one of the clearly defined reporting criteria per LWP-9301; however, after some discussion the decision was made to categorize as a management concern so other DOE facilities could evaluate if this was an issue in their areas. Therefore, this event was not categorized within the required two-hour timeframe.</p> | | |
| Cause Description: | | | |
| Operating Conditions: | The ATR was shut down for the Cycle 149A-1 outage. | | |
| Activity Category: | Maintenance | | |
| Immediate Action(s): | Appropriate levels of BEA management and DOE-ID were notified of this event. | | |

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| | <p>All work associated with the affected tagout was stopped and notification made to ATR facility management. The affected tag was replaced in accordance with requirements of LWP-9400, Lockouts and Tagouts, Section 4.7. Zero energy was performed by electrical craft personnel to ensure the zero energy had not been invalidated. All ATR LO/TOs were checked and identified three of the small metal locking devices that were currently installed. It was verified that all the devices were being used in conjunction with the large diameter multi-hasps and a nylon cable tie wrap was added to each device to fill more of the hole the multi-hasps is inserted through, to help preclude movement of the multi-hasps and/or locking device. All of the similar small metal 120 volt locking devices were collected and removed from service pending further evaluation of the locking devices/multi-hasps.</p> |
| FM Evaluation: | |
| 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, TRA-670 |
| Facility Function: | Category "A" Reactors |
| Corrective Action: | |
| Lessons(s) Learned: | |
| HQ Keywords: | <p>01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency</p> |
| HQ Summary: | <p>On March 29, 2011, during a Lockout/Tagout (LO/TO) walk down, the locking device, lock/tag, and hasp came loose from a tagged 120-volt distribution breaker. An investigation was initiated to determine why the LO/TO components came off when checked by the person performing the walk down. The investigation identified that if a small shank multi-hasps is used in conjunction with a small metal, 120-volt locking device, there is the potential for the locking device to slide off the breaker. The decision was made to categorize the discovery as a management concern, so other DOE facilities could evaluate if this is an issue in their areas. Management notifications were made. All work associated with the affected tagout was stopped and the tag was replaced. A zero energy check was performed by electrical craft personnel. All other ATR LO/TOs were checked, identifying three other currently installed small metal locking devices. It</p> |

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| | was verified that all three devices were using large diameter multi-hasps. A nylon cable tie wrap was added to each device to fill more of the hole that the multi-hasps is inserted through. This action helped avoid movement of the multi-hasps and/or locking device. All of the similar small metal 120-volt locking devices were collected and removed pending further evaluation. | | | |
| 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 |
| | 03/31/2011 | 09:05 (MTZ) | R. Denning | DOE-ID |
| Authorized Classifier(AC): | E. Bruce Criswell Date: 04/04/2011 | | | |
| 9)Report Number: | SC--PSO-PPPL-PPPL-2011-0002 After 2003 Redesign | | | |
| Secretarial Office: | Science | | | |
| Lab/Site/Org: | Princeton Plasma Physics Laboratory | | | |
| Facility Name: | Princeton Plasma Physics Lab. (BOP) | | | |
| Subject/Title: | LOTO Lock discovered cut on a locked out circuit breaker | | | |
| Date/Time Discovered: | 03/29/2011 07:00 (ETZ) | | | |
| Date/Time Categorized: | 03/29/2011 11:00 (ETZ) | | | |
| Report Type: | Final | | | |
| Report Dates: | Notification | 03/30/2011 | 11:52 (ETZ) | |
| | Initial Update | 03/31/2011 | 08:31 (ETZ) | |
| | Latest Update | 03/31/2011 | 08:31 (ETZ) | |
| | Final | 03/31/2011 | 08:31 (ETZ) | |
| Significance Category: | 4 | | | |
| Reporting Criteria: | 10(2) - An event, condition, or series of events that does not meet any of the other reporting criteria, but is determined by the Facility Manager or line management to be of safety significance or of concern to other facilities or activities in the DOE complex. One of the four significance categories should be assigned to the occurrence, based on an evaluation of | | | |

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| | the potential risks and the corrective actions taken. (1 of 4 criteria - This is a SC 4 occurrence) |
| Cause Codes: | |
| ISM: | 4) Perform Work Within Controls |
| Subcontractor Involved: | Yes Powers Electric |
| Occurrence Description: | <p>On March 29, 2011 at approximately 7am, a Powers Electric contractor foreman went to remove his lock and tag from a de-energized 480 VAC circuit breaker (# 6 in panel PLP-131) in the utility room 124 of the New Engineering Wing building and discovered his lock had been cut through by a bolt cutter. He notified AC Power engineer who contacted his supervisor and the duty FM.</p> <p>The lock was originally placed on November 20, 2010 and the last time the owner of the lock had checked on the lock was around the beginning of March. The circuit controlled by the lock only served two fans that were part of a new exhaust fan and HVAC fan installation for the Nano Lab.</p> <p>While investigating this incident a second cut LO-TO lock was discovered (without tag) resting on a transformer in the utility room. The owner and history of this second lock are unknown at this time.</p> <p>This incident is still under investigation.</p> |
| Cause Description: | |
| Operating Conditions: | The Nano Lab facility was under construction at the time this was discovered. |
| Activity Category: | Normal Operations (other than Activities specifically listed in this Category) |
| Immediate Action(s): | As a precaution electrical safety has notified all LOTO qualified personnel to check their locks to verify that they are still properly placed and secured |
| FM Evaluation: | |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | No |
| Division or Project: | Nano Lab |
| Plant Area: | Room 124 |

| System/Building/Equipment: | Engineering Building Utility Room 124 | | | | | | | | | | | | | | | |
|-----------------------------------|--|-----------------|--------------|--|------|---------------------|-----------------|--------------|------------|----------------|---------------|---------|-------|---------------------------------------|--|--|
| Facility Function: | Laboratory - Research & Development | | | | | | | | | | | | | | | |
| Corrective Action: | | | | | | | | | | | | | | | | |
| Lessons(s) Learned: | | | | | | | | | | | | | | | | |
| HQ Keywords: | 01K--Inadequate Conduct of Operations - Lockout/Tagout Noncompliance (Electrical) 01T--Inadequate Conduct of Operations - Willful Violation 11G--Other - Subcontractor 12I--EH Categories - Lockout/Tagout (Electrical or Mechanical) 14E--Quality Assurance - Work Process Deficiency | | | | | | | | | | | | | | | |
| HQ Summary: | <p>On March 29, 2011, a Powers Electric subcontractor foreman went to remove his lock and tag from a de-energized 480-VAC circuit breaker (# 6 in panel PLP-131), in Utility Room 124 of the New Engineering Wing building, and discovered that his lock had been cut through by a bolt cutter. He notified the AC Power engineer who then contacted his supervisor and the duty facility manager. The lock was originally placed on November 20, 2010, and the last time the owner of the lock had checked on the lock was around the beginning of March. The circuit controlled by the lock only served two fans that were part of a new exhaust fan and HVAC fan installation for the Nano Laboratory. While investigating this incident, a second cut lock was discovered (without tag) resting on a transformer in the utility room. The owner and history of this second lock are unknown at this time. This event is still under investigation. As a precaution, Electrical Safety requested that all LOTO qualified personnel verify that their locks are still properly placed and secured.</p> | | | | | | | | | | | | | | | |
| Similar OR Report Number: | | | | | | | | | | | | | | | | |
| Facility Manager: | <table border="1"> <tr> <td>Name</td> <td colspan="3">WILLIAMS, MIKE</td> </tr> <tr> <td>Phone</td> <td colspan="3">(609) 243-2866</td> </tr> <tr> <td>Title</td> <td colspan="3">ASSOC DIRECT FOR ENGINEERING & INFRAS</td> </tr> </table> | | | | Name | WILLIAMS, MIKE | | | Phone | (609) 243-2866 | | | Title | ASSOC DIRECT FOR ENGINEERING & INFRAS | | |
| Name | WILLIAMS, MIKE | | | | | | | | | | | | | | | |
| Phone | (609) 243-2866 | | | | | | | | | | | | | | | |
| Title | ASSOC DIRECT FOR ENGINEERING & INFRAS | | | | | | | | | | | | | | | |
| Originator: | <table border="1"> <tr> <td>Name</td> <td colspan="3">MALS BURY, JUDITH A</td> </tr> <tr> <td>Phone</td> <td colspan="3">(609) 243-2415</td> </tr> <tr> <td>Title</td> <td colspan="3">HEAD, QUALITY ASSURANCE</td> </tr> </table> | | | | Name | MALS BURY, JUDITH A | | | Phone | (609) 243-2415 | | | Title | HEAD, QUALITY ASSURANCE | | |
| Name | MALS BURY, JUDITH A | | | | | | | | | | | | | | | |
| Phone | (609) 243-2415 | | | | | | | | | | | | | | | |
| Title | HEAD, QUALITY ASSURANCE | | | | | | | | | | | | | | | |
| HQ OC Notification: | <table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>NA</td> <td>NA</td> <td>NA</td> <td>NA</td> </tr> </tbody> </table> | | | | Date | Time | Person Notified | Organization | NA | NA | NA | NA | | | | |
| Date | Time | Person Notified | Organization | | | | | | | | | | | | | |
| NA | NA | NA | NA | | | | | | | | | | | | | |
| Other Notifications: | <table border="1"> <thead> <tr> <th>Date</th> <th>Time</th> <th>Person Notified</th> <th>Organization</th> </tr> </thead> <tbody> <tr> <td>03/29/2011</td> <td>11:00 (ETZ)</td> <td>Leif Dietrich</td> <td>DOE/PSO</td> </tr> </tbody> </table> | | | | Date | Time | Person Notified | Organization | 03/29/2011 | 11:00 (ETZ) | Leif Dietrich | DOE/PSO | | | | |
| Date | Time | Person Notified | Organization | | | | | | | | | | | | | |
| 03/29/2011 | 11:00 (ETZ) | Leif Dietrich | DOE/PSO | | | | | | | | | | | | | |
| Authorized Classifier(AC): | | | | | | | | | | | | | | | | |
| 10)Report Number: | SC-ORO--JCIO-BIOMASS-2011-0001 After 2003 Redesign | | | | | | | | | | | | | | | |

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|--------------------------------|---|------------|-------------|
| Secretarial Office: | Science | | |
| Lab/Site/Org: | Oak Ridge Operations | | |
| Facility Name: | Balance of Plant | | |
| Subject/Title: | ENERGIZED WIRE IN CONTROL ROOM OF BLDG 2519 CUT DURING DEMOLITION | | |
| Date/Time Discovered: | 03/07/2011 16:14 (ETZ) | | |
| Date/Time Categorized: | 03/08/2011 18:00 (ETZ) | | |
| Report Type: | Final | | |
| Report Dates: | Notification | 03/09/2011 | 20:05 (ETZ) |
| | Initial Update | 04/04/2011 | 12:22 (ETZ) |
| | Latest Update | 04/04/2011 | 12:22 (ETZ) |
| | Final | 04/04/2011 | 12:22 (ETZ) |
| Significance Category: | 3 | | |
| Reporting Criteria: | 2C(2) - Failure to follow a prescribed hazardous energy control process (e.g., lockout/tagout) or a site condition that results in the unexpected discovery of an uncontrolled hazardous energy source (e.g., live electrical power circuit, steam line, pressurized gas). This criterion does not include discoveries made by zero-energy checks and other precautionary investigations made before work is authorized to begin. | | |
| Cause Codes: | A3B1C06 - Human Performance Less Than Adequate (LTA); Skill Based Errors; Wrong action selected based on similarity with other actions -->couplet - NA | | |
| ISM: | 4) Perform Work Within Controls | | |
| Subcontractor Involved: | Yes Blaine Construction Company | | |
| Occurrence Description: | <p>On March 7, 2011, Johnson Controls, the ESPC working on the steam plant demolition at ORNL was removing equipment from the old control room of building 2519. During the removal of the old Boiler #6 control panel, the worker made a visual determination that the wires downstream of a terminal block had been previously disconnected during the removal of video monitors. Based on that, the worker assumed there was no power to the downstream side of the terminal block and cut the wires to facilitate removal of the panel. While there was no noticeable arcing during the wire cutting, a 110V-energized wire was cut.</p> <p>The demolition plan has controls specified for electrical work; and these controls were not followed by the worker. Electrical demolition work was stopped on the project, the area was immediately secured under administrative controls and then placed in a safe condition by ORNL electricians providing a single-source lockout/tagout protective isolation of the circuit. ORNL, JCI and DOE management were notified of the event. On March 8, 2011 an investigation and critique were performed of this</p> | | |

incident and the initial apparent cause was determined to be a failure to follow the established procedure. Personnel were re-trained on the procedure for identifying electrical sources during demolition. The incident was categorized by Johnson Controls as a category 2C(2) occurrence; unexpected discovery of an uncontrolled hazardous energy source.

There were no environmental, health or safety consequences or impacts as a result of this occurrence.

Cause Description:

Electrical and mechanical equipment demolition work in Building 2519 had been on-going for over six months. All four of the old boilers and all the associated piping and electrical power and controls had been already removed. Demolition was now focused on the control room. A temporary control room for steam plant operations had already been set up and operational in two temporary trailers immediately outside the building. To this time all demolition work had been performed safely with adherence to the established and approved demolition plan. All parties were trained and familiar with the process of air gapping and color coding by utilities personnel. Only after that had occurred and was communicated to the demolition crew was any demolition work started. Prior to starting the demolition the superintendent and crew would walkdown and verify the readiness for demolition.

On March 7, 2011, Johnson Controls, the ESPC working on the steam plant demolition at ORNL, was removing equipment from the old control room of Building 2519. During the removal of the old Boiler #6 control panel, the worker made a visual determination that the wires downstream of a terminal block had been previously disconnected during removal of video monitors. Based on that, the worker assumed there was no power to the downstream side of the terminal block and cut the wires to facilitate removal of the panel. While there was no noticeable arcing during the wire cutting, a 110V-energized wire was cut.

The demolition plan has controls specified for electrical work and these controls were not followed by the worker. Electrical demolition work was stopped on the project; the area was immediately secured under administrative controls and then placed in a safe condition by ORNL electricians providing a single-source lockout/tagout protective isolation of the circuit. ORNL, JCI and DOE management were notified of the event. There was no environmental, health or safety consequences or impacts as a result of this occurrence.

On March 8, 2011 an investigation and critique were performed of this incident. The subcontractor had previously conducted their own interviews and had replayed the events with the individuals involved. The subcontractor also reviewed the demolition Plan to determine if it was clear and adequate as written. The results of the subcontractor investigation were presented at the critique. The critique team developed a time line of events and evaluated each activity for adherence to the

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| | <p>Demolition Plan. After completing the critique it was determined the apparent cause to be a 'failure to follow the established procedure' which had been successfully used for all of the previous demolition work without problems.</p> <p>As a corrective action, Contractor personnel including ORNL counterparts received refresher training on the procedure included in the approved Demolition Plan. Training focused on the importance of understanding and adhering to the work controls associated with air gapping and color coding.</p> <p>The Critique/Investigation Team, after analyzing the event and circumstances, determined the mostly closely related ORPS code using the analytical causal tree methodology described in DOE G 231-2, "Occurrence Reporting Causal Analysis Guide". The Critique/Investigation team selected A3BC06 'Wrong Action Selected Based on Similarity with other Actions'</p> |
| Operating Conditions: | Normal Operations |
| Activity Category: | Construction |
| Immediate Action(s): | <p>On March 7, 2011, while conducting demolition activities, an energized wire was inadvertently cut in a control cabinet. The energized wire was placed under immediate administrative control and further JCI and ORNL electrical demolition work was stopped on the project.</p> <p>At approximately 1614 hours LSS, ORNL, JCI and DOE management were notified of the event.</p> <p>At approximately 1730, ORNL electricians had placed the wire in a safe condition with engineered controls using a single source Lockout and Tagout.</p> <p>On March 8, 2011, an investigation and critique were conducted and they determined the apparent cause to be a failure to follow the procedure within the approved Demolition Plan.</p> <p>As a corrective action, personnel were re-trained to the procedure. Prompt Notification was filed at 1800 on March 8, 2011 and the event categorized as a Category 3 Subcategory 2C(2); hazardous energy source occurrence.</p> |
| FM Evaluation: | Demolition work requires approved work controls and training to those controls. JCI recognizes the importance of adherence to the approved demolition plans and as such will conduct refresher training. |
| DOE Facility Representative Input: | |
| DOE Program Manager Input: | |
| Further Evaluation is Required: | No |
| Division or Project: | JOHNSON CONTROLS ORNL ESPC Project |
| Plant Area: | BUILDING 2519 |

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|-----------------------------------|---|---|
| System/Building/Equipment: | BUILDING 2519 | |
| Facility Function: | Balance-of-Plant - Site/outside utilities | |
| Corrective Action 01: | Target Completion Date:03/08/2011 | Actual Completion Date:03/08/2011 |
| | Conduct Critique/Investigation | |
| Corrective Action 02: | Target Completion Date:03/08/2011 | Actual Completion Date:03/08/2011 |
| | Determine Adequacy of Demolition Plan | |
| Corrective Action 03: | Target Completion Date:03/09/2011 | Actual Completion Date:03/09/2011 |
| | Conduct Refresher Training on Demolition Plan | |
| Corrective Action 04: | Target Completion Date:03/30/2011 | Actual Completion Date:03/30/2011 |
| | Conduct Safety Reviews of Adherence to Demolition Plan | |
| Lessons(s) Learned: | | |
| HQ Keywords: | 01E--Inadequate Conduct of Operations - Operations Procedure Noncompliance 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: | <p>On March 7, 2011, Johnson Controls (JCI) personnel were removing equipment as part of the ORNL steam plant demolition when an energized 110-Volt wire was cut. The event occurred in the old control room of Building 2519. During the removal of a boiler control panel, a worker visually determined that the wires downstream of a terminal block had been previously disconnected. Based on that determination, the worker assumed that there was no power to the downstream side of the terminal block and cut the wires to facilitate panel removal. No arcing was observed when the energized wire was cut. The demolition plan has specified electrical work controls, and these controls were not followed by the worker. Electrical demolition work was stopped on the project. The area was immediately secured under administrative controls and then placed in a safe condition by ORNL electricians. Management notifications were made. On March 8, an event investigation and a critique were performed, and the initial apparent cause was determined to be a failure to follow the established procedure. Personnel were re-trained on the procedure for identifying electrical sources during demolition. There were no safety consequences or impacts as a result of this event.</p> | |

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| Similar OR Report Number: | 1. None | | | |
| Facility Manager: | Name | FENSTERMAKER, ROY E. | | |
| | Phone | (865) 274-6381 | | |
| | Title | QUALITY MANAGER | | |
| Originator: | Name | FENSTERMAKER, ROY E. | | |
| | Phone | (865) 274-6381 | | |
| | Title | QUALITY MANAGER | | |
| HQ OC Notification: | Date | Time | Person Notified | Organization |
| | NA | NA | NA | NA |
| Other Notifications: | Date | Time | Person Notified | Organization |
| | 03/07/2011 | 16:14 (ETZ) | Johnny Moore | DOE-ORNL |
| | 03/07/2011 | 16:14 (ETZ) | Michele Branton | DOE-ORNL |
| Authorized Classifier(AC): | | | | |

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