

memorandum

DATE: OCT 11 2004

REPLY TO

ATTN OF: SRPD (A. Maniez/803-952-9616)

SUBJECT: Electrical Safety Performance Challenges and Goals (Memo, Roberson to Distribution, 7/13/04)

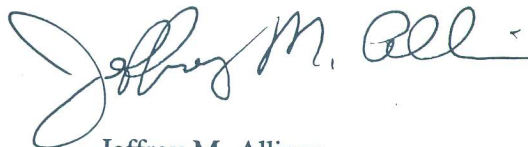
TO: Paul M. Golan, Acting Assistant Secretary for Environmental Management (EM-1), HQ

The subject memorandum requested action plans for the 2004 Electrical Safety Campaign starting in May 2004 and lasting until May 2005. Our review of electrical data and determination of the underlying and contributing causes that constitute the electrical safety issues identified have led us to these action plans. The basic action plans were provided to the Office of Environment Safety and Health (EH-3) electronically in May 2004 and have since been sent to your staff. More details of these actions are provided in Attachment 1, "SRS Actions to Improve Electrical Safety." This document details specific actions that have been completed or are planned to improve electrical safety across the Site.

In addition, attached is a description of the monthly metric (Attachment 2) that we propose to use in order to monitor electrical safety performance on site. This metric utilizes a three-year moving average and weighting factors so that more serious events result in a higher number. In the interim, Attachment 3 has been provided to show electrical safety performance at the site in August 2004 utilizing our current performance metric.

At the Savannah River Site, various safety reviews are on-going due to recent events and lessons learned. Our action plan may be revised as a result of these reviews. I will inform you of any changes to this plan based on the results of our ongoing efforts to review site safety programs.

If you have any questions, please contact me or have your staff contact Augie Maniez at (803) 952-9616.



Jeffrey M. Allison
Manager

SRPD:AM:sl

OESH-05-0004

3 Attachments:

1. SRS Actions to Improve Electrical Safety
2. SRS Proposal for Electrical Safety Performance Indicator
3. WSRC Electrical Safety Performance for August 2004

cc w/attachs:

Ines Triay (EM-3), HQ

SRS Actions to Improve Electrical Safety

Lockout/Tagout (L/T)

1. Issue a Safety Alert that suspends the use of exceptions until the acceptable use of exceptions has been defined.
Completed 4-26-04
2. Conduct a subject matter expert review of Occupational Safety and Health Administration (OSHA) electrical safety interpretations and revise procedures as necessary to reflect these interpretations.
Target Completion Date 1-06-05
3. Institute annual cycle review system of OSHA Interpretations and new issued DOE standards to assure company procedures remain consistent with Department of Labor and DOE safety practices.
Completed 6-14-04

Automated Hazard Analysis (AHA) Program

1. Transmit results of DOE assessment of AHA program to WSRC for action
Completed 10-5-04
2. Identify corrective actions to address problems that a WSRC self-assessment identified relative to using AHA to evaluate electrical hazards.
Target Completion Date 12-5-04
3. Convene a special electrical assessment team to review AHA performance issues with respect to electrical safety. Develop recommendations to address performance issues that are identified by the team.
Target Completion Date 1-20-05

Incorporation of National Fire Protection Association (NFPA) 70E-2000 into WSRC Procedures

1. Revise Manual 18Q, Procedure 2, "Safe Electrical Practices and Procedures Manual," to include implementation of field warning label modifications to electrical equipment and train personnel on the changes.
Completed 9-30-04
2. Conduct assessments of NFPA-70E implementation after completion of the revision of Manual 18Q Procedure 2. Coach workers, where necessary, to ensure understanding of hazards and controls.
Target Completion Date 3-15-05

Review of Electrical Safety Handbook

Evaluate the Electrical Safety Handbook, Chapter 11 “Electrical Safety During Excavations,” to determine if changes would be needed; none were required.

Completed 8-15-04

Disassembly and Decommissioning (D&D) Work

Begin review process for employees in new or unfamiliar assignments.

Target Completion Date 11-15-04

Senior Electrical Review Board (SERB) Activities

1. Develop and approve action plan(s) to address the underlying cause(s) and activities that resulted in electrical safety issues as determined by SERB analyses and individual occurrence root cause analysis.

Target Completion Date Ongoing

2. During SERB meetings (or subgroup meetings, if necessary) review recent electrical events and determine the underlying cause(s) and recommended corrective actions.

Target Completion Date 11-30-04

3. Review electrical safety performance data using electrical Safety Indicator Monthly Reports. Incorporate occurrence categories defined in the 7/24/04 Russo presentation (e.g., Electrical work occurrences, electrical intrusion occurrences, vehicle/electrical occurrences, other electrical occurrences).

Target Completion Date 12-10-04

Behavior Based Safety (BBS) Refinements

1. SERB members, Quality Verification (QV) Inspectors and line management will use BBS techniques to observe electrical work in the field and improve individual worker performance as well as the SRS electrical safety program.

Target Completion Date 11-1-04

SRS Proposal for Electrical Safety Performance Indicators

Electronically submitted to EH-3 on May 28, 2004

SRS proposals for Electrical Safety Month – May 2004

(Goals/Plans and Actions to Improve subject to site/facilities manager concurrence -
Improvements to be incorporated May '04 through May '05)

Description of Electrical Performance Indicator Used at WSRC

In late 1993, SRS management recognized an increase in the number of electrical shock and near miss events. A task team was developed that provided 42 recommendations, one being a recommendation to initiate a performance indicator to monitor electrical safety performance similar to that used to track OSHA injury rate.

The WSRC SERB personnel developed and began using an indicator based on the number of monthly electrical safety events reported through the Site Item Reportability Issues Management (SIRIM) reporting system. This indicator is simply the number of electrical safety related events reported in a month with each event weighted for severity. The weighting factors are chosen so that the more serious events are weighted the highest and the less serious events are weighted the lowest, according to the following:

Electrical Hazard-Low Potential	1.0
Safety Requirement Violation (18Q)	1.5
L/T Violation	2.0
Electrical Near Miss	3.0
Electrical Shock	4.0
Electrical Injury or Burn	5.0-10.0

So, an overall indicator is calculated by weighting each event for severity, and then, adding all the weighted events together to come up with a single number representing our performance.

This indicator has been used successfully at SRS to reveal trends in electrical safety performance and is reviewed monthly by the SERB. This indicator has also been presented to the Defense Nuclear Facilities Safety Board during site reviews and shared with the DOE-Headquarters (HQ) personnel and other DOE contractors.

SRS Proposed Goals

(SRS overall long-term goal is to eliminate electrical safety events altogether => zero incidents)

[Note: SRS had 22 ORPS reportable electrical safety events during 2002-2003. This corresponds to 11 events per year. During the 15 years that WSRC has operated at the site, their best electrical performance was in 2002 & 2003.]

New Goal: For the 5/04 to 5/05 period, reduce electrical events by 5 percent [†] using 3-year moving average of SRS last three years (using the SRS electrical safety performance indicator described above).
SRS Electrical Safety Performance Rating = 2.56 or less (- 5 percent, 3-year moving average) with no burn events

Stretch Goal*: For the 5/04 to 5/05 period, reduce ORPS reportable events by 10 percent or (1) ORPS reportable event
10 (max) ORPS reportable events

(Key electrical safety members at SRS believe that a 5 percent reduction in the electrical safety performance indicator measuring system will produce a 10 percent reduction in ORPS reportable events)

[†] Any improvement in safety performance over the last three years, (WSRC's best) from (15) years total, must be considered a successful year's electrical safety performance.

* ORPS reportable events represent a means to compare DOE sites across the complex. (Although an event rate would be a more meaningful comparison, such would necessitate tabulating the total manhours spent doing electrical work in order to normalize the data. As indicated by the DOE-HQ findings, a substantial number of events do not involve electrical workers making this tabulation a difficult, if not impossible, proposal).

WSRC Electrical Safety Performance

(Note: This is supplied to provide an idea of electrical safety performance while the new 3-year moving average suggested metric is developed. The new metric will contain a tougher scale indicating alignment with the goal submitted.)

WSRC ELECTRICAL SAFETY PERFORMANCE – AUGUST 2004 **Monthly Metric**

Performance Indicator Title: Electrical Safety Index (Severity Indicator)

Performance Indicator Definition: Sum of weighted electrical safety related occurrences/200,000 man-hours reported under SIRIM. More serious events such as injuries and shocks are weighted the highest.

2004 Performance Rating System:

- Excellent – 12-month moving average less than 5.8
- Very Good – 12-month moving average is 5.8 to 6.3
- Good – 12-month moving average equal to 6.4
- Fair – 12-month moving average is 6.5 to 7.0
- Poor – 12-month moving average is greater than 7.0

WSRC Performance through August 2004 (numerical): 2.9

WSRC Performance: Excellent

Summary: No electrical safety events were reported in August. The 12-month moving average continues to remain favorable at 2.9 and well below the annual goal of 5.8. Year-to-date electrical safety events for 2004 are summarized below:

0	Burns/Injuries
1	Shock
4	Near Misses
4	L/T errors
1	18Q procedure violation
0	Electrical Hazards

**Savannah River Site
Electrical Safety Performance
(Prepared 9/28/04)**

