

## Improving the Quality of Tier 1 Reviews at C-AD

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### Background

In 1991, a DOE Tiger Team examined 10% of BNL's buildings (35 buildings) and found 200 OSHA violations. About half the violations were considered serious, and there were no imminent danger violations observed. By far, the most common of these were violations of Subpart S of 29 CFR 1910 that contains OSHA electrical safety regulations. In response, BNL developed OSHA style checklists for Department/Division inspections (Tier I). The Laboratory hired many new ESHQ Directorate staff to assure staff support to assist in identifying and correcting codes and standards.

In April of 1997, a DOE Integrated Safety Management Team evaluated Brookhaven National Laboratory. They found deficiencies in the three-tiered site assessment processes. They found the Tier I, II and III process did not adequately evaluate the flow down of site-wide requirements into facility specific procedures. They found the three-tiered processes did not provide adequate coverage for experiment review, maintenance, industrial safety and hygiene programs, occupational medical services and waste management. As a result, BNL committed to reviewing and revising the Tier I, II and III processes and to add a formal process for tracking corrective actions to closure.

In May through June of 2000, DOE performed a focused Integrated Safety Management Evaluation at BNL. They observed several Tier I programs at BNL and gave several Departments a passing grade.

In August 2000, SBMS promulgated a revision to ESH Standard 1.2.0 Departmental Environment, Safety & Health Inspections. This is the existing Laboratory level document that describes key elements required for the line organization's environmental, safety and health Tier I inspections. A simple list of inspection topics is presented in the ESH Standard. The ESH Standard notes: "The list is a partial list of issues to be evaluated during Tier I walk-through inspections. Additional issues subject to Tier I evaluation include all **OSHA requirements** and possible non-compliances with the Price-Anderson Act Amendments (PAAA) Nuclear Safety Rules."

In October and November 2003, a 20-person OSHA inspection team inspected all of BNL's buildings with the exception of High Radiation Areas. They found 7000 non-compliances lab-wide, about 450 buildings, of which 33% were attributed to C-AD facilities. Many of the non-compliances cited by OSHA were not recognized as non-compliances (~50%) by the Laboratory's authorities having jurisdiction or these non-compliances had DOE approval for a variance.

## **Discussion**

During the last three years, the number of buildings at C-AD has increased from 60 to over 120. In FY00, the BNL Deputy Director for Operations gave approval to reduce the frequency of Tier I inspections at C-AD buildings using a graded approach. Thus, many low-hazard infrequently used areas were changed from quarterly inspection to semi-annual inspection.

The activities of the C-AD Safety Inspection Committee (Tier I Team) are governed by procedure (OPM 9.4.1). The Tier I Team includes the following members:

- Chairperson, ESHQ Division Head
- ES&H Coordinator
- RCD Facility Representative
- RCD Radiological Controls Technician
- ESWMD Environmental Compliance Representative
- Electrical Engineer
- Quality Assurance Manager
- Work Controls Manager
- Environmental Coordinator
- Quality Assurance Specialist
- Water Services Group Technician
- Electrical Specialist from EF&S Division
- Three Chief EE representatives
- Two Chief ME representatives

Four members of the Tier I Team have been trained in the OSHA 10-hour course. In the last week, three other members of the Tier I Team have been trained in the OSHA 30-hour course.

Normally, a Tier I Team consists of 5 to 10 people and lasts 1.5 to 2 hours each week. In addition to the Tier I Team, the responsible supervisor for the location to be inspected is notified. Although notified, Building Managers and supervisors rarely participate. Findings are written up and action items are documented in the C-AD Family ATS. Closeout and trending of action items are monitored by members of the C-AD ESHQ Division.

## **Analysis**

A review of the Tier I team member training shows the Department needs to expand OSHA training to all of the Team members. Attendance at a 30-hour or 10-hour OSHA course may be helpful.

Tier I Team members must include and must mentor Building Managers and supervisors during a safety inspection. Failure to require participation encourages non-compliance.

The specific non-compliances cited by OSHA for the C-AD buildings should be developed into a one-hour training program with appropriate photographs and an explanation of the basis of each type of non-compliance. A “what’s wrong with this picture” type of training program is recommended. The target audience should be C-AD Building Managers and supervisors. This should be developed into a program that is given to Building Managers and supervisors every other year.

Based on the ILO-OSH management system at C-AD, we should increase worker involvement in safety inspections. We suggest a safety-walk be implemented to review a specific job-site each week. The safety-walk party should be made up of the supervisor, technicians, operators and union people associated with the job. A member of the C-A ESHQ Division should join the safety-walk to help spot OSHA non-compliances *and* compliances. See the Attachment 1 for an example from the SNS project. The safety-walk should last no longer than 15 minutes. A simple write-up should be required of the supervisor. The aim of the weekly safety-walk would be to increase worker involvement and to familiarize the workers with regard specific OSHA non-compliances.

### **Recommendations**

In order to continue to improve the Tier I program at C-AD, the following actions are suggested. If approved, they will be tracked to closure by the C-AD ESHQ Division:

1. Increase the OSHA training of the Tier 1 Team members. Attendance at a 30-hour or 10-hour OSHA course should be required for every Team member. (R. Karol, 6-1-04)
2. Prepare a training course based on the findings of the recent OSHA inspections. Present the course to C-AD Building Managers and supervisors every two years. (J. Maraviglia, 2-15-04)
3. It is recommended that a safety-walk program be started to review a specific job-site each week. (A. Piper, 1-1-04)

Signature on File 11-25-03  
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**SAFETY WALK**  
7/29/03

Jim Sells – KJ  
Dustin Haunhorst – Avisco safety  
Ronnie Pittman – Supervisor  
Fred Nelson – Operator  
Tim Walden – Labor  
Sam Moore – Labor  
Billy Ramsey – Teamster

**Grading for site paving west of the CUB building**

**Positive**

- Every utility in the ground was highlighted with paint by BWSC
- A walk down meeting was done with the crew before any work was done
- All site lighting and electrical duct banks and gas line were located with the locator and then hand located before excavation was started.
- JSA, daily dig permit, and Master permit were on site with the operator
- Back up alarms were functioning properly
- Equipment sheets filled out on all equipment
- Proper road closed signs and cones were in correct place
- Seatbelts being worn
- 3 point contact used when getting on and off equipment
- Proper PPE was being utilized
- Drinking water was provided and properly marked

**Negative**

- All of the congestion in the area