



OPERATIONS
LAWRENCE BERKELEY NATIONAL LABORATORY



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HSS Corrective Action Plan Update

HSS Steering Committee

May 13, 2009



Status

- **Causal Analysis complete**
- **Corrective Actions developed**
- **Resource and schedule baselines being developed**
- **Vetted HSS CAP with BSO, DOE-ORO, and McCallum-Turner**
- **Incorporating input from stakeholders**
- **Finalizing CAP**

Observations

- **Majority of the Findings' corrective actions followed a methodology**
 - Identify requirements
 - Review current program/process with requirements
 - Identify gaps
 - Benchmark with other Laboratories
 - Obtain LBNL program/process users input
 - Develop new/enhanced program/process (including training and communication) with defined resource requirements and schedules
 - Obtain approval from LBNL Senior Management to implement
 - Perform validation upon completion
 - Perform effectiveness reviews approximately 6 months after implementation



For each of the 10 Findings, LBNL identified key causes and corrective actions

- **Overall . . .**
 - 52 key causal factors
 - 22 immediate actions and/or compensatory measures
 - 59 corrective actions to prevent recurrence (in addition to the 22 compensatory measures)

HSS CAP Summary

Finding or Common Cause	Causal Factors	Proposed Immediate/Compensatory Actions	Proposed Corrective Actions*
C1: Job Hazards Analysis	4	3	7
C2: Non-Radiological Exposure Assessment	4	2	6
C3: Radiation Protection	4	2	4
C4: Document Infrastructure	8	2	9
C5: Electrical Safety	3	7	3
D1: Self-Assessment	6	3	6
D2: Issues Management	8	1	9
D3: Injury and Illness Reporting	4	0	5
D4: Lessons Learned	4	2	6
E1: Chemical Management	7	0	4
CC1: Project Management	1	1	3
CC2: Accountability	2	0	4

* Does not include Immediate/Compensatory Actions

Extent of Condition Reviews

- Majority of the findings were for institution-wide programs
- Finding C5, Electrical Safety, was based on work observations within the Facilities Division
 - Three phase extent of condition review of LOTO implementation in progress
 - Subcontractor Construction Complete by May 15
 - In-house Maintenance Complete by June 15
 - Other Divisions Complete by August 30

LBNL has filed two NTS reports as a result of the HSS Review

- **Noncompliance with §851.21 – Hazard Identification and Assessment**
 - Findings: C1, C2, C3, D1, D2, and E1

- **Noncompliance with §851.26 – Recordkeeping and Reporting**
 - Findings: D3 and D4

Note: Finding C5 has been previously reported and C4 is not NTS reportable.

Opportunities for Improvement

- **LBNL will review each Opportunity for Improvement and determine if:**
 - It will be implemented through the appropriate corrective actions;
 - Is not covered by the appropriate corrective actions and will require further evaluation based on potential for value added

CAP Development Feedback

- **Feedback has been positive**
 - **DOE (BSO and ORO)**
 - **Agreed with our Causal Analysis**
 - **Provided constructive input regarding Findings**
 - **Appreciated our forthrightness in self-identifying two additional Findings**
 - **Project management for significantly revised and new ES&H program**
 - **Accountability**
 - **McCallum-Turner**
 - **LBL's approach has been very rigorous and comprehensive**
- **Implemented hssc@lbl.gov mailbox for input from LBNL staff**

LBL's Commitment to Disciplined Management of the HSS CAP

- **Implement a formal structure**
 - **Dedicated Project Manager**
 - **Project Management Plan**
 - **Resource-loaded schedule**

- **Continuous Performance Monitoring**
 - **Clearly established deliverables**
 - **Formal change control process**
 - **Verification of action completion**
 - **Validation and Effectiveness Reviews**
 - **Regular briefings to LBNL executive management**
 - **On-going progress reporting to BSO, UCOP CAC, and DOE HQ**
 - **Periodic briefings to Office of Science as requested**

Completion Date	Milestone
February 24 ✓	Identification of Steering Team and Finding Teams
March 4 & 5 ✓	5 Whys causal analysis training for Team Members
April 10 ✓	Drafts of preliminary problem statements, 5 Whys analysis, and corrective actions
April 6 ✓	Steering Team begins review of drafts with LBNL stakeholders and BSO
April 13-May 29 ✓	Teams incorporate feedback and continue development
April 13-17 ✓	Receipt of Final HSS Report
May 13 ✓	Mary Gross (BSO), Howard Hatayama, Buck Koonce, & Jim Krupnick review Draft CAP with George Malosh, Marc Jones, and Tom Staker @ DOE Headquarters
June 1-5	Final review and approvals
June 5	Transmit CAP to George Malosh for final review and approval
June 8-17	George Malosh review and approval