United States Government **Department of Energy**

Oak Ridge Office

memorandum

DATE: September 13, 2007

REPLY TO
ATTN OF: SE-32:Allen

SUBJECT: **FINAL REPORT – 2007 ANNUAL BERKELEY SITE OFFICE REVIEW OF THE ENVIRONMENTAL MANAGEMENT SYSTEM AT THE LAWRENCE BERKELEY NATIONAL LABORATORY**

TO: Aundra Richards, Site Manager, Berkeley Site Office, SC-BSO, 90-1020

Attached is the Final Report for the 2007 Annual Berkeley Site Office Review of the Environmental Management System at the Lawrence Berkeley National Laboratory conducted August 20-21, 2007. The finding and noteworthy practice in the report were discussed with your staff at the conclusion of the site visit. Prior to finalizing this document, it has undergone factual accuracy reviews and has been discussed with members of your staff.

If there are any questions, please contact me at (865) 576-0411.

David R. Allen, Director
Environmental and Quality
Management Division

Attachment

cc w/attachment:
Kim Abbott, SC-BSO, 90-1023
Mary Gross, SC-BSO, 90-1023
Robert J. Brown, M-2, ORO
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U.S. Department of Energy
Berkeley Site Office

Final Report

2007 Annual Berkeley Site Office Review of the Environmental Management System at the Lawrence Berkeley National Laboratory

August 2007

REPORT APPROVAL

The assessment team has reviewed the subject assessment report and concurs with its contents and results:

Kim Abbott
Berkeley Site Office

Date: 9/12/07

Approved:

Richard Martin, Assessment Team Lead
Oak Ridge Office

Date: 9-12-07

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ACRONYMS

BSO	Berkeley Site Office
CATS	Corrective Action Tracking System
DOE	U.S. Department of Energy
EH&S	Environment, Health, and Safety
EMPs	Environmental Management Programs
EMS	Environmental Management System
FIND	Finding
ISMS	Integrated Safety Management System
LBNL	Lawrence Berkeley National Laboratory
LOI	Lines of Inquiry

Final Report 2007 Annual Berkeley Site Office Review of the Environmental Management System at the Lawrence Berkeley National Laboratory

1.0 INTRODUCTION

In accordance with Executive Order 13423 and the U.S. Department of Energy (DOE) Order 450.1, the Lawrence Berkeley National Laboratory (LBNL) is required to implement an Environment Management System (EMS) and integrate that EMS into its Integrated Safety Management System (ISMS). Initial implementation/integration was completed by the end of 2005 as required.

In accordance with DOE Order 226.1, the Berkeley Site Office (BSO) performs oversight of LBNL operations, including an annual review of LBNL's EMS. A site visit to facilitate the annual review was conducted on August 20-21, 2007. The purpose of this review was to provide verification that LBNL is performing the activities required by the EMS and that the EMS continues to be implemented/integrated as required.

2.0 SUMMARY OF RESULTS

Review of the LBNL self-assessment activities related to the EMS indicates a strong program. Multiple layers of review are in place to ensure adequate evaluation, and the annual internal reviews appear to be especially comprehensive. (**Noteworthy Practice [NP]-01**)

With the exception of the one finding (FIND) noted in Lines of Inquiry (LOI) 3, the EMS was found to be functioning as envisioned by DOE Order 450.1. Requirements related to planning and self-assessment/corrective action appeared to be met in a manner to ensure environmental improvements, and the DOE-specific requirement to integrate the EMS into the ISMS was met. As noted in the one finding, a significant gap exists in the program that allows an EMP to be closed without actually meeting a target or documentation of some other reason.

Lines of inquiry were developed for this review, and a summary of each LOI is provided in the following table.

Lines of Inquiry	Results
1. Has the EMS been integrated into LBNL's ISMS?	LBNL's EMS Plan discusses integration in Section 2.6. Implementation of that integration is described throughout the ISMS program document, *Integrated Environment, Health, & Safety Management Plan,* Rev 5, September 2005. There were no findings or observations noted.
2. Does the planning process adequately provide for review of environmental aspects for appropriate actions? This LOI covers the allocation of resources to the planning process, training, communication, and development of objectives, targets, and environmental management programs (EMPs).	The EMS Core Team, as described in the EMS Plan, meets monthly or quarterly as appropriate. According to meeting minutes provided, the EMS Core Team evaluates aspects to determine if impacts are significant, coordinates development and revision of objectives and targets, and develops EMPs to address significant impacts. While some of the EMPs reviewed were still in the "study" stage, the majority directed measurable improvement. Training requirements are established in the EMS Plan and describe a multi-tiered approach based on EMS roles and responsibilities. Training records related to the EMS are maintained and were provided by the EMS Program Manager. Communications related to the LBNL EMS program include articles published for daily and monthly site distribution, as well as annual summaries of EMPs placed on the LBNL website. In addition to the EMPs established by LBNL, BSO and LBNL have established performance measures based on meeting a variety of EMS implementation milestones. No findings or observations were noted.
3. Do the EMPs adequately address objectives and define targets? This LOI covers the overall performance of the EMPs.	LBNL has a variety of programs to track and report progress toward meeting objectives and targets, as described below. However, it was noted that at least one 2006 EMP, electricity use, was closed without documentation of the

Lines of Inquiry	Results
	reason. No documentation was provided, or required by LBNL procedure, to indicate whether the target was met and, if not, why the EMP was closed. Procedure 273, *Environmental Management Programs*, does not address the process of closing an EMP; and no requirements for closure, or documentation thereof, are included. According to LBNL staff, an EMP is closed when the listed actions have been completed even though the target may not have been met. EMP 05-01C for diesel particulate matter lists a set of actions that do not necessarily lead to achieving the numerical target or to the identified strategies for meeting the objective. Thus, all actions could be completed without achieving any actual numerical success. An EMP may be closed for a variety of reasons, such as meeting the goal, transfer to a new EMP, or re-evaluation of significance. One finding was identified related to closure of EMPs. **(FIND-01)**
4. Has LBNL conducted adequate self assessment of the EMS? This LOI covers ongoing reviews of the EMPs, annual EMS program reviews, and the annual management review process.	LBNL conducts a variety of evaluations of its EMS, including routine EMP briefings during EMS Core Team meetings, annual internal assessments, 3-year external reviews, and the annual management review. Environmental aspects are reviewed annually to ensure that significant impacts are properly identified. Overall, LBNL's self assessment of the EMS program was found to be comprehensive and noteworthy. No findings or observations were noted.
5. Has LBNL taken necessary steps to ensure continuous improvement in their EMS and in overall protection of the environment? This LOI covers the corrective actions process resulting from the ongoing and periodic reviews.	Deficiencies against requirements are tracked to resolution in the Corrective Action Tracking System (CATS). In addition, division directors may enter other issues into CATS at their discretion. CATS issues related to the EMS are coordinated by the identified responsible person, who is then responsible for

Lines of Inquiry	Results
	updating the appropriate division director. According to LBNL staff, findings and observations from assessments done in the previous year are analyzed by the Office of Contract Assurance for incorporation into the next assessment. Environment, Health, and Safety (EH&S) management also evaluates findings and observations to perform trending and to identify opportunities for improvement. Performance measures for division self-assessments include a requirement to determine whether the division has implemented changes based on previously identified opportunities for improvement. For EMS issues not assigned to a person in the EH&S Division, the EMS Program Manager coordinates resolution with the responsible person. No findings or observations were noted.

3.0 FINDINGS, OBSERVATIONS, AND NOTEWORTHY PRACTICES

3.1 Findings

FIND-01 The LBNL *Performance-Based Environmental Management System Plan* does not include a requirement to document why an EMP was closed. In order to evaluate the effectiveness of the plan, the rationale for closure must be documented.
(DOE Order 450.1, Attachment 2, Contractor Requirements Document, Requirement 1)

3.2 Observations

None identified

3.3 Noteworthy Practices

NP-01 Review of the LBNL self-assessment activities related to the EMS indicates a strong program. Multiple layers of review are in place to ensure adequate evaluation, and the annual internal reviews appear to be especially comprehensive.

APPENDIX A

Interviews Conducted

- EMS Core Team Leader
- Director, EH&S Division
- Lead, Hazardous Materials Storage, Treatment, and Wastewater Discharges
- EH&S Assurance Program Manager
- Institutional Assurance Program Manager

APPENDIX B

Documents Reviewed

- Performance-Based Environmental Management System Plan, Rev 2, LBNL/Pub 3180, August 2005 (includes EH&S implementing procedures 271, 272, 273, 274, 275, and 276)
- EMS Internal Audit Plan
- Internal Assessments of the Performance-Based Environmental Management System, September 2006 and August 2007
- Environmental Management Programs
- EMS Fact Sheets Nos. 1 (EMS System), 2 (2004 EMP Summary), and 3 (2006 EMP Summary)
- LBNL Aspect ID & Sig Worksheet
- Validation Audit Report, NSF-ISR, September 2005
- Integrated Environment, Health, & Safety Management Plan, Rev 5, September 2005
- FY 2007 EH&S Division Self-Assessment Performance Measures
- Environmental Review and Self-Assessment Checklist
- EMS Core Team Meeting Minutes, 2005-2007
- FY 2007 EH&S Gradients and Protocol
- *Energy Awareness Makes Berkeley Lab Greener*, Dan Krotz, Berkeley View
- Announcement: *Use Recycled Paper Whenever Possible*, Today at Berkeley Lab, April 19, 2007