

LBNL ENVIRONMENTAL MANAGEMENT PROGRAM

EMP Coordinator(s) and Organization(s): Blair Horst (Facilities)		Revision Date: 01/12/2010	EMP No.: 07-01B
Aspect: Energy use	Objective: Implement sustainable practices to achieve energy efficiency.	Target: Reduce energy use intensity by 30% by end of fiscal year (FY) 2015, including minimum cumulative reduction of 15% by end of FY10, relative to the baseline of energy use in FY03.	
Category: <input checked="" type="checkbox"/> Improve <input type="checkbox"/> Control <input type="checkbox"/> Study (short term)			
Strategy: Determine and report FY03 baseline and annual energy use, costs and savings. Achieve 30% energy use intensity savings by the end of FY15. Conduct energy audits on an average of 25% of the facilities square footage yearly. Install advanced electric, natural gas and water meters. Implement energy savings projects. Practice sustainable design; achieve LEED® Gold certification for new buildings and major renovations over \$5 million. Submit and maintain a Sustainability Executable Plan (SEP) and Comprehensive Energy Data Report documenting current consumption and showing how end of FY15 goals of DOE O 430.2B will be achieved.			
Actions to Achieve Objective:			
Upcoming Actions		Lead	Due Date
1. Update the Advanced Electric Power and Natural Gas Metering Plans.		B. Horst	4/30/10
2. Submit draft update of FY11 SEP per DOE O 430.2B to the DOE Berkeley Site Office (BSO).		B. Horst	9/15/10
3. Achieve FY10 SEP Energy Efficiency Management Action Plan A, Renewable Energy Management Action Plan B and HPSB Management Action Plan E Goals identified for FY10.		B. Horst	9/30/10
4. Install advanced Electric Power and Natural Gas meters per Advanced Metering Plans.		B. Horst	9/30/10
5. Submit Final FY11 SEP update per DOE O 430.2B to the DOE BSO (Schedule contingent on receipt of DOE BSO draft comments by 10/15/10).		B. Horst	12/31/10
6. Perform energy audits/evaluations per Energy Independence and Security Act of 2007 and DOE guidance on an annual average of 25% of LBNL's gross square footage.		B. Horst	12/31/10
7. Report energy use intensity using Facilities Information Management System (FIMS) and the Energy Management System version 4 (EMS4) Web – Database.		B. Horst	12/31/10
8. Secure RECs of at least 7.5% of total LBNL facilities electric power use for FY10.		B. Horst	12/31/10
9. Repeat above actions on an annual cycle, with relevant updated criteria.		B. Horst	—

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Completed Actions	Lead	Due Date	Completion
1. Determine FY03 energy use using FIMS and the EMS4 Web - Database.	M. Dong	7/15/07	7/15/07
2. Complete Advanced Electronic Metering Plan.	M. Dong	9/30/07	6/28/07
3. Install electronic metering devices identified in Metering Plan for FY07.	M. Dong	9/30/07	9/30/07
4. Conduct FY07 energy audits using Energy Service Contractor.	M. Dong	9/30/07	9/30/07
5. Determine FY07 energy use and report.	M. Dong	12/30/07	12/05/07
6. Submit Draft SEP per DOE O 430.2B to the DOE BSO.	B. Horst	9/30/08	9/23/08
7. Report FY08 energy use intensity using FIMS and the EMS4 Web – Database.	B. Horst	12/31/08	11/15/08
8. Conduct FY08 energy audits via Energy Savings Performance Contract (ESPC) Detailed Energy Survey (DES) per current scheduled Delivery Order contract execution.	B. Horst	2/26/09	2/26/09
9. Begin ESPC Phase 1 construction if in the best interest of LBNL and the government. <i>(see comment a)</i>	B. Horst	2/24/09	2/26/09
10. Prepare LBNL/DOE decision package summarizing reasons the ESPC project was cancelled.	B. Horst	3/31/09	3/30/09
11. Submit mid-year FY09 SEP amendment to DOE to reflect LBNL/DOE decision on ESPC, including actions to achieve energy use intensity goals.	B. Horst	4/30/09	4/29/09
12. Submit draft update of FY10 SEP per DOE O 430.2B to the DOE BSO.	B. Horst	9/15/09	9/15/09
13. Perform SEP during FY09.	B. Horst	9/30/09	9/30/09
14. Secure Renewable Energy Credits (RECs) of at least 3.0% of total LBNL facilities electric power use in FY09.	B. Horst	9/30/09	9/30/09
15. Submit Final FY10 SEP update per DOE O 430.2B to the DOE BSO (Schedule contingent on receipt of DOE BSO draft comments by 10/15/09).	B. Horst	12/31/09	12/16/09
16. Determine and report FY09 energy use and usage intensity (relative to the FY03 baseline), achieving at least a 6.6% energy use intensity (EUI) savings in FY09 from the FY03 baseline.	B. Horst	12/31/09	12/16/09
17. Update energy audits via ESPC DES or by other means, for an annual average of 25% of LBNL's gross square footage.	B. Horst	12/31/09	12/16/09
18. Report energy use intensity using FIMS and the EMS4 Web – Database.	B. Horst	12/31/09	11/13/09
19. Secure RECs of at least 7.5% of total LBNL facilities electric power and thermal energy use in FY10 and beyond. <i>(see comment b)</i>	B. Horst	12/31/10	12/16/09

Metrics (Environmental Performance Indicators):

- | | |
|---|---|
| 1. Electrical use in megawatt-hours (MWH) | 3. Building area in square feet |
| 2. Natural gas use in thousand cubic feet | 4. Energy intensity in electrical or natural use per square foot of building area |

Comments:

a) The project (*Begin ESPC Phase 1 construction if in the best interest of LBNL and the government*) was cancelled on February 26, 2009 due to

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an unfavorable economic analysis. Some of the remaining actions now listed were subsequently modified (i.e., deleted or added) as a result of this change.

b) Requirement based on 7.5% of total electric & thermal (natural gas) consumption. Thermal requirement was removed for FY10. LBNL has arranged, through the SF-Bay Area DOE Energy Purchase Consortium to secure sufficient RECs to exceed FY10 REC requirements.

EMP Closure Summary:

Not applicable at this time.

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NOTES / INSTRUCTIONS

FORM FIELD	NOTE
EMP Coordinator(s)	Name the person(s) responsible for the accomplishment of the Environmental Management Program (EMP); That is, overseeing the workplan, monitoring and reporting progress, requesting changes to the workplan as appropriate.
Organization(s)	Name the organization(s) primarily impacted or affected by this EMP. If only one department of an organization is affected, note that department.
Revision Date	Date that identifies when EMPs are modified or updated.
EMP Number	Number will be assigned by the EMS Manager.
Aspect	The significant aspect (e.g. energy use, chemical usage).
Objective	Focusing on the impacts related to this significant aspect, state the goal. What is it you want to achieve? Use action words (e.g., reduce, improve, control).
Target	State "how much and by when." The target is the performance element and should be quantitative and measurable.
Category	The categories identify and help to focus the EMP. The definitions of these categories are: <ul style="list-style-type: none"> • Improve: improve the performance in this area • Control: current environmental controls are sufficient, but EMP objective is to maintain and strengthen the level of control • Study: the issue or area has been designated as significant, but historic or baseline data must be studied and compiled to determine the direction of future action
Strategy	In this section, describe the overall approach to the problem. Some of the questions to be addressed include: <ul style="list-style-type: none"> • How much has or has not been already been accomplished in this area? • Why is this important? Are there relevant drivers (e.g., regulations, directives, public pressure)? • What are the impacts to be addressed in this EMP?
Actions	List the specific actions to be taken to achieve the objective and target. List the action and identify the responsible parties and dates by which the actions should be accomplished.
Metrics	Metrics are the Environmental Performance Indicators, how you measure the accomplishments. List the specific, quantifiable measurements or metrics (e.g., percent of employees trained, kilowatt hours saved, tons of waste diverted, gallons of material).
Comments	Add details to support changes to any of the fields on the form.
EMP Closure Summary	After the EMP and all actions within the EMP are complete, a concise description of the EMP's ability to achieve its objective and target should be provided.