

LBNL ENVIRONMENTAL MANAGEMENT PROGRAM

EMP Coordinator(s) and Organization(s): Blair Horst (Facilities)		Revision Date: 6/16/2009	EMP No.: 07-02B
Aspect: Water Use	Objective: Implement sustainable practices for to reduce water consumption intensity.	Target: Reduce water consumption (use) intensity annually to achieve minimum 16% savings by the end of fiscal year (FY) 2015, including a cumulative reduction of at least 1% by end of FY09 relative to baseline water consumption intensity of FY07.	
Category: <input checked="" type="checkbox"/> Improve <input type="checkbox"/> Control <input type="checkbox"/> Study (short term)			
Strategy: Determine and report water use intensity each fiscal year through FY15. Conduct water audits in at least 25% of facilities each year. Prepare and submit a Sustainability Executable Plan (SEP) to the DOE Berkeley Site Office (BSO) to include actions towards achieving a 16% savings in water use intensity by the end of FY15, based on FY07 consumption. Under current assumptions, reaching this FY15 target is not feasible and is impractical since it would come at the cost of significantly missing the energy use intensity target. Implement water efficiency retrofit projects. Install water metering devices where practicable.			
Actions to Achieve Objective:			
Action	Lead	Due Date	Completion Date
1. Install water metering devices at Building 86.	B. Horst	9/30/07	9/30/07
2. Conduct FY07 water audit using Energy Service Contractor (ESCO).	B. Horst	9/30/07	Deferred; see #9
3. Determine and report FY07 water use.	B. Horst	12/10/07	12/05/07
4. East Bay Municipal Utilities District (EBMUD) Savings: Reduce irrigation schedules	M. Dong	8/1/2008	5/22/08
5. EBMUD Savings: B70A wastewater reuse for cooling tower makeup with available funds (Project ID: H70AWW - Bldg. 70A Waste Water [OHSS]).	M. Dong	9/30/08	9/30/08
6. DOE O 430.2B Draft SEP: water savings goals & performance plan	B. Horst	9/30/08	9/23/08
7. DOE O 430.2B Final SEP: water savings goals & performance plan	B. Horst	12/31/08	12/23/08
8. Determine and report FY08 water use and usage intensity.	B. Horst	12/31/08	12/01/08
9. Conduct required water 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 See Comment a)
10. Begin construction of FY08 water management projects identified in ESPC DES.	B. Horst	2/24/09	See Comment b)
11. Submit mid-year FY09 SEP amendment to DOE BSO to reflect LBNL/DOE decision on ESPC, including actions targeted to achieve the water savings goals.	B. Horst	4/30/09	4/29/09
12. EBMUD Savings: Retrofit B70A wastewater for reuse as cooling tower makeup with available funds.	M. Dong	9/30/09	9/30/08
13. EBMUD Savings: Change B34 CT filter backwash from city water to cooling tower basin water with available funds.	M. Dong	9/30/09	
14. Determine and report FY09 water use and usage intensity (relative to the FY07 baseline), achieving at least a 1% savings in water consumption intensity during FY09.	B. Horst	12/31/09	
15. Submit a Draft FY10 SEP update per DOE O 430.2B to DOE BSO, including water	B. Horst	9/15/09	

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savings & performance plans targeted to achieve water savings goals.			
16. Submit final FY10 SEP update per DOE O 430.2B to DOE Berkeley Site Office, including water savings & performance plans targeted to achieve water savings goals. (This schedule is contingent on receipt of DOE BSO Draft comments by 10/15/2009).	B. Horst	12/31/09	
17. Report FY09 water use, cost, and consumption intensity annually in the Energy Management Data Report.	B. Horst	12/31/09	
18. Repeat Actions 9, 14 (per FY-specific savings goal), 15, 16, and 17 on an annual cycle, with relevant updated criteria.	B. Horst		
Metrics (Environmental Performance Indicators):			
1. Water consumption in thousands of gallons 3. Water consumption intensity in gallons of water use per gross square foot of building area			
2. Gross building area in square feet			
Comments			
a) Site-wide water conservation audits were completed in FY09 during ESPC project Phase 1 DES activities before project cancellation.			
b) The project related to action 10 (<i>Begin construction of FY08 water management projects identified in ESPC DES.</i>) was suspended on February 26, 2009 due to an unfavorable economic analysis. Some remaining actions were modified (i.e., deleted or added) as a result of this change. Item 11 addresses alternative planning to achieve water savings goals.			
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.