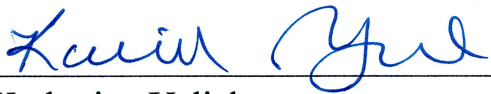


# Computing Sciences Directorate

## FY11 ES&H Self-Assessment Plan



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## **1.0 Introduction**

The Computing Sciences Directorate (CS) and its Divisions, the Computational Research Division (CRD) and the National Energy Research Scientific Computing Center (NERSC) Division, will evaluate the effectiveness of ES&H hazard controls (administrative, engineering, etc.) and compliance with institutional and divisional requirements in order to determine whether the programs and/or process are effective, adequately implemented, and leading to improvement in work processes and programs.

This FY11 ES&H Self-Assessment Plan adopts a tailored, risk-based approach to assessing safety program effectiveness. Division Management has identified assessment areas based on the hazards having potential impact on the safety of employees, protection of environment, and/or continuity of operations.

## **2.0 FY11 Self-Assessment Focus Areas**

The CS Directorate has identified four focus areas that will be evaluated as part of the ES&H Self-Assessment:

Effectiveness of Subcontractor Work Authorizations

Computer Room Fire Safety

Computer Workstation Ergonomics for New Staff and Office Moves

Energy Expenses Related to Basic Office Equipment in CS Divisions

### **2.1 Selection of Focus Areas**

Focus areas were selected based on a review of the FY10 Computing Sciences Self-Assessment Report including FY11 goals, walkthrough observations, accident reports and ergonomic records, and suggestions from the CS Division Safety Committee.

#### **1. Effectiveness of Subcontractor Work Authorizations**

The Subcontractor Job Hazards Analysis (SJHA) system has been implemented to ensure that vendors performing work at LBL are working safely. NERSC Division has 15 subcontractors listed in the online SJHA database, and an additional 4 who are contracted through the Facilities Division. During the implementation of the SJHA system and its conversion to an electronic format, the requirements have not always been clear to requesters. This assessment will determine whether the SJHA system is adequately protecting contractors, LBL staff, and LBL property.

#### **2. Computer Room Fire Safety**

Computing Sciences has worked to reduce the level of combustible materials in its computer rooms, in order to comply with fire safety requirements and reduce the

clutter in these rooms. During FY10 NERSC invited the LBL Fire Marshal to review the OSF computer room for fire safety issues, and the Division followed up with extensive changes to practices and procedures in receiving equipment, storing equipment, and disposing of waste materials. This assessment will review these changes to see whether they have been effective in reducing the risk of fire.

### **3. Computer Workstation Ergonomics for New Staff and Office Moves**

Computer workstation ergonomics has historically been a health and safety focus area for Computing Sciences. CS included Computer Workstation Ergonomics in its FY10 Division Self-Assessment and identified numerous noteworthy practices. Coinciding with the Directorate's emphasis on ergonomic interventions and prompt response to problems, the number of ergonomic injuries has decreased in recent years. However, a recent increase in ergonomic discomfort cases could signal a need for renewed focus on this area. Possible contributing factors are new hires, guests and students working for limited terms, and office moves. This assessment will tell us whether our ergonomic program is effectively addressing the needs of new staff and those involved in office moves.

### **4. Energy Expenses Related to Basic Office Equipment in CS Divisions**

Energy conservation is important to LBL and the Department of Energy. CS considered energy and sustainability issues in a FY10 Self-Assessment Report and found that energy consumption in data centers is a top priority and is being actively and effectively addressed. However, the FY10 Report found that energy consumption of basic office equipment, including desktop computers and laptops, has not been thoroughly studied and there may be a potential for savings in this area. This assessment will help us understand the issues with energy usage of basic office equipment and whether savings can be obtained from improvements in this area.

## **2.2 Assessment Categories**

### **2.2.1 Compliance with Institutional Requirements**

Computing Science's self-assessments include evaluation of compliance with institutional requirements, including:

[PUB-3140, \*Integrated Environment, Safety, & Health Management Plan\*](#);  
[LBNL/PUB-3000, \*Health and Safety Manual\*](#);

### **2.2.2 Compliance with Established Divisional Requirements**

Where applicable, the Computing Sciences Integrated Safety Management Plan provides the basis for self-assessments of compliance with division-specific requirements.

## **2.3 Scope**

### **1. Effectiveness of Subcontractor Work Authorizations**

This assessment will review CS non-construction SJHA work authorizations to determine their effectiveness.

- a. Does this system effectively protect subcontractor workers?
- b. Are requestors effectively using this system?

### **2. Computer Room Fire Safety**

Fire safety standards require reduction of combustibles in data centers to minimal levels necessary for operation.

- a. Do we recognize and understand the hazard of combustibles in machine rooms?
- b. Do we successfully manage material within and outside of machine rooms?

### **3. Computer Workstation Ergonomics for New Staff and Office Moves**

The scope of this assessment will include review of preparation and planning for office moves. It will also review the process by which new hire ergonomic needs are assessed and their needs addressed. This assessment will include furniture and equipment needs, such as workstations, keyboard trays, keyboards, pointing devices, and chairs. It will include interviews with new staff and guests and those who have been involved in office moves.

- a. Are new employee ergonomic self assessments adequate?
- b. Do we plan for office moves?
- c. Are current policies effective at addressing ergonomic needs?

### **4. Energy Expenses Related to Basic Office Equipment in CS Divisions**

Operational efficiency and security issues have limited efforts to reduce energy consumption of desktop and laptop computers. Systems administrators run backups and updates at night and need systems to be powered up. The actual savings from powering down desktop systems is unknown, and is certainly small relative to the energy costs of machine rooms. Evaluation of these issues will tell us the feasibility and potential savings from changes to basic office equipment power practices.

- a. Is there benefit from turning off office equipment and computers?
- b. Can operational and security issues be addressed if equipment is powered down?
- c. Will employees embrace a campaign to save energy and resources?

### **3.0 Assessment Frequency**

Computing Sciences assessments will be completed annually. The assessment schedule may be modified based on findings or other factors. The initial assessment completion dates are provided for each focus area.

#### **3.1 Schedule of focus area assessment completion dates**

1	Effectiveness of Subcontractor Work Authorizations	April, 2011
2	Computer Room Fire Safety	July, 2011
3	Computer Workstation Ergonomics for New Staff and Office Moves	July, 2011
4	Energy Expenses Related to Basic Office Equipment in CS Divisions	September, 2011

**Attachment 1: Self-Assessment Methodology** The CS Directorate will use the following methodology as a guide for performing the self assessments. The methodology may be modified as necessary based on conditions and developments at the time of the assessments.

1. Effectiveness of Subcontractor Work Authorizations
  - A. Person(s) conducting the self-assessment: DSC, CS Safety Committee members, and EHS subject matter expert
  - B. Techniques to be used during the self-assessment:
    - 1) Interview vendors, requesters, and facility staff
    - 2) Request any EHS program reports on the SJHA program
    - 3) Review SJHA database including high-hazard work requiring permits
2. Computer Room Fire Safety
  - A. Person(s) conducting the self-assessment: DSC, CS Safety Committee members, and EHS Fire Protection staff
  - B. Techniques to be used during the self-assessment:
    - 1) Review fire marshal recommendations from FY10
    - 2) Conduct walkarounds of machine rooms
    - 3) Interview staff and contractors
    - 4) Review relevant Corrective Actions
3. Computer Workstation Ergonomics for New Staff and Office Moves
  - A. Person(s) conducting the self-assessment: Division Safety Coordinator (DSC), CS Safety Committee members, with assistance from the EHS Ergonomics Group
  - B. Techniques to be used during the self-assessment
    - 1) Review of Division moves:
      - (a) Do supervisors consider ergonomic issues?
      - (b) Does Remedy online invite employees to re-take ergonomic self-assessment?
      - (c) Do employees complete online ergonomic self-assessments?
      - (d) Are employee needs considered in moves?
    - 2) Interview employees and supervisors, with focus on those with ergo issues
    - 3) Review EH&S ergo database
    - 4) Review Remedy online ergonomic self database
    - 5) Review of accident records

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4. Energy Expenses Related to Basic Office Equipment in CS Divisions

- A. Person(s) conducting the self-assessment: DSC, CS Safety Committee members, and Division management
- B. Techniques to be used during the self-assessment
  - 1) Assessment of operational and security issues
    - (a) Meet with Systems Administrators to discuss practices and policies
    - (b) Consider customer support and customer access
    - (c) Evaluate options for policy modification
  - 2) Assessment of energy usage of office equipment
    - (a) Quantify potential savings for typical systems
    - (b) Estimate total savings for the Divisions

**Attachment 2: Lines of Inquiry** Proposed lines of inquiry for the self-assessment focus areas are provided below.

1. Effectiveness of Subcontractor Work Authorizations

- A. Do requesters understand and accept requirements for SJHAS?
  - Tell me how you knew the SJHA was required?
  - Did you have any problems filling out the form?
  - If so, how did you get help with the form, and were there any issues with this?
  - What about briefing the vendor, did you understand what your responsibilities were? Did you hand out the briefing form?
  - Are you familiar with the requirement that contractors must keep a copy of the SJHA with them while working?
- B. Do requesters complete the work authorizations, or do they have vendors do this?
- C. Does system identify all instances where SJHAS are required?
- D. Do subcontractors and vendors understand and comply the SJHAS?
  - Tell me about your experience with the SJHA process?
- E. Are there any problems with the SJHA system?

2. Computer Room Fire Safety

- A. For staff and managers:
  - Do you recognize a hazard from combustibles?
  - Are there barriers to recycling or removing combustibles from machine rooms?
  - How do you dispose of cardboard, plastic and foam packing materials?
  - What about construction work, has that impacted removal of combustibles?
  - Are there issues with storage of new equipment? What about equipment that might be needed in the future but not immediately? Equipment that is kept “just in case”?

- B. Are employees trained in issues and procedures? When procedures change, is the communication effective?
  - C. What issues have come up with recycling materials?
  - D. Does management recognize the relationship between risk/frequency/severity with respect to fire protection issues?
3. Computer Workstation Ergonomics for New Staff and Office Moves
- A. For employees and staff being moved:
    - Tell me about your experience as a new employee. Did you understand how to adjust your workstation/keyboard tray/chair? Did you know how to ask for help if you needed it?
    - Did someone give you training in how to prevent injuries?
    - Do you remember the Job Hazards Analysis discussion of ergonomic?
    - Tell me about your office move/workstation sharing. Were you prepared for the move? Did you have time to organize and pack your office? Did you receive help in the move? Did/do you have what you need following the move?
    - Do you have any ergonomic issues that require special attention? Are those needs addressed?
  - B. For supervisors and management:
    - Do you consider ergonomic issues when planning moves?
    - Do you have the resources you need to provide adequate support to your employees?
    - What concerns do you have with the process or system?
4. Energy Expenses Related to Basic Office Equipment in CS Divisions
- A. For System Administrators:
    - Tell me about the issues with powering down systems.
    - What options would allow us to meet operational and security needs while still saving energy? Is it necessary to do updates and backups every night? Would it be possible to have systems powered down some nights or weekends, if not all?
    - What about powering down peripheral equipment such as monitors, printers, speakers?
  - B. For CS Safety Committee team:
    - What savings can be expected from powering down systems?
    - How is this quantified?
  - C. For Division Management:
    - Are you aware of the potential savings from creating energy savings practices?
    - What changes would allow energy savings practices to be implemented throughout the Divisions?