LBNL Information Technologies Division
EH&S Self-Assessment Report
Performance Year 2007
Performance Period: 10/1/06 - 9/30/07

10/12/07

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10/12/07

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IT PY 2007 Division Self Assessment ES&H Performance Measures
(period ending 9/30/07)

PY 2007 Overview of IT Response to Self-Assessment

As stated in the IT ISM Plan:

> *The IT Division will conduct all of its operations in a manner that protects the health and safety of its personnel/staff, including employees, participating guests, contractors, vendors, students and visitors, does not endanger the environment, and is consistent with all applicable LBNL, university, and government agency policies and regulations.*

Attached you will find the Information Technology (IT) Division's response to this year's ES&H Performance Measures. Our most outstanding accomplishments in PY2007 were a) the establishment of a division safety infrastructure, including Division Safety Coordinator, IT Safety Committee, and Integrated Safety Management (ISM) Plan and b) implementation of an aggressive division-wide ergonomics safety program. Through this process, we identified a few significant areas for improvement, including a) building additional awareness and ownership of the ISM principles within the Division, b) formalizing, documenting, and implementing our hazard review process, and c) addressing safety line management.

We do need some help from EH&S. Specifically, current databases, including HEAR, CATS, Ergo, etc., are in need of improvement. Currently, it is difficult to gather required data and metrics to facilitate tracking as well as measurement of performance. Further the user interface for the HEAR database is particularly cumbersome. Additionally, we have concerns, during times of increased workload, regarding the timeliness of "discomfort" ergonomic evaluations being performed and entered into the database. Also due to the dissolution of the chair loaner program, and changes to how ergonomic equipment is procured, we have experienced delays in receiving as well as proper set up of equipment needed. We suggest that the Laboratory at large look into reinstating a loaner program with a broader menu of equipment to expedite ergonomic purchases as well as formalize a relationship with Facilities for the set up of this equipment to address ergonomic issues in a timely manner. This includes a review of equipment and appropriate layout when new employees first arrive.
Finally when a recordable does occur, due to a shortage in EH&S staff available to perform incident reviews, we have experienced significant delays in completing the Tap Root analysis.

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Expectation	Validation	IT Response
ISM CORE FUNCTION 1: Define Work		
E1. Revise Division ISM plan to reflect a) ES&H policy changes, and b) updates to the Institutional ISM plan. Line management communicates updates of the plan to division personnel	V1. 1) Divisions revise ISM plans to reflect updates to ES&H Policy and the institutional ISM plan made through June 30, 2007. 2) Division demonstrates that changes to the ISM plan were communicated to division personnel.	IT1. 1) On October 1, 2006, the IT Division was moved from the CS Directorate to the Operations Directorate. Prior to October 1, 2006, IT shared a common ISM plan with the other Divisions in CS, NERSC and CRD. After the reorganization, IT created its own ISM plan and published it to the IT staff website in June 2007. IT1.2) The IT Division Director communicated this IT ISM Plan to the division on 8/21/07. 'Hits' to the website increased three-fold the week of the division director's email. (Appendix B). Goal for PY08: Build additional awareness within division of the ISM checklist and safety resources available within our division (website and staff) . Consider development of ISM training similar to that developed by Engineering Division
ISM CORE FUNCTION 2: Identify Hazards		
E2. Workspaces (including outside workspaces) are inspected/observed and evaluated on a regular basis.	V2. Managers, supervisors and work leads perform periodic ES&H walkarounds as needed and directed by divisional ISM plans, and for all work activities and facilities for which they are responsible. Deficiencies are tracked in CATS (as appropriate).	IT2. Quarterly walkarounds were formally implemented in this performance year. Line managers conducted walkarounds in December, March and June of 2006. This was officially published in the IT Division ISM Plan in June 2007. For the December walkaround, 84% of employees were evaluated. Of the 16% that were not 44% of those were guests who are not regularly at the laboratory. For the March walkaround 90% of employees were evaluated. Of the 10% who were not 82% were guests. For the June walkaround 86% of employees were reviewed. Of the 14% not reviewed 76% were guests. Forms from all safety walkarounds are kept by the Division Safety Coordinator. As a result of findings from the walkarounds, items that were deemed to be ongoing hazards were entered into CATS. Standard ergonomic issues were tracked in the Ergonomics database with regular updates by the line supervisor and Division Safety Coordinator. Ongoing reviews of those at highest risk were discussed weekly with an ergonomist from the Occupational Safety Group in EH&S.

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		The annual review of all common space was conducted by the Division Safety Coordinator, Division Deputy and line management (where applicable) in August and September of 2007. Deficiencies that were not easily fixed during the walk-through were entered into CATS by the Division Safety Coordinator and reviewed at least once every month for status.
E3. Divisions review work activities to identify, analyze, and categorize hazards and environmental impacts for the associated work. Examples of hazard inventory include: • HEAR database (or equivalent) • Project safety review • Workspace safety review • Job Hazard or Safety Analyses (JHA/JSA) • Environmental review (NEPA/CEQA) • Chemical inventory	V3. For all Division projects, programs, and operations, have hazards been identified and inventoried? Does inventory include non-routine, new work and modification of existing work? <u>Minimum requirements</u>: Division's review of work activities to identify, analyze, and categorize hazards is consistent with Lab policy. <u>Divisional requirements</u>: Division implements hazards review process as described in its ISM plan.	IT3. As noted in the PY06 CS Self-Assessment, the hazards in the HEAR database had not been updated since 2000. This year, IT identified hazards in its workspace and entered them into HEAR. Additionally, the Confined Space Program Manager evaluated computer room floors and determined they were not confined spaces. She also assessed manholes and added them to confined space database. Goal for PY08: Remove old entries from HEAR database, and formalize, document, and ensure implementation of our hazard review process.
E4. Divisions review the environmental impact of their activities and participate in pollution prevention, energy conservation, recycling, and waste minimization programs.	V4. Divisions review environmental impacts of planned and ongoing activities; and demonstrate progress in reducing impacts through pollution prevention, energy conservation, recycling, OR waste minimization. Examples of reducing environmental impacts include: • Waste prevention (hazardous, radioactive, and/or mixed) • Increase procurements of Energy Star products • Increase procurements of recycled content products Implement initiatives to reduce usage and/or recycle common office products, such as paper and batteries	IT4. The IT Safety Committee reviewed the impacts of its activities on the environment and noted the following practices: • recycling of paper, cans, bottles, batteries and toner cartridges • reuse of ergonomic equipment to limit purchasing of extraneous equipment • use of recycled paper products for printing and copying documents • use of electronic presentations rather than using transparencies. • distribution of presentations electronically although we do occasionally have paper hand outs Goal for PY08: Implement the following initiatives: • set printers and copiers to default to two-sided rather than single • eliminate fax cover sheets

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		• consider ability to print double-side as a criteria when purchasing/leasing printers and copiers • consider Energy Star purchases when appropriate
ISM CORE FUNCTION 3: Control Hazards		
E5. Divisions ensure administrative controls are in place and maintained. Examples of administrative controls include: • Formal authorizations • Work procedures • Project safety reviews • Responsibilities for matrixed employees	V5. Are hazards controlled for all Division projects/activities? Are administrative controls reviewed annually and when work is modified? This includes work under formal authorizations (e.g. AHDs, RWAs, environmental permits). Division follows its internal procedures for preparing and reviewing AHDs.	IT5. IT follows the ES&H entry requirements for confined space. Completed permits are on record with the ES&H Division. IT defined the procedure for confined space (see Appendix A). Goal for PY08: Review logging and internal tracking of confined space permits. Review MOUs for matrixed employees.
E6. Divisions ensure that ergonomic hazards (computer, laboratory, and material handling) are adequately controlled and that employees and line management are knowledgeable and engaged in this process, including the early reporting of ergonomic pain or discomfort (before an injury): Ergonomic issues/concerns/discomfort/pain are reported promptly for immediate corrective action	V6. Division has an effective ergonomic safety program as evidenced by: Minimum requirements: Division implements Lab policy on ergonomic safety as stated in PUB-3000 Chapter 17: • Employees report ergonomic pain or discomfort early and management takes immediate action to address these reports. • Required staff complete EHS052. • Required staff complete EHS060. • Supervisors request an ergonomic evaluation for employees working > 4 hours per day at computer. • Ergonomic evaluations are conducted in a timely manner. • Ergonomic evaluations are expedited for any reported pain (EHS will perform all evaluations with pain reported in the request). • Corrective actions resulting from ergonomic evaluations are completed in a timely manner. • Supervisors adhere to the requirements for CUE-represented employees. Divisional requirements: Division addresses	IT6. The IT division has been on the leading edge at the Lab with regards to addressing ergonomic hazards in our division. This performance year, IT has done the following: • purchased and tested 30 Dragon Naturally Speaking voice recognition software licenses • piloted the Dragon Naturally Speaking training • piloted with EH&S Remedy Online Ergonomic System for assessing high risk individuals • piloted within IT the Workers Helping Workers program to make employees more aware of ergonomic issues • communicated both through the Division Director and supervisors the importance of ergonomic safety and reporting any pain or discomfort immediately • implemented stricter ergonomic evaluation requirements, including the requirement that ergonomic evaluations be performed for each employee at a minimum once every two years • IT has two participants in the Ergo Advocate Program • line management reviewed all employees work-spaces on a quarterly basis reinforcing the importance to report discomfort early As of September 11, 2007, our completion rate for ergo

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	ergonomic safety as described in its ISM plan.	evaluations was 95%. As of September 28, 2007, our completion rate for EH&S 60 (Ergonomics for Computer Users) was 88%. During particularly busy times of year (e.g. July-September), ergonomic evaluations for discomfort, which were conducted by EH&S ergonomist, took more than 48 hours to occur. Additionally, there were delays in the EH&S ergonomist entering the results of an evaluation in the database. This made the task of addressing and tracking potential injuries problematic and delayed procurement and resolution of ergonomic injuries. An increase in the ergonomic staff available to review individuals with discomfort would be helpful during peak times of the year. Often, delays in closing ergonomic evaluations were directly due to late receipt of equipment from vendors . These delays were up to a couple of months. To alleviate these delays, it would be helpful if the Laboratory looked into reinstating a loaner program with a broader menu of equipment to expedite ergo purchases and in turn, address ergo issues.

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Expectation	Validation	IT Response
ISM CORE FUNCTION: Perform Work		
E7. Work is performed within the ES&H conditions and requirements specified by Lab policies and procedures.	V7a. Waste Management • % Satellite Accumulation Area (SAA)compliance (including mixed waste SAAs, radioactive waste storage areas) • % compliance of sampled waste • Waste Management issued Non Conformance and Corrective Action Reports • V7b. Compliance with regulatory requirements, formal authorizations, hazardous work permits, and environmental release limits. • Work performed under formal authorizations is within scope and by authorized staff. Authorizations include Activity Hazard Documents, Biological Use Authorizations, Radiological Work Authorizations, Radiological Work Permits, X-Ray Authorizations, etc. • Work performed under hazardous work permits is within scope and by authorized staff. Work permits include hot work, ground penetration, confined spaces, etc. • Number of environmental violations from external regulatory agencies • Number of unplanned environmental releases exceeding permitted limits or reportable quantities.	IT7. Confined space entries are performed per requirements of EH&S through the confined space program. (Appendix A).
E8. Staff is properly trained.	V8a. % annual completion of JHQs or equivalent system. V8b. Based on JHQs or training profiles, % completion rate for required courses. Contract performance measure.	IT8. As of September 27, 2007, JHQ compliance was 98%. As of October 1, 2007, training compliance was 92%.

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E9. Division ensures that student safety issues are effectively addressed.	V9. Does the division have an effective safety program for students? This includes assuring students have completed their JHQs and required training, and their work conditions and work performance are safe. Student mentors complete EHS024 ES&H for Mentors and Supervisors, or EHS026 ES&H for Supervisors, Managers, & PIs (per requirements of JHQ). Division implements policies and procedures as described in its ISM plan.	IT9. As stated in our ISM, the IT Division conducts all of its operations in a manner that protects the health and safety of its personnel/staff, including students. All staff, including students, are required to take the JHQ as well as receive Ergo evaluations and be reviewed in quarterly divisional walkarounds. Their supervisors take EHS022 "Ergonomics for Supervisors". As of October 1, 2007, training compliance was 90% for all IT supervisors.
ISM CORE FUNCTION 5: Feedback and Improvement		
E10. ES&H deficiencies that cannot be resolved upon discovery are entered and tracked in CATS to resolution.	V10. ES&H deficiencies are tracked in CATS and corrected in a timely manner: • ES&H deficiencies identified from workspace inspections, self-assessment activities, SAARs, Occurrence Reports, Non-compliance Tracking System Reports, environmental inspections, Division Self-Assessment, EH&S technical reviews, Management of ES&H (MESH) Reviews, and external appraisals are entered in CATS in a timely manner. • Opportunities for improvement identified during the previous self-assessment cycle (Division Self-Assessment, EH&S technical reviews, and MESH) are implemented in a timely manner. % completion rate of CATS corrective actions (High, Medium and Low risk categories) implemented as scheduled.	IT10. ES&H deficiencies are entered and tracked in CATS, As of September 27, 2007, the completion rate for IT's corrective actions in the CATS database was 94%. 4% are currently on schedule while only 2% are behind schedule. This measure however is somewhat misleading as CATS incorporates more than just safety items in the data collected. EH&S should clarify metrics tracked by CATS as well give divisions the tools so that this data can be easily and accurately delivered for reporting purposes. Finally the timely return of Tap Root analysis from EH&S after recordable incidents has been problematic in PY07. We believe this is due to a personnel change in EH&S. We hope this will be rectified in PY08.

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Expectation	Validation	IT Response
E11. Division employees report injuries and the division performs a thorough review of all staff injuries and accidents, including analysis of conditions that led to injury. Corrective actions to prevent recurrence are identified and effectively implemented.	V11. Minimum requirements: Division implements Lab policy on accident investigations and reporting. Divisional requirements: Division implements accident investigation and reporting policies and processes as documented in its ISM plan.	IT11. As detailed in our ISM Plan, IT conducted a formal incident analysis on all recordable injuries. Any actionable items were entered into CATS. Incidents are reviewed at a high level in the bi-monthly IT Safety Committee meeting.

Appendix A
Confined Space process for IT entry into communication manholes

Areas with confined space hazards or other unusual work activities are covered by Lab policy.
Confined Space Process:

A. Get proper LBNL confined space training
   1. Basic Confined Space Entry Class
   2. Confined Space Permit Writer's Class
   3. First-Aid
   4. CPR
B. Gather all safety gear for confined space work
   1. Full-body harness
   2. Life-line
   3. Rescue tripod, with winch
   4. Gas meter
   5. electric, ventilation fan, with hoses
   6. bilge pump
   7. Cones, rope, caution tape, or barricades to alert others of open man-hole, and prevent accidental falls/trips into man-hole
   8. Tools for entry: crow-bars, man-hole cover cam-lifter
   9. PPE: safety shoes, gloves, long pants, and is some cases; hard-hat, and protective eyewear
   10. Confined-space permits, pen
C. Once you are ready to open a manhole the steps are as follows:
   1. Put on Safety shoes, and gloves
   2. Barricade off the man-hole area
   3. Ensure that there are, at least, two qualified people at site
   4. remove the man-hole cover with approved method
   5. Turn on, and self-test gas meter
   6. Lower gas meter into hole, testing at three levels: bottom, middle space, and near the entrance
   7. Fill out permit, filling in all information, and checking applicable boxes
   8. Write down "start time" and sign permit
   9. Permit MUST be signed by trained Permit writer only
   10. Pump out water, and ventilate space with fan, if needed
   11. Either test air with gas meter continuously, or at fifteen minute increments
   12. Post permit, clearly at site, so it is in clear view for passers-by
D. To enter confined Space:
   1. Discuss safety plan, and emergency procedures

2. Person entering must have full-body harness properly put on, and checked by the space attendant (aka: safety or fire watch)
3. Attach life-line to pulling ring of the full-body harness
4. Attach other end of life-line to the rescue tripod
5. Confined space worker can now enter space
6. Attendant has to watch, and stay at space the entire time worker is in the hole
7. If attendant has to leave for any reason, then the worker must come out of space before the attendant leaves
8. Complete work, and leave confined space

E. Close man-hole cover, and write down "end time" on permit
F. Gather all permits for that week up, and deliver them to the Lab's EH&S Confined Space Manager's office at end of the week.

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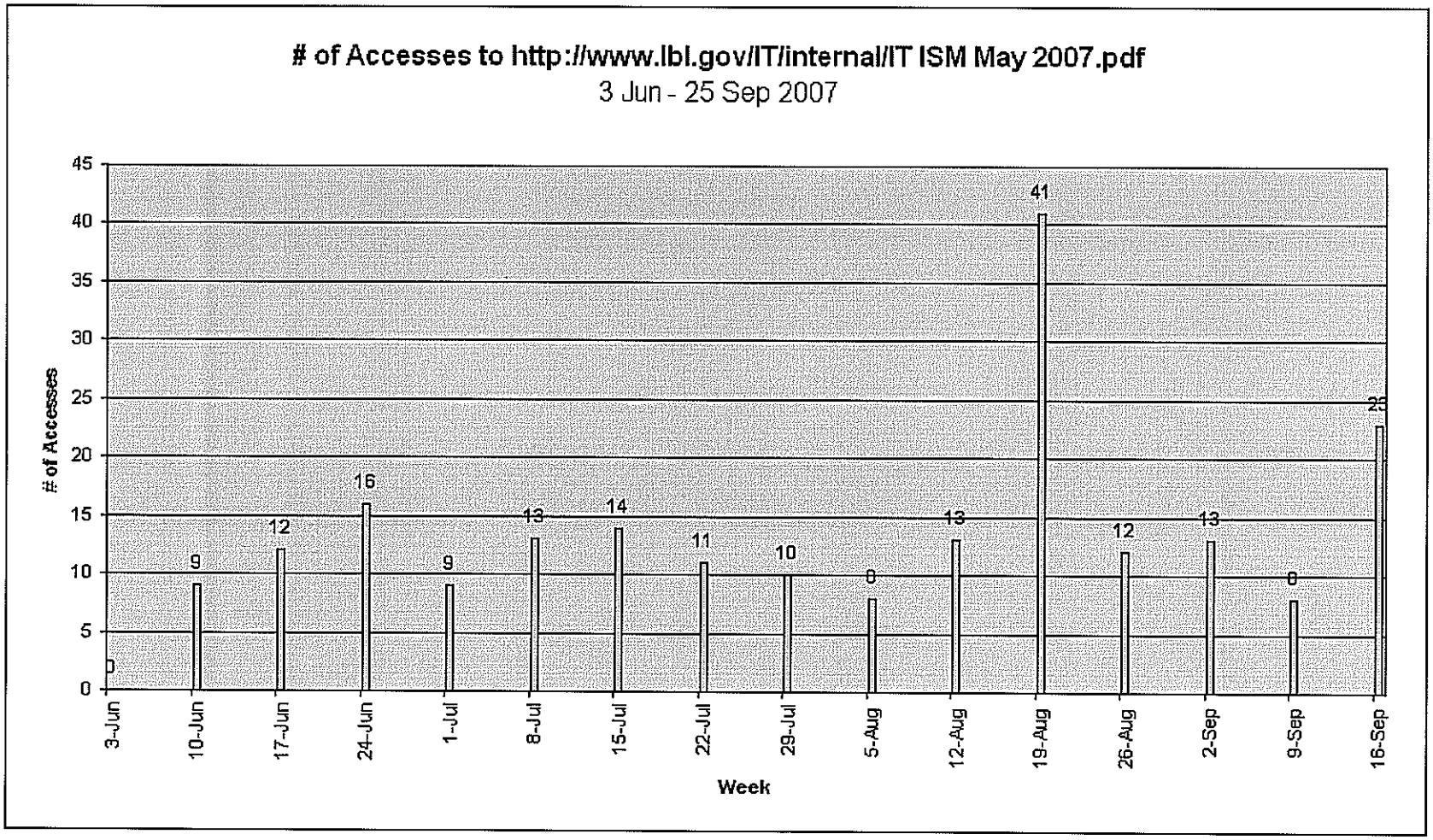
Appendix B
Hits related to IT ISM web posting



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(period ending 9/30/07)

Week	# of Accesses
3-Jun	0
10-Jun	9
17-Jun	12
24-Jun	16
1-Jul	9
8-Jul	13
15-Jul	14
22-Jul	11
29-Jul	10
5-Aug	8
12-Aug	13
19-Aug	41
26-Aug	12
2-Sep	13
9-Sep	8
16-Sep	23

Month	# of Accesses	
Jun	37	
Jul	57	
Aug	74	
Sep	44	
Total:	**212**	as of 25 Sep