



Joint Genome Institute Memorandum of Understanding

1.0 Introduction

This document updates the environment, safety and health (ES&H) memorandum of understanding (MOU) developed originally by the Laboratory Directors of Lawrence Berkeley National Laboratory (LBNL), Lawrence Livermore National Laboratory (LLNL), and the DOE Joint Genome Institute (JGI) and signed on June 17, 1999. The 1999 ES&H MOU was developed to specifically define and extend the responsibility of the National Laboratory Directors for ES&H to the Production Genomics Facility (PGF) for the Joint Genome Institute.

In FY05/06 numerous safety reviews and assessments of the JGI ES&H programs were conducted, which included a Management Environment Safety and Health (MESH) Review, internal JGI Senior Management Team assessment, and Biological and Environment Research Advisory Committee (BERAC) Review. Based on the collective findings of these reviews, the JGI established a Safety Working Group to move forward with the initiative to review and revise the 1999 ES&H MOU to provide more specific guidance on roles and responsibilities between the national laboratories and the JGI.

2.0 Purpose

Establish a new ES&H MOU between the two managing laboratories and the JGI. The objective of the MOU would be to provide specific guidance on ES&H roles and responsibilities, identify governing safety directives, primary and secondary sources of technical support, processes to provide injury reporting data, and guidelines to reduce the redundancy and confusion in implementing the ES&H program in the multi-lab environment at the JGI.

3.0 Operational Guidelines

3.1 Safety Governing Directive – Due to the nature of work done at the JGI and previously established relationships with the LBNL Safety organization, LBNL PUB 3000 has been mutually agreed upon to be the primary governing directive for the ES&H Safety Program at the JGI. The JGI may establish more stringent guidelines above and beyond PUB 3000 directives at the JGI Director's discretion.

3.2 Safety Organization/Laboratory Safety Liaisons – The JGI Safety Officer will be responsible for the oversight and management of the on-site safety

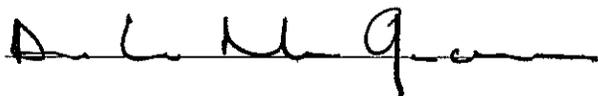
programs at the JGI Production Genomics Facility (PGF) and will act as the respective Division Safety Coordinator for LLNL and LBNL. LLNL and LBNL Laboratory Directors will assign an ES&H Division Liaison (or equivalent) to work closely with the JGI Safety Officer to continuously review and implement processes to improve JGI safety programs, provide information and/or access to timely reporting information such as DART and TRC data, and establish a single JGI Job Hazard Questionnaire (JHQ).

- 3.3 Technical Support** – LBNL will continue to provide primary ES&H technical support for Industrial Hygiene, Industrial Safety, Environmental Management, Fire Protection, Ergonomics, and Office of Assessment and Assurance. LLNL will provide secondary support upon request in the event that LBNL resources are not available in a specific area.
- 3.4 Home Laboratory/JGI Host Relationship** – All JGI employees are employed by one of two laboratories, Lawrence Berkeley National Laboratory or Lawrence Livermore National Laboratory. Therefore, for purposes of this MOU, the definition of home lab will be the lab of employment for each JGI employee. The JGI/LBNL/LLNL ES&H Implementation Matrix (Appendix A) provides specific guidance for implementing all aspects of the JGI Safety Program.
- 3.5 JGI/LBNL/LLNL Safety Liaison Meetings** – The JGI Safety Officer will be the central point of contact for all safety related issues at the JGI and act as the chairperson to organize and conduct monthly safety meetings with the Laboratory Division Liaisons. The purpose of the monthly meetings is to continuously review the effectiveness of the MOU and to resolve any issues with LLNL/LBL safety policies.

4.0 Expiration

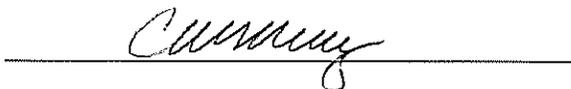
This MOU shall expire on June 15, 2011 unless otherwise modified or extended.

Lawrence Berkeley National Laboratory



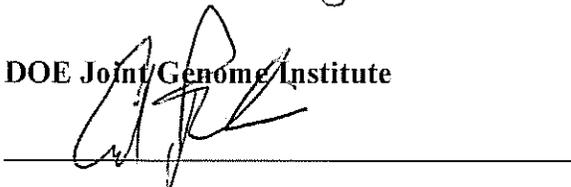
Date: 11/7/2006

Lawrence Livermore National Laboratory



Date: 9/22/06

DOE Joint Genome Institute



Date: 10/06/06

Appendix A

JGI ES&H MOU: Implementation Matrix

ES&H Responsibility	Home Lab ES&H	JGI Safety Officer	Home Lab Supervisor	Host (JGI) Supervisor	Employee
<p>JGI Job Hazards Questionnaire (JHQ) (For JGI employees exclusively at PGF / JGI.)</p>	<p>Advise JGI of JHQ content; consult on periodic revisions. Provide access to relevant records & databases.</p>	<p>Develop and maintain the JGI-specific JHQ for compliance with home lab requirements.</p>	<p>Assure that the JHQ is completed in a timely manner.</p>	<p>Assist employee with JHQ completion upon employment. Review & approve completed JHQs.</p>	<p>Complete JHQ; review annually with JGI supervisor and update as needed.</p>
<p>JHQ-identified (formal ES&H) Training</p>	<p>Advise JGI of lab-specific requirements; consult on periodic revisions. Agree to training plans and equivalencies. Develop and deliver lab-specific training specified on the JGI JHQ. Provide JGI Safety Officer with access to training records, databases, etc.</p>	<p>Specify particular training on the JHQ. Develop and deliver JGI-specific training. Track training activities in the LBNL and LLNL training databases. Monitor training delivered by home labs to ensure consistency and completion. Chair working group to evaluate ongoing training requirements. Ensure that employees are not waived inappropriately. Maintain JGI course descriptions.</p>	<p>Assure that training is completed in a timely manner.</p>	<p>Assist employee with training completion.</p>	<p>Participate in required training. Complete training specified by the JHQ.</p>

* May be delegated to and/or coordinated with other JGI functions.

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On-the-Job Training (OJT)	N/A	Monitor OJT to ensure safety requirements are met.	Subsidize the cost of outside training consistent with home lab policies.	Provide specific training and operating procedures to employee for work performed at JGI.	Acquire formal training within 30 days of assignment, and OJT before commencing work. Complete all required training within 6 months of hire, per Pub 3000.
Hazard Identification and Analysis [Assessment of Employee's Workspace]	LLNL: Provide primary, appropriate technical expertise (e.g., industrial hygiene, electrical safety) to facilitate proper hazard identification. LLNL: Provide additional assistance as needed.	Employ LLNL processes to identify hazards (e.g., HEAR). Supplement with other mechanisms (e.g., Job Hazard Analysis) as needed.	Coordinate oversight site visits with host supervisor.	Ensure that hazard identification is complete and ongoing. Correct deficiencies immediately and use corrective action system (described below) as necessary.	Report unsafe conditions and practices to supervisor in a timely manner. Keep work areas safe & uncluttered.
Work Authorization [Administrative Controls for ES&H, including AHDs, RWAs, RWP, etc.]		Employ LLNL system for formal work and line management authorizations. Implement JGI-specific system for additional work authorizations as needed.	Coordinate with host supervisor to ensure that authorizations are in place as required.	Ensure that proper work authorizations are obtained and hold employees accountable for performing work according to authorizations. Grant work authorizations in accordance with JGI ISM plan.	Obtain necessary work authorizations and follow administrative controls when performing work.

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Engineering Controls	LBNL: Advise JGI on selection, installation, testing, and maintenance; provide service contracts or support for designated equipment (e.g., fume hoods).	Provide oversight to ensure that appropriate engineering controls are installed, maintained, and used properly.*	N/A	Ensure that employees use engineering controls properly.	Utilize the installed engineering controls in work area, per Pub 3000.
Design, Construction, and Facilities Maintenance	LBNL: Provide design input and support for construction projects. Provide construction safety inspection services.	Oversee safety of all D&C activities. Consult with design teams on ES&H aspects. Provide safety orientation to contractors; maintain training documentation.	N/A	JGI Facilities Manager: Ensure that construction activities are conducted safely.	N/A
Personal Protective Equipment (PPE)	LBNL: Provide primary, appropriate technical expertise to facilitate proper selection and use of PPE. LLNL: Provide additional assistance as needed.	Develop JGI-specific PPE requirements. Assist line management with PPE assessment and selection.	N/A	Ensure that employees obtain and use appropriate PPE, in accordance with JGI policies. Provide appropriate PPE to employees.*	Understand the capabilities and limitations of PPE. Use PPE properly when required.

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Ergonomics	LBNL: Provide primary, appropriate technical expertise to facilitate evaluation and corrective actions LLNL: Provide additional assistance as needed.	Establish comprehensive, proactive laboratory and office ergonomics program. Use LBNL ergonomics database to track computer workstation evaluations. Conduct workstation evaluations and other assessments.* Provide or coordinate appropriate ergonomic furniture and accessories.*	N/A	Ensure that: task evaluations are completed; employees use ergonomic equipment properly; work practices are followed. Observe and evaluate employee ergonomic practices. Secure technical resources to address issues as needed. Implement corrective actions.	Request workstation evaluations. Perform work with proper ergonomic practices. Adjust and use equipment properly.
Emergency Preparedness & Response	LBNL: Advise JGI on development of Emergency Action Plan (EAP).	Establish and maintain the JGI EAP. Coordinate with LBNL on DOE and other required reporting.	N/A	Carry out responsibilities designated in EAP.	Carry out responsibilities designated in EAP.
Health Services	Both: Provide services for pre-placement, medical surveillance, and injury / illness treatment and follow-up for home lab employees.	Monitor and coordinate provision of Health Services activities and medical surveillance for JGI employees.	N/A	Assist employees with coordination of home lab Health Services.	Seek medical assistance from home lab Health Services.

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Incident Investigation and Reporting	Provide investigators (Investigation and technical expertise) to JGI investigation teams.	Follow LBNL process for incident investigation (Pub 3000 5.1). Supplement with necessary site-specific procedures. Work with the LBNL Office of Assurance for Occurrence Reporting.	Assure that corrective actions are completed to prevent recurrence to employee.	Drive the incident investigation process and provide input to determine root cause(s).	Provide input during the investigation process.
SAAR (LBNL) & CAR (LLNL), Injury / Illness Reporting	Provide investigators (Investigation and technical expertise) to JGI investigation teams. Maintain OSHA 300 logs for home labs and provide to JGI Safety Officer.	Coordinate reporting to comply with home lab and DOE requirements. Ensure that appropriate home lab investigator(s) participate. Post OSHA 300 logs for home labs.	Support the JGI supervisor in completing SAAR for employee.	Complete necessary reports in a timely manner. Supervisors of LLNL employees: Provide JGI Safety Officer with appropriate CAAR information.	Report all work injuries/illnesses, accidents, and discomfort symptoms to supervisor, and to matrixed supervisor if applicable. Seek medical assistance from home lab Health Services.
Injury / Illness Statistics	LBL: Provide access to relevant databases as practical. LLNL: Provide needed information from databases to the JGI Safety Officer on LLNL employees assigned to the JGI.	Compile and communicate statistics (e.g., TRC, DART) for the JGI.	N/A	N/A	N/A

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Program Assessment	LBNL: Provide ES&H oversight including 10CFR 851 compliance including reporting, and assistance as requested. Lead Integrated Functional Appraisals, Management Environment, Safety, and Health reviews, and other assessments as needed.	Conduct daily safety walkarounds and participate with line management on their walkarounds. Perform safety audits and inspections as needed. Lead the LBNL Genomics Division annual self-assessment process. Manage assessment activities and ensure corrective actions are completed and effective. Communicate with LLNL ES&H liaison about assessment results. Work with the LBNL Office of Assurance for Reporting.	N/A	Perform routine safety walkarounds. Participate in the annual self-assessment process.	Participate as requested.
Corrective Actions	Share lessons learned.	Communicate lessons learned. Recommend corrective actions. Track JGI-specific items in Safety Track. Track required items in LBNL CATS, per JGI approved procedure.	Assure that corrective actions are completed.	Identify and implement corrective actions.	Assist supervisors with corrective action identification & implementation.
Performance	Both (HR): Establish criteria for employee	Support supervisors in evaluating employee	Assure that performance	Include consideration of employee ES&H	Participate as requested.

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Evaluations	ES&H performance.	ES&H performance.	evaluations include ES&H considerations.	performance in annual evaluations.	

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