

## Subcontractor Job Hazards Analysis and Work Authorization Form for Non-Construction Activities Performed at LBNL Facilities

<b>To be completed by LBNL Procurement</b>		
Requisition Number:	Subcontractor/Vendor/Guest: <b>SERC</b>	PO Number:
Requester/Division: <b>Mike Ruggieri</b>	Buyer:	

<b>To be prepared by the LBNL Requester / Division</b>		
<p><b>Instructions:</b> To request a new subcontract for on-site services involving hands-on work, the LBNL Requester/Division must complete this section of the form and return it to Berkeley Lab Procurement. The Subcontractor/Vendor/Guest must then complete Items 1-21 to identify all hazards that could be present in the scope of work and the hazard control methods to be applied. This form may also be used for guests who do not work under a subcontract with LBNL. If you have any questions about completing this form, please contact your Division Safety Coordinator or the Program Manager for Non-Construction Safety Assurance at (510) 486-5440.</p>		
Date Prepared: March 12, 2009		
Estimated start time / length of job: March 12, 2009 / One Year		
Requester/Division: Mike Ruggieri	Phone /Fax: (510) 486-5440	E-Mail Address: Mrruggieri@lbl.gov
Prepared by: Mike Ruggieri	Phone /Fax: (510) 486-5440	E-Mail Address: Mrruggieri@lbl.gov
Scope of Work (Doing what, where, with what materials): Servicing, cleaning and repairing optical light microscopes.		
Job Location (Bldg. No.) / Site: Main LBNL site and remote facilities.		

Date Completed: <del>March 12, 2009</del> <b>April 8, 2010</b>	Requester/Division Approval: I authorize the work to proceed subject to the specified controls.
Work Hazard Level (Low or High): Low	

### To be completed by the Subcontractor/Vendor/Guest

<b>Completion of this form is a prerequisite for beginning work.</b>	
<p><b>Instructions:</b> Complete this form for on-site activities involving hands-on work and bring it to the LBNL site for review and approval by the University Technical representative (Requester) or designee. When possible, also send the completed form (by fax or e-mail) to the Requester/Division prior to coming to the LBNL site. Identify all hazards that could be present. If a box is checked "Yes," then additional documentation may be required. If you have any questions about completing this form, please contact the Requester/Division identified above. This completed checklist is equivalent to a Safety Management Plan for the scope of work and constitutes an Injury and Illness Prevention Plan (IIPP) for subcontractors, vendors, and guests. Prior to arriving at the LBNL site, subcontractors, vendors, and guests performing the work should review the <i>LBNL EH&amp;S Orientation for Non-Construction Subcontractors, Vendors, and Guests</i> located at <a href="http://www.lbl.gov/ehs/ssa/nssa/">http://www.lbl.gov/ehs/ssa/nssa/</a>.</p>	

Subcontractor/Vendor/Guest Contact <b>Emile Meylan</b>	Phone 925/443-2048	Pager	U.S. Citizen? (Y/N)
On-site Subcontractor/Vendor/Guest 1 <b>Emile Meylan</b>		Pager	U.S. Citizen? (Y/N)
On-site Subcontractor/Vendor/Guest 2 <b>Emile Meylan</b>	Phone 925/443-2048	Pager	U.S. Citizen? (Y/N)
On-site Subcontractor/Vendor/Guest 3	Phone	Pager	U.S. Citizen? (Y/N)
On-site Subcontractor/Vendor/Guest 4	Phone	Phone	U.S. Citizen? (Y/N)
	Phone		

*Emile Meylan 4-8-2010*

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*Instructions: Check either Yes, No, or Unknown for each of the questions in the summary list below. If you answer "Yes" to any of the following questions (except #19), refer to the same question in the accompanying checklist, and provide the requested information.*

- |     | Yes                                 | No                                  | Unknown                  |  |
|-----|-------------------------------------|-------------------------------------|--------------------------|--|
| 1.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Facility Modification</b> – Does the scope of your job include any modifications to our facility?   |
| 2.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Utilities Shutoff</b> – Does the work involve shutting off any electrical circuits, water, gas, or steam valves, or other utilities?  |
| 3.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Electrical Work</b> – Will you work on electrical equipment or systems?   |
| 4.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Personal Protective Equipment</b> – Does the scope of the work involve hazards that require the use of any personal protective equipment?   |
| 5.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Fall Protection</b> – Will you be working at heights above 6 feet and within 15 feet of an unprotected edge?  |
| 6.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Fire Protection/Prevention</b> – Will your work include the use of open flames such as torches, welders, grinders, tar pots, or any other tool or process/procedure that could cause sparks or open flames? Will work be performed near combustible storage containers?   |
| 7.  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Welding/Brazing/Soldering</b> – Will your work include processes that join materials?   |
| 8.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Refrigeration Repair or Maintenance</b> – Will your work include work on chillers?  |
| 9.  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Power &amp; Hand Tools</b> – Will your work require the use of dangerous power and hand tools, e.g., circular saws, axes, etc.?   |
| 10. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Hazard Communication/Toxic Substances</b> – Will the scope of your work require the use of hazardous substances?  |
| 11. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Excavation of Ground Surfaces and Penetration of Existing Concrete Structures</b> – Will the scope of your work require you to perform any mounting to walls or penetration (including chipping) into the ground, walls, floors, subfloors, and/or any excavation or trenching, including the use of stakes or poles?   |
| 12. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Confined Space Entry</b> – Will the scope of your work require you to work in a confined space (including manholes) where combustible, toxic, or other hazardous materials are present?   |
| 13. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Lead Paint Removal</b> – Will the work involve sanding, grinding, scraping, brazing, welding, or otherwise disturbing painted surfaces in such a way that particles may become airborne?  |
| 14. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Painting Walls</b> – Does the scope of your work include sanding walls and/or ceilings or washing of exterior walls, or otherwise create a potential for disturbing lead or asbestos?   |
| 15. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Asbestos</b> – Will you work with asbestos?   |
| 16. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Lasers</b> – Will you be working on Class 3B or Class 4 lasers (including lower class systems with embedded lasers) or microwave sources generating greater than 5 mW/cm <sup>2</sup> to uncontrolled space, including warranty work?   |
| 17. | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <b>Radiation Safety</b> – Will radiography be performed, or radioactive materials or ionizing radiation sources be used?   |
| 18. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Hazardous and Radiological Waste</b> – Does the scope of work include the generation of hazardous or radiological waste?  |
| 19. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Training</b> – Have you completed General Employee Radiation Training (EHS 405) at LBNL within the past two years? If not, go to <a href="http://ehswprod.lbl.gov/EHSTraining/GERT/default.asp">http://ehswprod.lbl.gov/EHSTraining/GERT/default.asp</a> to complete the training online. For guidance on how to complete EHS 405 without an LDAP password, go to <a href="http://www.lbl.gov/ehs/ssa/nssa/index.shtml">http://www.lbl.gov/ehs/ssa/nssa/index.shtml</a> . |
| 20. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Lock-out/Tag-out</b> – Does the scope of work include service, maintenance, or modification of equipment or apparatus in which the unexpected energization or start-up of the equipment, or the release of stored energy, could cause injury to people or damage to equipment?  |
| 21. | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> | <b>Other</b> – Are there other hazards associated with this job?   |

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Yes No

1.   **Facility Modification** – Does the scope of your job include any modifications to our facility? If so, describe below.

2.   **Utilities Shutoff**  
Does the work involve shutting off any electrical circuits, water, gas, or steam valves, or other utilities? If so, specify which utilities are to be shut off.

Describe the hazards involved and how you will protect the worker.

3.   **Electrical Work**  
Will you work on electrical equipment or systems that can expose a person to potential electrical hazards of 50 or more volts and 5 or more milliamps; or 1 joule or greater? (A person is considered to be exposed if they are within the NFPA 70E Limited Approach Boundary (typically 42”), to an uninsulated energized part, or if they are within the NFPA 70E Flash Protection Boundary (typically 48”). Some examples of exposed energized work are testing, troubleshooting, inspecting, and performing incidental work inside of electrical equipment.) If yes, complete the Subcontractor Electrical Safety Workbook and Energized Electrical Work Permit (if necessary) that can be obtained at <http://www.lbl.gov/ehs/ssa/nssa> and attach them to this form.

**Electrical power to microscope will be turned off before work is performed by removing the plug from the outlet. When necessary, electrical testing and probing will be limited to circuits that pose a potential electrical hazard of less than 50 volts or less than 5 milliamps.**

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4.   **Personal Protective Equipment** – Does the scope of the work involve hazards that require the use of any of the personal protective equipment listed below? If so, check all that apply below and include requested information.

Check all that Apply	PPE Required	Hazard(s) Description	Worker Protection Method(s)
<input checked="" type="checkbox"/>	Safety Glasses		
<input type="checkbox"/>	Ear plugs or ear muffs		
<input type="checkbox"/>	Steel-toed shoes		
<input checked="" type="checkbox"/>	Gloves		
<input type="checkbox"/>	Respirators		<b>Additional Documentation required:</b> <ul style="list-style-type: none"> <li>• Respiratory Protection Plan</li> <li>• Medical Release</li> <li>• Quantitative Test</li> <li>• Fit Test Records</li> <li>• Training Records</li> </ul>
<input type="checkbox"/>	Electrical personal protective equipment		
<input type="checkbox"/>	Other personal protective equipment		

5.   **Fall Protection** – Will you be working at heights above 6 feet and within 15 feet of an unprotected edge? If so, describe the work that will require fall protection.

Describe the hazards involved and how you will protect the worker.

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Activities Performed at LBNL Facilities**

6.   **Fire Protection/Prevention** – Will your work include the use of open flames such as torches, welders, grinders, tar pots, or any other tool or process/procedure that could cause sparks or open flames? Will work be performed near combustible storage containers? If so, describe below.

Describe the hazards involved and how you will protect the worker.

7.   **Welding/Brazing/Soldering** – Will your work include processes that join materials? If so, describe below.

**Soldering of electrical connections**

Describe the hazards involved and how you will protect the worker.

**Only non-leaded solder will be used.**

8.   **Refrigeration Repair or Maintenance** – Will your work include work on chillers? If so, describe below.

Describe the hazards involved and how you will protect the worker.

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9.   **Power & Hand Tools** – Will your work require the use of dangerous power and hand tools, e.g., circular saws, axes, etc.? If so, list those tools and describe their use below.

Describe the hazards involved and how you will protect the worker.

10.   **Hazard Communication/Toxic Substances** – Will the scope of your work require the use of hazardous substances? If so, check all that apply below and include requested information.

Check all that Apply	Type of Hazardous Substance	List materials or products: attach material safety data sheets.	Hazard(s) Description	Worker Protection Method(s)
<input type="checkbox"/>	Chemicals or chemical-related products	Small amounts of isopropyl alcohol.		<ul style="list-style-type: none"> <li>▪ Attach MSDSs or your Hazard Communication Program.</li> </ul>
<input type="checkbox"/>	Gases			<ul style="list-style-type: none"> <li>▪ Attach MSDSs or your Hazard Communication Program.</li> </ul>
<input type="checkbox"/>	Biological materials			<ul style="list-style-type: none"> <li>▪ Attach your Biosafety Program.</li> </ul>
<input type="checkbox"/>	Flammable materials, including flammable adhesives and glues			<ul style="list-style-type: none"> <li>▪ Attach MSDSs or your Hazard Communication Program.</li> </ul>
<input type="checkbox"/>	Radioactive materials or radiation-generating devices > Class I			<ul style="list-style-type: none"> <li>▪ Attach your Radiation Protection Program.</li> </ul>

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11.   **Excavation of Ground Surfaces and Penetration of Existing Concrete Structures** – Will the scope of your work require you to perform any mounting to walls or penetration (including chipping) into the ground, walls, floors, subfloors, and/or any excavation or trenching, including the use of stakes or poles? If so, describe including the depth of the penetration.

Describe the hazards involved and how you will protect the worker.

12.   **Confined Space Entry** – Will the scope of your work require you to work in a confined space (including manholes) where combustible, toxic, or other hazardous materials are present. If so, describe below.

Describe the hazards involved and how you will protect the worker.

Attach your Confined Space Program.

13.   **Lead Paint Removal** – Will the work involve sanding, grinding, scraping, brazing, welding, or otherwise disturbing painted surfaces in such a way that particles may become airborne? If so, describe the scope of work you will be performing that disturbs the lead.

Describe how you plan to control the spread of airborne lead and protect the worker.

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14.

**Painting Walls** – Does the scope of your work include sanding walls and/or ceilings or washing of exterior walls, or otherwise create a potential for disturbing lead or asbestos? If so, describe below.

Describe the hazards involved and how you will protect the worker.

15.

**Asbestos** – Will you work with asbestos? Is so, describe the scope of your work that will involve removing the asbestos, and how much asbestos you will be removing. If so, describe below.

Describe the hazards involved and how you will protect the worker.

Attach your Asbestos Program.

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16.   **Lasers** – Will you be working on Class 3B or Class 4 lasers (including lower class systems with embedded lasers) or microwave sources generating greater than 5 mW/cm<sup>2</sup> to uncontrolled space, including warranty work? If so, describe your scope of work.

Describe the hazards involved and how you will protect the worker.

When did you last receive laser safety training from your employer?

17.   **Radiation Safety** – Will radiography be performed, or will radioactive materials or ionizing radiation sources be used? If so, describe the work and hazards below and how you will protect the worker.

18.   **Hazardous and Radiological Waste** – Does the scope of work include the generation of hazardous or radiological waste? If so, describe the wastes and how you will minimize the generation of the waste.

**Small amounts of waste containing isopropyl alcohol. If a mercury light bulb breaks, some mercury waste may be generated.**

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19.   **Training** – Have you completed General Employee Radiation Training (EHS 405) at LBNL? If not, go to <http://chswprod.lbl.gov/EHSTraining/GERT/default.asp> to complete the training online. For guidance on how to complete EHS 405 without an LDAP password, go to <http://www.lbl.gov/chs/ssa/nssa/index.shtml>. If you cannot access the online training, contact the Requester indicated on the first page of this form.

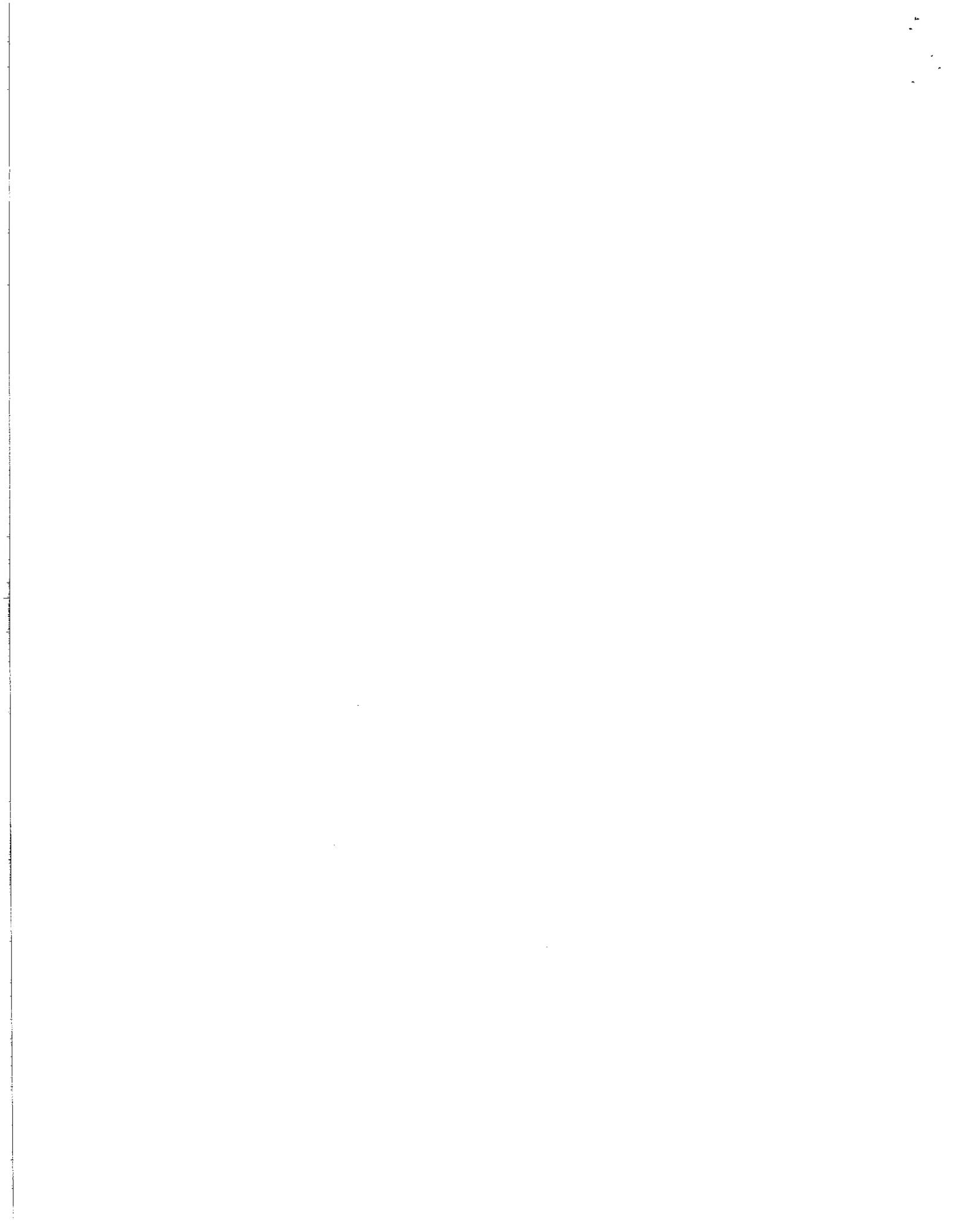
20.   **Lockout/Tagout (LOTO)** – Does the scope of work include service, maintenance, or modification of equipment or an apparatus in which the unexpected energization or start-up of the equipment, or the release of stored energy, could cause injury to people or damage to equipment? If yes, complete the LOTO Workbook and Permit (if necessary) that can be obtained at <http://www.lbl.gov/chs/ssa/nssa> and attach them to this form.

**Electrical power to microscopes will be turned off before work is performed by removing the plug from the outlet.**

21.   **Other** – Identify any other hazard associated with this job and the controls you are planning on using to protect the worker.

**There are optical and thermal hazards from light sources. Do not look directly at energized light sources without adequate eye protection. Allow light sources to cool before handling.**







## SUBCONTRACTOR LOCKOUT TAGOUT (LOTO) WORKBOOK

Completed by SERCO Technical Services, Inc Date 3-12-2009  
 Subcontract Company  
Emile Meylan   
 Representative Name

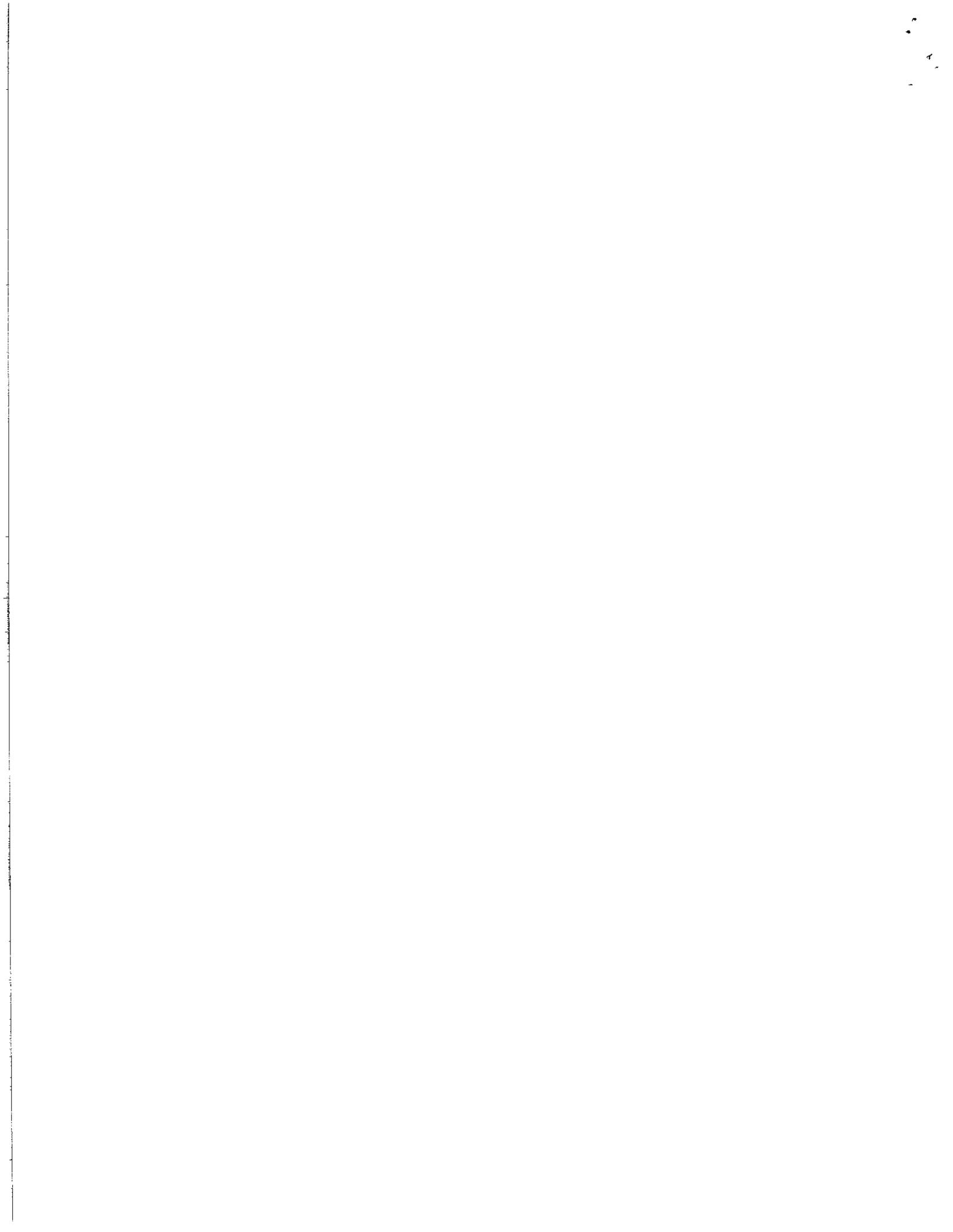
### COMPANY CONTACTS

Name Phone Cell

### LBNL Contacts:

Electrical Safety Keith Gershon (510) 486-4694  
 Construction Safety Jean Myers (510) 486-5200

EXEMPTION FOR CORD AND PLUG CONNECTED EQUIPMENT. Complete this section only if all of the equipment to be worked on is cord-plug connected.	
The equipment is electrically connected by a cord and plug.	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Unplugging the equipment removes all forms of hazardous energy	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
The equipment will remain unplugged for the duration of the servicing and maintenance process. There will be no time that the equipment will be plugged in while any guards or covers are removed.	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
The plug will remain constantly under the exclusive control of the servicing technician for the duration of the servicing and maintenance process	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
<p><b>IF ALL BOXES ARE CHECKED YES, SIGN HERE, RETURN WORKBOOK TO YOUR LBNL CONTACT, AND DO NOT COMPLETE THE REST OF THIS WORKBOOK</b></p> <p> Date <u>3-12-2009</u>                      Company Representative</p>	



ERNEST ORLANDO LAWRENCE BERKELEY NATIONAL LABORATORY

### EHS0405 - General Employee Radiation Training (GERT)

**Take the Exam**

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**Congratulations Emile Meylan, you scored 100%!**  
**You will receive course credit(s) if applicable in the JHA Database within 24 hours.**



