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|  <p><b>SLAC</b><br/>NATIONAL ACCELERATOR LABORATORY</p> | <h2>Jobs Safety Analysis</h2>              | Start Date:<br><b>3/1/2011</b>   |
| JOB/ACTIVITY NAME:<br>FACET alignment  |  | JSA # (optional):                |
| DEPARTMENT/GROUP NAME<br>Metrology / Alignment Engineering Group   | BLDG/AREA LOCATION(s):<br>Linac Sect 19/20 | OTHER INFORMATION or REFERENCES: |
| SCOPE OF WORK<br>FACET alignment Linac Sect. 19/20   |  |                                  |

| Steps   | Potential Hazards  | Controls   |
|---|--|--|
| <u>Enter Linac construction zone</u>  | <ul style="list-style-type: none"> <li>▪ Fire hazard</li> <li>▪ Construction zone</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Carry radio to communicate with fire watch (channel 11), no longer necessary in sectors 19-20</li> <li>▪ Hard hat, safety vest, safety glasses, safety shoes, long pants and flashlight required</li> </ul>   |
| <u>Bring Equipment into Linac</u> <ul style="list-style-type: none"> <li>▪ Lower equipment through manhole</li> <li>▪ Carry equipment down the stairs</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Falling equipment</li> </ul>  | <ul style="list-style-type: none"> <li>▪ Wear gloves while lowering equipment</li> <li>▪ Vacate area below manhole while lowering equipment</li> <li>▪ Use designated rope for lowering equipment</li> </ul>   |
| <u>Set Up Equipment and Targeting</u> <ul style="list-style-type: none"> <li>▪ Set up survey instruments (includes Class 2 or 3R laser instruments)</li> <li>▪ Use illumination if necessary</li> </ul> | <ul style="list-style-type: none"> <li>▪ Falling off ladders</li> <li>▪ Exposure to electrical energy</li> </ul>                       | <ul style="list-style-type: none"> <li>▪ Full PPE is required (see checklist above)</li> <li>▪ Inspect ladders before use and never climb to the top rungs</li> <li>▪ Inspect hand or power tools and cords before use</li> <li>▪ Inspect power cords for any defects and use GFCIs (never daisy chain cords)</li> </ul> |
| <u>Perform Survey</u> <ul style="list-style-type: none"> <li>▪ Make measurements</li> </ul>   | <ul style="list-style-type: none"> <li>▪ Falling off ladders when moving targeting</li> <li>▪ Exposure to electrical energy</li> </ul> | <ul style="list-style-type: none"> <li>▪ Full PPE is required</li> <li>▪ Do not stare continuously at a laser instrument (Class</li> </ul>   |

JOB/ACTIVITY NAME: FACET alignmnet

START DATE: 3-1-2011

|  |  |   |
|--|--|---|
|  | <ul style="list-style-type: none"><li>▪ Injuries from using hand-tools improperly including cuts, eye injuries or electrical shock</li></ul> | <ul style="list-style-type: none"><li>2 lasers are safe due to natural blink reflex and Class 3R are safe with restricted beam viewing)</li><li>▪ Inspect ladders before use and never climb to the top rungs</li></ul> |
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***I understand & will adhere to the steps, hazards & controls as described in this JSA. I understand that performing steps out of sequence may pose hazards that have not been evaluated, nor authorized. I will contact my supervisor prior to continuing work, if the scope of work changes or new hazards are introduced.  
I understand I have the authority and responsibility to stop work I believe to be unsafe.***

Worker Name (please print)

Signature

Date

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***I have reviewed the steps, hazards & controls described in this JSA with all workers listed above and authorize them to perform the work. Workers are qualified (i.e. licensed or certified, as appropriate, & in full compliance with SLAC training requirements) to perform this activity.***

Georg Gassner \_\_\_\_\_

Supervisor

Signature

Date

***I have communicated area hazards with the supervisor or listed worker(s) for this activity and have coordinated the described activity with affected occupants. The above listed workers are released to perform described scope of work in the following area(s):*** \_\_\_\_\_

7am tailgate meeting \_\_\_\_\_

Area or Building Manager

Signature

Date