**{Company Name}**

**JOB HAZARD ANALYSIS – ELECTRICAL ACTIVITIES**

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| **Title of Job/Operation:** |
| **Subcontractor:** |
| **Job Number:** |
| **Date:** |
| **Author:** |
| **Project Description:** |

General Notes:

Prior to starting any job, a tool box meeting will be held to discuss the work phases and review the entire job. This includes identifying any hazards and discussing the safest way to complete the job while keeping the BNL population safe and out of harm’s way. Specific tools for the job are selected, sound house-keeping practices are discussed, review SDS specific for this task. Review and sign the work permit, review, and sign the JHA/SWP. Operator’s manual for any powered equipment is available and will be reviewed for proper use and safety. Check tools and GFCI daily before each use.

General Safety Rules to be applied as follows:

1. Effective safety supervision shall be present on the project whenever work is to be performed.
2. All workers must wear high visibility clothing, safety shoes and safety glasses with side shields at all times.
3. The HASP must be available onsite.
4. All employees shall be aware of the procedures in this JHA/SWP and Brookhaven National Lab rules.
5. All employees shall be aware and trained in the chemical hazards communication program (SDS, Right to Know).
6. All SDSs for proposed and used chemicals shall be on file and approved with the BNL supervisor prior to the start of work as per OSHA requirements. Provide training as required by specific SDS.
7. All PPE shall be used in accordance with applicable ANSI standards.
8. Eyewash/Shower stations will comply with current ANSI standards located within 10 seconds but no further than 100 feet from hazardous chemical use areas.
9. All employees shall be effectively trained for the tasks, which they are required to perform.
10. Any injury is to be reported to the supervisor immediately.
11. Maintain proper housekeeping throughout the project.
12. No daisy chaining of extension cords.
13. Protection of BNL population.
14. All personnel involved in this work are required to acknowledge the JHA for this project and sign off on the document.
15. Use approved fuel dispenser can. Post no smoking sign in the area if doing refueling of powered equipment.
16. Operator manual must be present for all equipment on job site.
17. All equipment used such as: ladders, drills, saws, hand tools, extension cords will be inspected daily at a minimum.
18. All work with chemicals shall be performed in accordance with IH report/recommendations prepared by contractor’s IH firm including PPE, monitoring, and reporting. Reporting shall meet BSA requirements.

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| **Job Steps or Tasks** | **Hazards** | **Control Measures/Mitigation** |
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| Mobilize equipment to jobsite | Slips, trips, and falls  Strains  Ladder  Cuts/scrapes | Clean, neat work area, plan out ifting/moving of items.  Lift with knees, not back, utilize liftgate to load out job-boxes and other heavy items onto loading dock.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions.  Employees to wear gloves when handling materials. |
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| Repair existing louver | Slips, trips, and falls  Cuts/scrapes  Ladder  Electrical | Clean, neat work area, plan out lifting/moving of items  Employees to wear gloves when handling materials  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions.  Panel to be LOTO'ed. All employees to verify zero energy. |
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| Install FA and fiber optic cable | Slips and falls  Cuts/scrapes  Confined space (type 2A)  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  All employees to have BNL confined space training, attendant training, confined space certification form required, attendant required, confined space monitoring required, manhole barriers required.  Use of fixed ladders must be approved by BNL complex safety staff, use portable ladders where possible instead.  Panel to be LOTO'ed. All employees to verify zero energy  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per  manufacturer’s instructions. |
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| Install fire alarm devices | Slips and falls  Cuts/scrapes  Electrical  Silica/Drywall  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Panel to be LOTO'ed. All employees to verify zero energy.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per  manufacturer’s instructions. |
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| Install new TVSS on existing  switchgear | Slips and falls  Cuts/scrapes  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Panel to be LOTO'ed. All employees to verify zero energy.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Install UPS | Slips and falls  Cuts/scrapes  Silica/Drywall  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Panel to be LOTO'ed. All employees to verify zero energy.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Install lightning protection system | Slips and falls  Cuts/scrapes  Silica/Drywall  Utility strike (driving ground rods)  Falls (bucket truck)  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Digging permit required. Digging only in designated area. Driving of ground rods to require 1KV gloves while operating driver.  Proper fall protection, proper bucket truck use, ensure all employees have fall protections training that conforms to the SBMS requirements and the manufacturers requirements.  Panel to be LOTO'ed. All employees to verify zero energy.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Install empty conduits to future  inverter house and transformer locations | Slips and falls  Cuts/scrapes  Silica/Drywall  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Panel to be LOTO'ed. All employees to verify zero energy.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Replace exit lights with emergency  exit lights | Slips and falls  Cuts/scrapes  Silica/Drywall  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Panel to be LOTO'ed. All employees to verify zero energy.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Install conduits and receptacles | Slips and falls  Cuts/scrapes  Silica/Drywall  Electrical  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Panel to be LOTO'ed. All employees to verify zero energy.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Install voice/data jacks | Slips and falls  Cuts/scrapes  Silica/Drywall  Ladder | Clean, neat work area, plan out lifting/moving of items.  Employees to wear gloves when handling materials.  Follow proper penetration procedure. All penetrations shall be performed in accordance with IH report/recommendations prepared for contractor by IH firm using local dust extraction at drill head.  Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions. |
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| Test and label everything | Ladder  Electrical  Slips and falls  Cuts/scrapes | Proper ladder usage, three points of contact, correct ladder type, ladder to be used and inspected daily before use as per manufacturer’s instructions.  Panel to be LOTO'ed. All employees to verify zero energy.  Clean, neat work area plan out lifting/moving of items. Employees to wear gloves when handling materials. |
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I have attended the safety orientation tool box meeting where we discussed the phases of the job and any potential hazards, housekeeping, and keeping the BNL population out of harm’s way. We also reviewed the JHA & BNL Work Permit.

I have read and understand the aforementioned JHA recommended job safe procedures and the BNL Work Permit and will follow them throughout this job:

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| **Name** | **Life Number** | **Signature** | **Date** |
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A signed copy of the JHA must be posted while the applicable subcontractor is working on-site and be available to any BNL employee upon request.