**{Company Name}**

**JOB HAZARD ANALYSIS – ELECTRICAL ACTIVITIES**

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

**General Requirements for the use of a Job Hazard Analysis (JHA):**

Prior to starting any job, a toolbox meeting will be held to discuss the work phases and review the entire job. It will include the identification of any hazards and discussing the safest way to complete the job. All personnel involved in this work shall be familiar with this JHA and are required to acknowledge and sign the document.

All employees shall be aware of BNL safety rules as documented in this JHA and the applicable Health and Safety Plan (HASP), which must be available onsite. A brief summary follows:

1. Effective safety supervision shall be present on the project whenever work is to be performed.
2. All employees shall be effectively trained for the tasks which they are required to perform.
3. All PPE (Personal Protective Equipment) shall comply and be used per applicable ANSI standards. All workers must wear high visibility clothing, safety shoes, and safety glasses with side shields.
4. Maintain proper housekeeping throughout the project.
5. Any injury is to be reported to the supervisor immediately.
6. All electrical equipment shall be NRTL-listed (UL, CSA, ETL, TUV, etc.) or otherwise accepted by the BNL EAHJ through the EEI program.
7. Test GFCI before each use. No daisy chaining of extension cords.
8. All employees shall be aware and trained in the chemical hazard communication program (SDS, Right-to-Know). All SDSs for chemicals used shall be on file and approved by the BNL supervisor prior to the start of work as per OSHA requirements. Provide training as required by specific SDS.
9. Eyewash/Shower stations will comply with current ANSI standards located within 10 seconds but no further than 100 feet from hazardous chemical use areas.
10. If refueling equipment, use approved fuel dispenser cans only and post a no-smoking sign.
11. Operator manuals for power equipment will be available and reviewed for safe use.
12. Equipment such as ladders, power tools, hand tools, extension cords, etc. will be inspected daily for defects.

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| **Job Steps or Tasks** | **Hazards** | **Control Measures/Mitigation** |
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| Mobilize equipment to job site | Slips, trips, and falls  Strains  Ladder  Cuts/scrapes | Clean, neat work area, plan out lifting/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 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 wear gloves when handling materials.  Panel to be LOTO'ed. All employees 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 wear gloves when handling materials.  Panel to be LOTO'ed. All employees 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 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 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 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 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 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 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 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 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 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 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 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 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 toolbox meeting where we discussed the phases of the job and any potential hazards, housekeeping, and keeping the BNL population safe. I have read and understand this JHA safety information and will follow it 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.