**{Company Name}**

**JOB HAZARD ANALYSIS – ROOFING 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.

| **Job Steps or Tasks** | **Hazards** | **Control Measures/Mitigation** |  |  |
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| 1. Mobilization | Moving trucks and equipment  Protection of building occupants | * Protect mobilization area with flag lines, cones barricades and/or DO NOT ENTER tape. |  |  |
| 1. Unloading trucks of tools and materials | Strains, cuts, scrapes and material tools falling from truck | * Lift with knees, utilize mechanical equipment when possible, wear gloves when handling materials. Hard hat, safety glasses and work boots all the time when in work area. |
| 1. Inspect roof area | Trip hazards, weak decking hazards and bee/wasp hazards | * Remove trip hazards if possible. Maintain proper housekeeping * Mark trip hazards with visible markings * Notify supervisor of visible depressions on roof * Remove bee and wasp nests with spray or contact BNL Supervisor. |
| 1. Use of ladders | Falls | * Place ladder on solid, level ground and secure 3 feet above roof. Tie off ladder. * Inspect ladder daily for defects or damage. * Maintain 3 points of contact when climbing ladder. * Use Guardian step thru attachment at top of ladder. |
| 1. Provide fall protection | Potential fall from height of 6’ or more. | * Wear proper footwear that is not excessively worn and that provides adequate grip on roofing material * Install flag lines 10’ from leading edge of roof when work is in limited access area. * Install guard rails if work is within 10’ of leading edge or have men connected to fixed mounting point capable of 5000 lbs via retractable or adjustable lifeline with full body harness. Inspect fall protection equipment daily. |
| 1. Use of lull    1. Pre job assessment acquiring Lull and ensuring proper operator certification. | Potential for Lull or load to contact items/persons in the work area  Potential for Lull to become unbalanced and tip over and/or drop item | * Ensure operator and spotter are familiar with hand signals and flag waving to ensure proper communication when moving equipment into place and /or load. * Operator must possess forklift certifications per OSHA requirement. * Ensure that the lifting capacity of the equipment is great enough to manage the proposed load while maintaining acceptable safety tolerances. Rigging plan to be submitted to Hoisting & Rigging Inspector. * Ensure equipment has sufficient fuel for day’s operation. * Prep work area by ensuring load to be lifted/moved is secured. * Only authorized person is allowed to operate machine. * Ensure the delivery/set down location is prepared to receive equipment, i.e. platform, wood, ground level, etc. Lay down area * Trained and qualified operator to inspect Lull prior to use. * Operator’s manual must be available. |
| 1. Movement about the yard lay down area | Potential for forklift or load to contact items/persons in the work area.  Caught between the lull and material on-site. | * Map placement area. Use caution tape to secure area. * Limit site vehicle traffic while lift is in motion. * Maintain slow speed (5 mph) always use spotter to position and travel in the work area * All spotters must use a flagging device. * Spotters remain in line of site of operator. * Spotters shall not walk backwards, nor shall they lose sight of the load while in motion. * Personnel to remain clear of lull and other equipment/materials when in motion or adjusting forks. * Maintain fork as low to grade as possible when lifting and moving. * Limit U-turns, forward direction is preferred. Use in accordance with operator’s manual. |
| 1. Movement of load | Potential for forklift or load to contact items/persons in the work area.  Caught between sections of equipment or loads with other material. | * Ensure the lull is positioned on stable ground and deploy the outriggers if applicable before raising and relocating the load. * Maintain steady, low lifting and lowering speed. * Maintain forks as low to grade as possible when lifting and moving. * Maintain equipment distance and spotter positioning as stated above and prevent walking underneath. |
| 1. Secure equipment after work | Potential for forklift to roll, or personnel to contact raised forks. | * Ensure all devices are shut off. * Place forks all the way down and tilt towards ground. |
| 1. Mobilization | Potential for truck/flatbed to run into objects.  Potential for road hazard at entry. | * Keep all access areas free and clear. Proper PPE for driver of truck * Control road traffic by use of (MUTCD) manual for uniform traffic control devices. * Hand signals and use paddles. |
| 1. Use of electric power tools | Tripping hazard  Electrical shock  Wrong use of tool  Tool or cord is damaged | * Mark hazards with high visibility paint or tape * Maintain housekeeping. * Always use GFCI protected circuit * Qualified person must use tool and have owner’s manual on hand * Inspect all tools and extension cords daily and prior to use. |
| 1. Use of pneumatic nail gun | Wrong use of tool  Tripping hazard | * Read and understand instructions * Set proper air pressure * Remove finger from trigger when not driving nails. * Never carry tool with finger on trigger * Arrange pneumatic lines in an orderly fashioned, make sure hose is free or obstructions and snags. |
| 1. Use of portable generator | Carbon monoxide hazard  Fire fueling generator | * Use in well-ventilated area. * Have fire extinguisher on roof at all times. * Refuel machine on ground. * Use approved safety can for fuel. |
| 1. Flash curbs and perimeter flashing | Sharp edges  Contact of skin to material | * Wear leather gloves * Review SDSs |
| 1. Cut roof and roof deck | Sharp edges, metal fragments sparks  Area under deck | * Wear leather gloves * Fire extinguisher on roof * Check for pipes and wires. * Barricade or vacate building area under work. |
| 1. Use of cleaners and/or adhesives | Fire  Inhalation  Contact with skin  Spills and splashes | * No smoking when using flammable materials * Use in adequately vented area * Identify PPE based on chemical hazards * Secure containers when not in use |
| 1. Demobilization | Falling material | * Housekeeping of extra material. Make sure material is secure * Unloading area is barricaded and free of all people |

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.