

Safety

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SAFETY

- 6a. Is there a written Hazard Analysis?
- 6c. Are any BNL requirements related to NEPA and/or Environmental Evaluation Notification Forms reviewed and approved?

Is there a written Hazard Analysis?

- A written hazard analysis has been developed for the BNL work required for HL-LHC AUP.
- Goal is to demonstrate that there is reasonable assurance that operations can be conducted in a manner that will limit risks to the health and safety of employees and the public and will adequately protect the environment.
- BNL Hazard Analysis Document identified typical hazards inherent in this type of work.
 - Material Handling
 - Mechanical Hazards
 - Electrical Hazards
 - Static Magnetic Field Hazards
 - Industrial Hygiene Hazards
 - Cryogenics and Oxygen Deficiency Hazards

Is there a written Hazard Analysis?

Hazards Identified associated with Vertical Test

- Electrical
- Material Handling
- Pressure
- Static Magnetic Fields
- Cryogen
- Noise

Risk Assessment Calculations for Risk Assessments

| Job Step / Task | Hazard | Before Additional Controls | | | | | | After Additional Controls | | | | | | | | |
|---|---|--------------------------------|----------|---------------|-------------|------------|--------------|---------------------------|---------------------------------|---------------|---------------|-------------|------------|--------------|---------------|------------------|
| | | Control(s) | Stressor | # of People A | Frequency B | Severity C | Likelihood D | Risk* AxBxCxD | Control(s) Added to Reduce Risk | Stressors 1.0 | # of People A | Frequency B | Severity C | Likelihood D | Risk* AxBxCxD | % Risk Reduction |
| Lift magnet and move into container using crane | Getting struck by dropped load or hitting other objects or people with load while moving. | Training; Equipment; 2-Man job | N | 4 | 2 | 5 | 1 | 40 | | | | | | | | |

Determine the Risk score by multiplying:

$$\# \text{ of People (a) } \times \text{ Frequency (B) } \times \text{ Severity (C) } \times \text{ Likelihood (D) } = \text{ Risk Score}$$

Rank the Risk Score into the appropriate risk group based on the following scale:

| | | | | | |
|--------|------------|------------|----------|-------------|---------------|
| *Risk: | 0 to 20 | 21 to 40 | 41-60 | 61 to 80 | 81 or greater |
| | Negligible | Acceptable | Moderate | Substantial | Intolerable |

Are any BNL requirements related to NEPA and/or Environmental Evaluation Notification Forms reviewed and approved?

- Reviewed as required by 10 CFR1021, DOE's Rules for Implementing the National Environmental Policy Act
- The project scope falls within the types of research and collaboration that have historically been part of BNL's mission and is within the scope of the July 2012 Generic WFO/CRADA/PIQ BNL-520 categorical exclusion. In addition:
 - Utilizes existing controls and procedures
 - Continuation of existing experiment / program
 - Similar to research previously performed at BNL
 - Utilizes existing facilities/equipment
 - BNL processes & procedures exist to manage waste generation/disposal

Questions

