

Information Bulletin

Emergency Preparedness Hazards Assessments

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Summary:

When making changes to Emergency Preparedness Hazards Assessments (EPHAs) attention must be given to the impacts and potential consequences associated with those changes when new hazards are introduced or when hazards are removed. Emergency planning must be tailored to each facility based on unique hazards, operations, confinement systems, facility age, facility condition, and remaining time in the life-cycle. It also must be understood that accident scenario selections for EPHAs and Documented Safety Analysis (DSA) are different. DSA accident scenarios are often used in EPHAs, but sometimes must be modified to support the development of event classification criteria.

Discussion of Activities:

An evaluation conducted by the DOE Office of Independent Oversight within the Office of Security and Safety Performance (SP-44) indicated that the Fluor Hanford (FH) Solid Waste Operations Complex (SWOC) EPHA did not include a spectrum of mid-range events to facilitate development of response tools to support T-Plant personnel in addressing a full range of potential internal building events.

The concern that raised this issue was that a fire inside the building could generate enough smoke to threaten the HEPA filter. The EPHA analyzed an unfiltered ground-level release during a fire and discussed a filtered stack release. The fire emergency action levels (EALs) relied on a general statement of a "release to the environment" to determine if a classifiable emergency existed. The intermediate conditions of an unfiltered stack release and a release for a static building were not analyzed or discussed in the EPHA. The EPHA analysis did not support the use of existing instrumentation in the facility's response procedures or EALs.

Analysis:

Emergency planning must be tailored to each facility based on unique hazards, operations, confinement systems, facility age, facility condition, and remaining time in the life-cycle. The SP-44 evaluation noted that there is a potential that indoor releases, with or without filter failure, could be misclassified due to lack of analysis and explanation in the hazard assessment.

Causal analysis identified weaknesses in roles/Responsibilities/Authority/Accountability as it related to the Emergency Preparedness and Nuclear Safety organizations interface. When the EPHAs were combined from multiple facilities into a single document, EPHA process experts and facility subject matter experts were not adequately involved.

As a result, material at risk and most accidents were treated generically and not as facility specific and tended to default to the most conservative condition at any of the facilities. It was determined that a team approach that involves Nuclear Safety, the facility EP Coordinator, Facility Operations, EPHA subject matter experts and Site Emergency Preparedness Management should be used to develop, review, and approve EPHAs to ensure they are comprehensive and include information relating to internal building events.

Recommended Actions:

- Management expectations for EPHA review/signature requirements should be communicated to workers and documented to ensure responsibility and accountability for the review process and to ensure consistency across the site.
- The Emergency Preparedness process should define the selection of a “Team” for EPHA development and include Roles/Responsibilities/Authority/Accountability. The process should also include a tool for the review of changes (i.e., an impact review when changes occur).
- Training on the EPHA process should include scenario selection to ensure the full spectrum of emergency events are included in EPHAs.

Cost Savings/Avoidance: NA

Work Function: Emergency Management

Hazards: Environmental Release

Keywords: Emergency preparedness, SWOC, EPHA

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References: DOE-HQ Office of Environment, Safety & Health Evaluation

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