

Recommendation 323

Safety Procedures and Emergency Preparedness and Response at the Savannah River Site and Other Department of Energy Sites

Background

Safety at the Savannah River Site is described by the Department of Energy and its contractors as the highest priority. Likewise, citizens and communities surrounding the Savannah River Site believe that the safety culture at the Site is commendable but have a responsibility to question. Unfortunately, events in the past year have raised serious questions about the Department of Energy's ability to safely operate its nuclear waste sites and to respond appropriately in the event of an emergency.

A description of several incidents from the past year will serve to illustrate the basis for public concern.

Underground Mine Fire at the Waste Isolation Pilot Plant

On February 5, 2014, an underground mine fire involving a truck occurred in the Department of Energy's Waste Isolation Pilot Plant near Carlsbad Caverns, NM. The Accident Investigation Board, appointed by the Department of Energy to investigate the fire, issued its report on March 5, 2014. The report states:

The "Root Cause" of the accident was the failure of Nuclear Waste Partnership LLC and the previous management and operations contractor to adequately recognize and mitigate the hazard regarding a fire in the underground. This includes recognition and removal of the buildup of combustibles through inspections and periodic preventative maintenance (e.g., cleaning), and the decision to deactivate the automatic onboard fire suppression system."

The report goes on to list ten "Contributing Causes" which included an inadequate preventative and corrective maintenance program, a less than adequate fire protection program, inadequate fire fighting training of truck operators, ineffective emergency/preparedness and response program, contractor failed to recognize inadequacies of maintenance program, Carlsbad Field Office oversight was ineffective, and deficiencies identified by the Department of Energy and the Defense Nuclear Facility Safety Board went uncorrected for long periods of time.

This report was shared with each of the Department of Energy's field offices, including the Savannah River Site. Each site was asked to formally report on the status of maintenance activities and other judgments of need from the report by mid-June 2014. To date, the Citizens Advisory Board has not received any information about this report even though the Vice Chair of the Citizens Advisory Board had raised this issue.

Radiological Release Event at the Waste Isolation Pilot Plant

On April 14, 2014, the Accident Investigation Board issued its Phase I Accident Investigation Report on the radiological release at Department of Energy's Waste Isolation Pilot Plant near Carlsbad Caverns, NM. The report states that the "Direct Cause" of the accident was the "breach of at least one transuranic waste container in the underground which resulted in airborne radioactivity escaping to the environment downstream of the HEPA filters."

The report goes on to state that the "Root Cause" of the release of radioactive material from underground to the environment was Nuclear Waste Partnership's and Carlsbad Field Office's management failure to fully understand, characterize, and control the radiological hazard. The cumulative effect of inadequacies in ventilation system design and operability compounded by degradation of key safety management programs and safety culture resulted in the release of radioactive material from the underground to the environment, and the delayed/ineffective recognition and response to the release."

The report goes on to list eight "Contributing Causes" which included an ineffective Radiation Protection Program, an ineffective maintenance program, an ineffective Nuclear Safety Program, inadequate implementation of the emergency management system, and oversight failure by the Carlsbad Field Office, and failure by Department of Energy Headquarters to hold the Carlsbad Field Office accountable for correcting repeated identified issues involving radiological protection, nuclear safety, Integrated Safety Management, maintenance, emergency management, work planning, and control and oversight.

Defense Nuclear Facilities Safety Board Letter

On May 16, 2014, the Safety Board sent a letter to the Department of Energy expressing concerns with "shortcomings in the safe performance of work areas across the Savannah River Site (SRS). Particular areas of concern include the implementation of worker and facility safety control, the conduct of maintenance, and hazardous energy control. Complicating the situation have been the persistently high backlogs of corrective maintenance, increased downtime at processing facilities due to equipment issues, multiple errors in engineering and nuclear safety documents, and weaknesses in the training program."

The Safety Board requested a briefing within 60 days to address these concerns. To date, the Citizens Advisory Board has not received any information about this briefing even though the Chair of the Strategic and Legacy Management Committee asked to get an update on this briefing.

Defense Nuclear Facilities Safety Board Recommendation

On September 3, 2014, the Defense Nuclear Facilities Safety Board approved Recommendation 2014-1, *Emergency Preparedness and Response*, which identifies the need to take actions to improve the emergency preparedness and response capability at the Department of Energy's defense nuclear facilities.

Defense Nuclear Facilities Safety Board Weekly Report

In the Savannah River Site Weekly Report for Week Ending August 8, 2014, the Board identified three maintenance events related to the Defense Waste Processing Facility. In response to one of the events, the report states that “In the future, preventative maintenance that is identified as a corrective action will be performed upfront rather than waiting for the specific time to elapse before conducting it.

Defense Nuclear Facilities Safety Board Public Hearing

On October 7, 2014, the Board held the third in a series of public hearings on the safety culture at the Waste Treatment and Isolation Plant at Hanford, WA. During that hearing Mr. Mark Whitney, Acting Assistant Secretary for Environmental Management, made comments about concerns identified in safety culture assessments of Department of Energy Sites and how he was addressing them. As part of his approach to address safety culture, he stated that he had asked for and had just received a “Safety Sustainability Plan” from the sites, including the Savannah River Site.

Comments

The conclusions of the Accident Investigation Boards that investigated the two accidents at the Department of Energy’s Waste Isolation Pilot Plant near Carlsbad Caverns, NM, and the concerns raised by the Defense Nuclear Facilities Safety Board in its letter, weekly reports, and its recent recommendation are eroding public confidence.

The Savannah River Site has not ever had a serious accident, but there is evidence that there has been a breakdown in the way that safety and emergency response procedures are being implemented in other nuclear sites around the country. This coupled with the evidence of a lack of adequate oversight by field managers and the Department of Energy Headquarters staff adds to the public’s concern.

Recommendations

The Savannah River Site Citizens Advisory Board recommends that the Department of Energy:

1. Give a presentation or verbal update to the Board about the Savannah River Site’s report to Headquarters on the status of maintenance activities and other judgments of need relative to the accident report at the Waste Isolation Pilot Project.
 - a. This presentation or update should be given as soon as possible but no later than the first Strategic and Legacy Management Committee meeting in 2015.
2. Give a presentation or verbal update to the Board about the briefing to the Defense Nuclear Facilities Safety Board in response to their May 16, 2014, letter.
 - a. This presentation or update should be given as soon as possible to the Strategic and Legacy Management Committee.
3. Give a presentation to the Board with details about how Defense Nuclear Safety Board "Recommendation 2014-1, Emergency Preparedness and Response" is targeting issues

relevant to the Savannah River Site and how the Site is preparing to respond to the Recommendation. This presentation should be provided at a 2015 Board meeting with updates later as appropriate.

4. Give a presentation to the Board with details about the “Safety Sustainability Plan” that was submitted to Mr. Mark Whitney, Headquarters, Department of Energy, and any actions planned as a result of such plan. This presentation should be provided during 2015.
5. Add “Safety and Emergency Preparedness” topics to the annual work plan of the Strategic and Legacy Management Committee for 2015 and thereafter.
6. Ask the Department of Energy to invite a Defense Nuclear Facilities Safety Board member to present a Safety Culture report of SRS to the CAB as soon as practical.