



Recommendation No. 156

July 23, 2002

F-Canyon Suspension

Background

The two chemical separations facilities (F-Canyon and H-Canyon) at the Savannah River Site (SRS) have served to stabilize the remnants of nuclear weapons product for nearly 50 years. F-Canyon began operations in 1954 and H-Canyon in 1955. These facilities use nitric acid dissolution and a chemical solvent extraction process to separate special nuclear material (e.g., plutonium and uranium) from irradiated reactor targets, spent nuclear fuel, and other materials from the DOE complex. Recovered plutonium nitrate solutions are transferred to FB-Line facility for conversion to plutonium metal and to HB-Line for conversion to plutonium oxide. Due to the jumbo size of the equipment in F-Canyon, it can dissolve and process several metric tons of material per day. Where as, the H-Canyon equipment is significantly large but it can only dissolve and process several metric tons of material per year (Ref. 1).

DOE has evaluated current mission needs and has not identified materials specifically requiring the unique chemical separation capabilities of the F-Canyon. As of March 2002, all materials that are known to be suitable for processing in F-Canyon have been processed. Therefore, DOE has concluded that the operation of F-Canyon is not required for current or future stabilization, disposition, or Defense Programs needs and is proceeding to suspend F-Canyon operations. F-Canyon suspension activities include the reduction of hazards (e.g., flushing vessels and chemical inventory reductions) and the early planning for total de-activation. The proposed end-state for F-Canyon is one of minimal surveillance and maintenance with F-Canyon in a cold, dark, and dry condition. To date no suspension activities are irreversible; however, once F-Canyon reaches the cold dark and dry state, recovery activities to reinstate canyon operations will be cost prohibitive (Ref. 2).

The Defense Nuclear Facilities Safety Board (DNFSB) has voiced its concerns over the F-Canyon suspension plans. DNFSB favors a dual canyon operation (F- and H-Canyon continued operation) to expedite risk reduction. The DNFSB questions the decision to suspend operations of a facility that exists today, one that is fully operational and fully staffed with qualified operations when there are a great deal of uncertainties associated with the disposition paths for many hazardous nuclear materials still within the DOE complex (Ref 3). DOE notified the DNFSB that upon its review of the materials to be processed, DOE found no reason not to proceed with the F-Canyon suspension plan. Furthermore, DOE stated its intent to work with DNFSB to receive DNFSB's authorization before equipment is de-energized in September of this year (Ref. 4).

Comments

The SRS Citizens Advisory Board (CAB) can see the potential merits and cost savings of discontinuing an already old operation that has limited materials to process and limited life expectancy. At the same time, the SRS CAB wants assurance that disposition paths for potential materials that could be processed in F-Canyon are clearly defined.

Recommendation

The SRS CAB supports the suspension of the F-Canyon operations but recommends that DOE:

1. Only implement suspension activities that can be reversed until the concerns raised by the DNFSB have been resolved.
2. Provide a material management plan to the SRS CAB, which identifies the types of material requiring disposal, the proposed disposition path, and the funding mechanism to accomplish the proposed treatment/disposal.
3. Begin immediate planning for alternatives for future processing needs of the nuclear materials program as a replacement for the present stabilization process and dedicate funding for it in lieu of spending resources to maintain aging facilities.

References

1. Canyon Utilization, presentation to the NM Committee by Sachiko McAlhany, May 20, 2002.
2. F- Canyon Suspension, presentation to the NM Committee by Philip Breidenbach, May 20, 2002.
3. Letter from John T. Conway, Chairman Defense Nuclear Facilities Safety Board to Spencer Abraham, Secretary of Energy, March 21, 2002.
4. Letter from Spencer Abraham, Secretary of Energy to John T. Conway, Chairman Defense Nuclear Facilities Safety Board, June 24, 2002.

Agency Responses

[*Department of Energy-SR*](#)