

# River and Plateau Committee Draft Advice

Topic: B Plant Advice

Authors: Jan Catrell, Liz Mattson, Marissa Merker, Gerry Pollet, Tom Sicilia

Originating Committee: RAP

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## Background:

B Plant is a canyon facility that isolated plutonium from irradiated fuel rods from 1945 until it was taken out of service in 1957. The plutonium extraction process resulted in highly toxic waste products including highly radioactive Cesium and Strontium. B Plant was reactivated and operated between 1968 and 1985 to further extract Cesium and Strontium from the high level waste (HLW) tanks.

DOE has proposed using a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Non-Time Critical Removal Action supported by an Engineering Evaluation and Cost Analysis document (EE/CA) to demolish portions of B-Plant complex and prepare other portions for demolition to reduce surveillance and maintenance costs. An additionally proposed activity will entomb highly radioactive HEPA filters which were part of the ventilation system in grout. The HEPA filters are currently stored in vaults under the 291-B facility, and are covered by steel plates and approximately three feet of soil. This cover prevents exposure to the estimated 71,000 curies of strontium-90 and 156,000 curies of cesium-137 trapped in the filters.

**The HEPA filters may be either Greater Than Class C or High-Level Waste.** Neither of which may legally be disposed in place even on an interim basis. There is no structural evaluation or other justification for grouting the 291-B vaults in the public documents.

The Tri-Party Agreement (TPA) establishes milestones that require DOE to prepare a Remedial Investigation/Feasibility Study (RI/FS) followed by “remedial action” pursuant to CERCLA, the federal Superfund law. The RI/FS consists of an investigation that characterizes contamination and evaluates a full range of alternatives and costs.

There are overlapping TPA milestones relating to the B-Plant that have not been presented for analysis in the EE/CA or public information. It is the Board's understanding that B-Plant cleanup involves various waste units that are being worked simultaneously through the cleanup decision-making process. This parallel process for related but separate decisions creates a communication challenge that makes public understanding and comment difficult. The Board is concerned that the simultaneous decision-making process for these various connected units could present a piecemeal picture that prevents needed removal actions for high-contamination areas such as the HEPA filters in vault 291.

The parallel process also has parallel milestones under the TPA. Milestones for the NTRCA are M-085-74 (Submit Expedited Response Action for one or more Tier 1 and Tier 2 facilities in the B Plant geographical area – completed 6/30/2018). and M-085-76 (Initiate Response Actions for B Plant Remedial/Removal Action Work Plan – due 9/30/2025). CERCLA milestones include M-085-70 (submit the work plan to prepare and issue a full RI/FS for 200-CB-1, including all of B-Plant) had a deadline of September 30, 2019. In 2019, DOE requested an extension to M-085-70, and an August 2020 agreement in principle sets a deadline for resolution of January 15, 2021.

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The TPA also identified Milestone M-15-00 to prepare a RI/FS for all other Central Plateau facilities and non-tank farm units, which would include B Plant, with a due date in 2026. The removal actions proposed in the EECA may delay the preparation of the RI/FS for the entire B-Plant Complex.

The HAB is concerned that by grouting the highly-contaminated HEPA filters in 291-B cell, other alternatives for final remediation may be overlooked, rendered more difficult, or impossible. If an RI/FS were prioritized now, it would likely be available for public review in Fiscal Year 2023. The HAB encourages DOE to characterize wastes and prioritize the identification of alternatives in an RI/FS starting in FY 2021, allowing for informed and fully funded cleanup activities.

### Advice:

1. The Board advises DOE to conduct site-specific evaluation of remedial alternatives for subsurface features not at risk of collapse prior to conducting interim stabilization actions to quickly inform interim decisions. This evaluation would supplement the EE/CA with pertinent information necessary for informed public participation.
2. The Board advises DOE to complete an RI/FS prior to implementing the removal action at B Plant to:
  - a. Increase confidence in cost estimates for the proposed work.
  - b. Ensure that any proposed removal action will not prevent characterization of RCRA wastes, compatibility assessments, and/or final remediation.
  - c. Evaluate how filters, which may be Greater Than Class C or High-Level Waste, would be removed or disposed as required by law.
3. The board advises DOE to lay out informal preliminary timeframes in which Non-Time Critical Removal Actions will be conducted and how the schedules may impact TPA agreement milestones (associated with B-Plant in this instance).
4. The board advises DOE to ensure worker safety by characterizing all work areas for chemicals of concern, including Pu and Be, prior to conducting any removal action.
5. The board advises DOE and its regulators to clarify the different kinds of cleanup actions and how the regulatory processes intertwine in the public involvement materials that are provided for decision processes such as the B-Plant cleanup.