Recommendation No. 80

March 23, 1999

Miscellaneous Chemical Basin/Metals Burning Pit

Background:

An Interim Action under CERCLA is planned for the Miscellaneous Chemical Basin/Metals Burning Pit (MCB/MBP) Operable Unit (Ref. 1). The MCB and the MBP are in different, but nearby locations close to A/M-Area. This motion addresses the proposed actions.

The MBP is a cleared area (400 by 400 feet) that was used as a burning area for lithium-aluminum alloys, scrap, and cuttings from the A/M-Area operations. There, waste materials such as metal shavings, pieces of aluminum, plastic pipe, metal drums, and other miscellaneous scrap were piled 3 to 6 ft. high and burned from about 1960 to 1974. After 1974 the area was graded, but weeds, grasses and small pine trees are growing there now. The Contaminant of Concern is aluminum. The proposed action is to remove soils to 4 ft. deep in the MBP, which contains most of the contamination, back-fill with clean dirt to grade, and dispose of the removed soils in a licensed landfill.

The MCB is in an old borrow pit (20 by 20 ft. by 1 ft. deep). Its presumed use was disposal of waste solvents and used oil; however, no disposal records were kept. The MCB was used from about 1956 to 1974 when it was graded. It is now located in a field (350 by 350 ft.) covered by weeds, grasses, and small pine trees. In the MCB, the contaminants of Concern in the soil from 0 to 4 ft. deep are dioxin and two polychlorinated biphenyls (PCBs). The proposed action is to remove the contaminated soils, 1 ft. deep in the MCB which contains most of the contamination, back-fill with clean dirt to grade, and dispose of the removed soils in a licensed landfill.

The cost of soil removal and disposal for the MBP and the MCB is $461,000.

Contaminants of Concern in the MCB vadose zone (subsurface soil, which is unsaturated) from 0 to 120 ft. deep are trichloroethylene (TCE) and tetrachloroethylene (PCE). A combination of active and passive soil vapor extraction wells will be used to reduce migration of TCE and PCE from the vadose zone into the groundwater ($998,000 over 10 years). In addition, institutional controls will be added to prevent residential use of the area ($32,800 over 30 years).

The proposed interim actions for the soil and the vadose zone will be final actions. Overall, these actions will protect future industrial workers and the local ecology.

Contaminants of Concern in the groundwater in the vicinity of the MCB and down gradient from the MCB are: lead, TCE, PCE, and carbon tetrachloride. While the lead is believed to be naturally occurring geologic material, the rest of the contaminants are from SRS operations at the MCB. Wells down-gradient from the MCB and MBP are to be installed down into the contaminated groundwater to form three barriers into which air will be pumped. The air will vaporize the organic contaminates in the groundwater and then remove them via another pipe in the same well. This process is known as in-situ air stripping and, along with monitoring, is the preferred plan for removing volatile organics and controlling plume growth in the groundwater ($2,663,000 over 10 years). This action will also provide data to assist in determining the final action for groundwater in the area. As a comparison, the standard groundwater pump-and-treat alternative would have cost $5,859,000 over 10 years.

An interim action is proposed for the contamination in the groundwater from the MCB because of the uncertainty of future groundwater remediation in the general area. Within the groundwater, there are two organic contaminant plumes moving towards the MCB/MBP from up gradient. These plumes originated from M-Area and the A-Area Burning Rubble Pit. An interim action will allow an early start on groundwater remediation while gathering further data on the interaction of the plumes from the MCB, the M-Area, and the A-Area Burning Rubble Pit.

Over ten years, the total costs for the proposed interim/final actions for both the MBP and MCB for soil, vadose zone, and the interim actions for the groundwater is $4,154,800.

Recommendation:

The SRS Citizens Advisory Board supports the proposed actions as being a reasonable and prudent choice among the alternatives. We also recommend that the three agencies (DOE-SRS, SCDHEC, and EPA-Region IV):

1. Accept the Proposed Interim Actions as the Final Actions for the soil and vadose zone.

2. Determine and report to the CAB by July, 1999, the criteria to determine at what point the proposed actions would switch from active to passive operations for the vadose zone.

3. In the development of the final Record of Decision process (i.e., Feasibility Study, Proposed Plan, Record of Decision), select a remedy that is protective of human health and the environment, but that does not require attainment of Maximum Concentration Limits (MCL's) for groundwater, if supporting data determines this to be unfeasible within a reasonable time of operation (no more than five years).

References

Interim Action Proposed Plan for the Miscellaneous Chemical Basin/Metals Burning Pit (731-4A/5A) Operable Unit (U), Westinghouse Savannah River Company, Report WSRC-RP-98-4153, Revision 1, January 1999

Agency Responses

Department of Energy-SR
U.S. Environmental Protection Agency