SRS Citizen's Advisory Board

Recommendation No. 54

March 24, 1998

SRS Beneficial Reuse Program

Background

The SRS Beneficial Reuse Program objective is to take SRS radioactive scrap metal (RSM), and either free release the metal or turn it into usable products instead of eventually disposing of it as waste. Implementation of this program (1) reduces the uncontaminated material that would become contaminated at SRS and at other DOE sites; and (2) releases space the RSM would fill in E Area (the vaults used to dispose of solid radioactive wastes) to dispose of more highly contaminated wastes. Technical feasibility has been demonstrated by fabrication of about 100 tons of slightly contaminated stainless steel into a variety of boxes and other products for use at other DOE sites. Over 10,000 tons of RSM exists at SRS which could be used in this program. The SRS CAB recognizes the significant progress made in this program to date.(1)

Manufacturing products made from contaminated stainless steel costs more than products from uncontaminated stainless steel because the fabrication is done in small shops that require radioactive material handling permits (the estimated cost for 100 drums made from uncontaminated stainless steel is $51,700 versus $69,500 from contaminated stainless steel), but the higher costs may be reduced by economies of scale. Although the beneficial reuse of RSM will save future disposal costs by refabricating contaminated steel scrap into products rather than contaminating new steel, DOE's procedures do not give credit for saving future disposal costs when making procurement decisions.(2)

Recommendation:

While the technical feasibility of using RSM has been proven, the SRS CAB is concerned that from a business perspective the true costs have not been demonstrated. Therefore, the SRS CAB recommends that SRS:

1. Compare the total cost (procurement and waste disposal) when deciding on the reuse of contaminated scrap metal. DOE should pay the higher costs for the free release of items made from contaminated scrap material when justified on a life cycle cost basis in order to reduce disposal costs and the overall amount of wastes generated.
2. Take the lead in DOE to develop a market at SRS and across the DOE complex for free release or beneficial reuse products.
3. Process one of the excess reactor water heat-exchangers (equal to about 100 tons) at SRS to obtain information to refine the business process and optimize the handling of the other 93 slightly contaminated heat exchangers at SRS.

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(1) Boettinger, W.L., "Contaminated Stainless Steel Free Release & Beneficial Reuse Plan (U)", Revision), Report WSRC-RP-97-77, Westinghouse Savannah River Company, September 8, 1997.

(2) Boettinger, W.L., "Beneficial Reuse Program," Presentation to the Citizens Advisory Board, February 12, 1998.

Agency Responses

Department of Energy-SR