Recommendation No. 132

November 14, 2000

Release of Radioactive Scrap Metal

Background

Within the DOE complex, a very large quantity of radioactive contaminated metal has been generated over the years and additional quantities are expected from pending decommissioning activities. When such metal becomes scrap it is referred to as Radioactive Scrap Metal (RSM). There are two types of RSM: surface contaminated and volumetrically contaminated. Decontamination or removal of radioactivity by chemical or mechanical methods is readily achievable for surface contaminated metal. However, decontamination is very difficult for volumetrically contaminated RSM where the contamination is present throughout the mass of the metal (Ref. 1).

In addition to RSM from DOE facilities, RSM comes from Nuclear Regulatory Commission (NRC) licensed nuclear power facilities and commercial industrial sites. There is significant resistance from the steel industry to take this material and even more resistance from the public to allow radioactive scrap metal in commerce. Earlier this year the State of Tennessee came under considerable pressure from Congress and the unions over their approval limits for volumetrically contaminated RSM from Oak Ridge. (Ref. 2)

On January 12, 2000, the Secretary of Energy issued a moratorium on the Department's release of volumetrically contaminated metals pending a decision by the Nuclear Regulatory Commission (NRC) whether to establish national standards (Ref. 3).

Then in July of this year, the Secretary issued a memorandum which directed further action in the following four areas: (1) improve DOE's release criteria and monitoring; (2) expand efforts to promote reuse and recycling within the DOE complex; (3) improve DOE's management information about material inventories and release of property from radiological control; and (4) accelerate the recovery of sealed sources. This memorandum also suspended the unrestricted release for recycling of metal from radiological areas within DOE facilities (Ref. 4).

DOE has revised its directive (DOE Order 5400.5 Chapter V and VI) applicable to release of property from DOE radiological control and surface contaminated scrap metal. A public comment period on the proposed changes to the directive ends December 4, 2000 (Ref. 5). DOE is also conducting a feasibility study on the potential use of a dedicated steel mill to recycle metals within the DOE complex. A Request of Interest has been released to determine the economic viability of recycling surplus carbon steel, stainless steel, and nickel from DOE's decommissioning and cleanup activities into restricted use metal products (such as radioactive waste containers) (Ref. 6).

Comment

Since the moratorium on the Department's release of volumetrically contaminated metals is expected to remain in effect at least until NRC determines whether to establish national standards, the Savannah River Site (SRS) Citizens Advisory Board (CAB), is concerned about the schedule for NRC's decision and probable rulemaking. NRC has studied the issue for five years and there appears to be no clear target date established by NRC to develop these standards. The proposed DOE directives do not affect this ban; therefore, DOE can not release any volumetrically contaminated metals.

The SRS CAB is pleased to see the proposed revisions to DOE 5400.5 that would allow release of surface-contaminated metals that meet certain criteria. The SRS CAB is in favor of the proposed Surface Activity Guidelines, the revised DOE 5400.5 Order, and the planned local public participation program. The SRS CAB believes DOE-SR should move quickly to certify its program so unrestricted release of cleaned surface contaminated scrap metal for recycling could resume.

The SRS CAB would like the opportunity for public review and comment on any forthcoming DOE-HQ guidelines and guidance before field offices have to implement this directive. Several items in the

proposed directives are ambiguous and will require interpretation and guidance. The issues the SRS CAB are concerned with include: 1) the potential to recycle scrap metal outside the DOE complex, 2) independent verification program administration, 3) documentation of released property and scrap metal, 4) records maintenance and reporting, and 5) public involvement and communications program components. Some of these items may be very costly for the field offices to implement and some involve direct participation of the public.

An example of a potential costly issue was referenced in Secretary Richardson's July memorandum and is contained in the proposed directive. In the memorandum he suggests an improvement in the collection, maintenance, and reporting of information associated with the release of surplus equipment, scrap metals, and other excess personal property. Such an improvement could be reached by deployment of a centralized electronic database. The SRS CAB can see the benefits of such a database but also believes that such databases become obsolete very quickly and are expensive to maintain. The local field offices, like DOE-SR, should not bear the financial burden of finding the funds to establish and maintain such a system without an influx of additional funding. In addition, the SRS CAB strongly disapproves of DOE's intent to establish a dedicated steel mill to recycle metals within the DOE complex.

The SRS CAB can no make sense of DOE's intent to establish a dedicated steel mill to recycle metals within the DOE complex. The SRS CAB believes DOE's time and resources should be better spent on working with NRC on national standards for volumetrically contaminated metals.

Recommendation

The SRS Citizens Advisory Board recommends that:

1. DOE-SR develop and certify a program for the control and release of personal property including metal for recycling that meets the revised DOE Order for the radiation protection of the public and environment (DOE Order 5400.5).
2. DOE-SR involve the SRS CAB in the development of its public participation program for the release of radioactive property and scrap metal.
3. DOE-HQ actively solicit comments from SSABs and obtain public review of all draft guidance or guidelines associated with the criteria for release of radioactive property and scrap metal and incorporate applicable comments in the final guidance to field offices.
4. DOE-HQ utilizes its time and resources to work aggressively with NRC to establish national release standards for volumetrically contaminated metals.
5. DOE-HQ not pursue a dedicated steel mill.

References

1. *Technical Issues Relating to the Recycle of contaminated Scrap Metal*, Stephen Warren, DOE, Office of Environmental Restoration and Donald E. Clark, Westinghouse Hanford Co., November 1994
2. *Scrap Metal Recycling*, Decommissioning Section of the Health Physics Society, Notice of Comment Period Extension, November 1999.
3. *Energy Secretary Richardson Blocks Nickel Recycling at Oak Ridge*, Press Release, January 12, 2000.
4. Release of Surplus and Scrap Metal, Memorandum for Heads of Departmental Elements from Bill Richardson, Secretary of Energy dated July 13, 2000.
5. U. S. Department of Energy, Control of Materials with Residual Radioactive Contamination from DOE Facilities, Notice of Availability and Opportunity for Public Comment, November 6, 2000.
6. Expression of Interest to Provide an Electric Powered Metal Melt Production Furnace to the Department of Energy, Commerce Business Daily, August 23, 2000.

Agency Responses

Department of Energy-SR