



Portsmouth EM Site Specific
Advisory Board

Recommendation 10-03
May 6, 2010

Co-Chairs

Val E. Francis
Richard H. Snyder

Board Members

Shirley A. Bandy
L. Gene Brushart
Dr. Edwin G. Charle, Ph.D.
Lindy A. Coleman
Bobby E. Graff
Franklin H. Halstead
Michael J. Lilly
Sharon E. Manson
Stephen E. Martin
Daniel J. Minter
R. Daniel Moore
Larry A. Parker
Michael E. Payton
Cristy D. Renner
Terri Ann Smith

**DOE Deputy Designated
Federal Officer**

Joel Bradburne

DOE Federal Coordinator

Greg Simonton

**RECOMMENDATION: PROPOSED REQUEST FOR A COMPREHENSIVE
ENGINEERING EVALUATION FOR CONSTRUCTING AN ASSET RECOVERY
FACILITY AT THE PORTSMOUTH RESERVATION FOR RECYCLING
METALS FROM DECONTAMINATION AND DECOMMISSIONING USING A
MELTING/SMELTER PROCESS.**

Background

The objectives for D&D are to reduce the overall footprint, reduce hazards associated with various contaminants, and recycle as much material as possible. The DOE is currently performing D&D at many sites at the Portsmouth facility that were used in the past for supporting the enrichment of uranium by the gaseous diffusion process. Various types of scrap metal have been generated and will be generated in the future during cleanup operations. In the future, the three main gaseous diffusion process buildings (X-326, X-330 & X-333) will be subject for D&D. These three structures have approximately 8,225,000 square feet of floor space covering about 96 acres. When these structures are razed, there will be thousands of tons of debris containing metals and many pieces of process equipment such as old pumps, motors, convertors, industrial equipment, and steel used throughout the structures. It is estimated that between 0.2 – 0.9 million cubic yards of scrap metal will be generated.

The options for metal disposal appear to be limited, since the metals could possibly be contaminated with low-level radioactivity. One option is to ship all of the scrap metal to one or two low level radioactive waste disposal sites in the west in Utah and Nevada. This would be extremely expensive to consolidate, package, transport and develop new disposal cells. A second option would consist of building an on-site smelter to process all of the scrap metals by type for future use. Most of the radioactive uranium contamination would become part of the dross during the melting process, leaving the majority of metal that could be cast as ingots for future use. The dross would be transported to low level radioactive disposal cells in the west.

One of the concerns is that the recycled metals could still have trace amounts of radioactivity. Therefore, these recycled metals should only be used under control conditions at DOE sites or possibly in the construction of nuclear reactors and associated equipment at nuclear power plants.

The use of recycled metal assets would reduce the need to mine future ores, maximize the value of scrap metal, and reduce the amount of regulated low-level radioactive metal wastes requiring disposal cells at the few sites available in the west.

Recommendation

The PORTS SSAB recommends that DOE expeditiously develop and design a metal smelter that would be suitable to recycle different types of metals into ingots from D&D operations at the Portsmouth facility for future use at DOE and nuclear reactor sites under specific and regulatory controlled conditions.



Support Services

EHI Consultants, Inc.
1862 Shyville Road
Suite 115
Piketon, OH 45661
Phone 740-289-5249
Fax 740-289-1578
www.ports-ssab.org
info@ports-ssab.org