Award Nomination Title: Recycling Uncontaminated Metal from Radiological Areas

Award Nomination Category: Cradle to Cradle

Description/Abstract:
In response to a public relations issue in 2000, the Secretary of Energy issued a notice which suspended the recycling of any metal formerly found in Radiological Areas. As a result, thousands of tons of otherwise uncontaminated metal across the U.S. Department of Energy (DOE) complex were not allowed to be recycled and was either disposed of in sanitary landfills or "held hostage" until the suspension was lifted. The team above labored for 10 years to ensure that this issue was satisfactorily resolved in a technically reasonable manner, both for Sandia National Laboratories (SNL) operations and the DOE Complex. In the fall of 2009, this was accomplished. As an immediate result, we will be recycling 325 tons of steel from Thunder Range, about 5 tons from the Ion Beam Lab D&D activities and about 30 tons from Technical Area (TA) IV.

Were costs avoided by this project? yes
Was waste generation avoided by this project? yes
Is this activity being nominated for an E-star award? yes

Narrative:
In 2000 in response to a public relations issue, the Secretary of Energy issued a notice which suspended the recycling of any metal formerly found in Radiological Areas. This was to preclude the public from mis-perceiving that the DOE was "dumping" radiologically contaminated metal onto the scrap metal market. While there was no technical justification for this concern, the Secretary nonetheless issued a suspension notice until such time that a Programmatic EIS (PEIS) could be prepared regarding this issue. Unfortunately, this PEIS was never initiated and thousands of tons of otherwise uncontaminated metal across the DOE complex was not allowed to be recycled and was either disposed of in sanitary landfills or "held hostage" until the suspension was lifted.

With this directive, SNL implemented a very conservative management process of scrap metal anticipating additional guidance from DOE. Basically, any metal that came from a radiological area was not eligible for recycling, regardless of its unrestricted radiological release status. Accumulation of scrap metal according to this conservative application of the suspension continued for from 2000 onwards. In some instances, the metal was simply sent to a sanitary landfill, since onsite storage space did not exist.

Through the efforts of this SNL/SSO team in preventing disposal of nearly 720,000 pounds of metal, valuable landfill space was saved, valuable metal was properly recycled rather than wastefully disposed and metal recycling at SNL was re-started. This resulted in a cost savings of over $2.6M. In addition, Environmental Management System (EMS) principles were followed to improve management methods from an environmental standpoint.

Corporate Procedure ESH100.2.ENV.11 "Control of Scrap Metal from a Radiological Area" was revised to address the requirements of this change, with appropriate to existing Radiation

Protection Procedures. Training was provided to Radiation Protection staff, Environmental Compliance Coordinators and targeted Line managers to inform them of the change.

The environmental significance of this change is considerable, since it will prevent materials from being wastefully disposed of in landfills, allow for recycling of valuable metals that have been appropriately surveyed for unrestricted radiological release, with the myriad benefits of reuse and recycle and will be consistent with SNL's ethic of "environmentally friendly" operations.

This effort prevented the waste (via recycling) of over 720,000 pounds of metal in 2009 alone. Future savings will continue indefinitely.

This effort did not come from any pioneering ideas or techniques, but a dogged insistence by team individuals that SNL (and the DOE Complex) return to technically justified common sense.

References:

Memo from Dan Pelligrino (SSO) to Doug Bloomquist (SNL), 11/30/2009. *NA-58 Technical Assistance Visit to Support Radiological Clearance and Occupational Radiation Safety Programs at the Sandia National Laboratories/New Mexico (SNL/NM).*

Memo from Xavier Ascanio, Director of Nuclear Materials Integration, DOE/HQ to Patty Wagner (SSO), 11/23/2009. *Technical Assistance Visit to Support Radiological Clearance and Occupational Radiation Safety Programs at the Sandia National Laboratory - New Mexico (SNL).*