

Rulemaking Comments

**From:** D'Angelo, Wayne J. [WDAngelo@KelleyDrye.com]  
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OFFICE OF SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF

Secretary Viette-Cook, Please accept these comments on behalf of the Metals Industries Recycling Coalition. Please let me know if you have any questions. A hard copy has been sent via overnight mail as well

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Secretary Annette L. Viette-Cook  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001  
Attn: Rulemakings and Adjudications Staff

**Re: Comments on the Proposed Expansion of the National Source Tracking System ("NSTS") 73 Fed. Reg. 19749**

Dear Secretary Viette-Cook:

On behalf of the Metals Industry Recycling Coalition ("MIRC")<sup>1</sup>, I am writing to express our support for the U.S. Nuclear Regulatory Commission's proposed expansion of the National Source Tracking System ("NSTS"). We agree that expanding the NSTS to include Category 3 sources and sources with activity levels of 1/10<sup>th</sup> the activity of Category 3 levels will help increase stewardship and responsibility over dangerous sealed sources. We believe, however, that further expansion may be necessary to adequately protect the metals recycling industry and its employees and surrounding communities.

**I. Background**

MIRC members comprise a major sector of the nation's economy. Companies that are members of the associations that comprise MIRC consume scrap metal to make new metal products. These companies are the largest recyclers by volume in the country.

Each year steel mills operating electric arc and basic oxygen furnaces recycle more than 75 million tons of scrap into new steel products. Steel products contain, on average, 66 percent recycled content. These products have wide ranging applications including many consumer products such as food and beverage containers, automobiles, homes and even surgical implants.

<sup>1</sup> MIRC is an *ad hoc* coalition of metals industry trade associations and companies comprised of the Copper and Brass Fabricators Council ("CBFC"), the International Metals Reclamation Company, Inc. ("Inmetco"), the Nickel Institute ("NI"), the Steel Manufacturers Association ("SMA"), and the Specialty Steel Industry of North America ("SSINA").

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Copper and brass scrap is also widely recycled into a variety of products that go into consumer use. In 2006, the copper industry recycled approximately 900,000 tons of scrap into new products. Copper and brass products contain, on average, 65 percent recycled content.

Nickel is also a highly valued metal that is recycled at an exceptionally high rate. Increasingly, nickel is not only recycled as scrap, but is recovered from waste materials such as used batteries and electric arc furnace ("EAF") pollution control dust. In fact, upwards of 95 percent of the nickel content in stainless steelmaking EAF dust and other wastes can be recovered.

The recycling of scrap metal has become a sophisticated, technology-based industry, involving highly-controlled scrap selection and blending processes necessary to meet detailed customer specifications, including specifications and certification regarding radioactivity. Recycling generates significant environmental benefits. MIRC members recycle material that otherwise would be discarded in a landfill or improperly disposed. Such recycling conserves significant amounts of energy by using a feedstock of scrap instead of virgin ores. As a result, the steel minimill industry alone conserves enough energy each year to supply power to the city of Los Angeles for eight years.

Over the past decade, an industry-wide problem has emerged involving the amount of scrap metal contaminated with radioactive material. Some of this contamination in scrap is the result of background radiation absorbed by steel products, such as oil and gas transmission pipes. A more dangerous and potentially life-threatening form of contamination, however, is the presence of shielded radioactive sources – typically Cs-137 or Co-60 in the scrap supply.

## **II. Concerns Over Radioactive Sources in the Scrap Feedstock**

Radioactive sources in scrap feedstock pose a number of serious problems for the metal recycling industries. A radioactive source that is inadvertently melted in a furnace has the potential to lead to dangerous levels of radiation exposure for mill workers and even the surrounding community. When a radioactive source is melted, depending on the isotope involved, it may contaminate slag and slag handling equipment, the finished metal product, the furnace, baghouse, and duct systems and the surrounding facility. In one instance in Florida, a teletherapy unit rated at 5,000 curies of cobalt-60 was discovered prior to melting. Had the unit contained its rated quantity of cobalt-60 and been melted, it would have subjected the melt shop workers and the surrounding community to a potentially lethal dose of radiation. Cobalt-60 was, in fact, melted at a Mexican facility in 1983. The workers and community suffered serious

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radiation exposure and, unfortunately, the steel was allowed to enter the United States to be used in homes.<sup>2</sup>

In addition to exposure concerns, when a radioactive source is melted, each component of the furnace system must be completely cleaned and many mill components must be discarded. Contaminated items must be disposed of in costly low-level radioactive waste disposal facilities. The mill must remain closed while the remediation and replacement takes place. Often this can take several weeks to several months. The combined cost of the remediation, disposal and closure following an inadvertent melt of a radioactive source can range as high as \$12-\$24 million.

From 1980 to 2004, there were 91 known melts of significantly radioactive sources by the metals recycling industry internationally.<sup>3</sup> In each case, workers were placed at unnecessary risk and facilities were saddled with excessive remediation and disposal costs, with many being forced to close for extended periods of time. One of these 91 inadvertent melts occurred in Florida in 2001. This facility melted a significant source containing Cesium-137. Fortunately, no employees were subjected to any dangerous exposures. However, the mill was forced to close for 27 days and incurred several million dollars in remediation and disposal costs.

Florida was also the site of another source melting incident in 2006. In this case, the mill was also forced to close for a significant period of time. The company also incurred several million dollars in remediation costs, even though the Cesium-137 source was believed to be a Category 4 source with less than one curie of activity.

The downstream customers of MIRC member companies also are extremely concerned about radioactivity in recycled metal products. The metals industry has worked diligently for many years to build consumer confidence in the safety and utility of products made from recycled metal. However, the public, often fueled by sensationalized news reports, remains concerned about the safety of recycled metals in products that they use. The mere perception that metal products are unsafe because they are made from potentially radioactive scrap metal may lead to massive customer de-selection. Notwithstanding government assurances that the scrap is safe or that low levels of radiation are safe, consumers simply do not want any added radiation in their homes, automobiles or workplaces. Rightly or wrongly, consumer confidence would be severely undermined if even small amounts of low-level radioactive sources were found in the scrap feedstock.

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<sup>2</sup> *Id.* at 1.

<sup>3</sup> *Meltings of Radioactive Materials*, Yusko, J.G., Pennsylvania Department of Environmental Protection (2004) (attached).

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To protect their workers and property, and preserve consumer confidence and the safe and continued operation of their mills, the metals recycling companies have implemented use of sophisticated radiological detection devices to screen scrap shipments before they enter a facility. Many facilities also retest their scrap feedstock before it enters the furnace. However, even the most advanced detection systems cannot be 100 percent effective in locating a single shielded source within a truckload or rail car of scrap. Moreover, if the shield on the source remains fully intact throughout the scrapping process, the source may not be detectable at all.

### **III. Expansion of the NSTS**

MIRC understands that the NSTS was largely designed to address national security concerns related to lost or stolen radioactive sources that could be used in a dirty bomb or radiation dispersion device. Despite the differing motivation for establishing the NSTS, NRC and MIRC have shared the common goal of increasing stewardship over sealed sources. Since its establishment, MIRC has worked closely with NRC to institute an expansive system to track sealed sources in commerce. MIRC continued to work closely with NRC during the initial rulemaking creating the NSTS. We are pleased that NRC has been responsive to our comments suggesting that a system limited to tracking Categories 1 and 2 sources is not adequately protective of the metals recycling industry, its employees and surrounding communities. Expansion to Category 3 and to sources with activity levels of 1/10<sup>th</sup> of Category 3 will provide better tracking of a significant subset of sources that have plagued the metals recycling industry. It may not, however, provide sufficient protection from a still larger number of sources with the potential to cause dangerous and costly contamination in the metals recycling industry. MIRC supports this proposed expansion but remains interested in seeing the NSTS expanded further. We intend to continue our work with NRC to this end. We believe that this proposed expansion will demonstrate that the NSTS infrastructure is fully able to handle this expansion and potential future expansions all the way to Category 5.

MIRC members understand that the NSTS will not prevent all dangerous sealed sources from entering the scrap recycling stream. However, the NSTS is an excellent way to instill a sense of stewardship in licensees. Sealed sources are used in a wide variety of industrial, educational, and medical facilities. Through activity deterioration or simple disuse, these sources can quickly become mismanaged or forgotten. The registration and milestone reporting procedures in the NSTS ensure that licensees remain aware of their sources and their obligations to protect and safeguard those sources. Sources owned by licensees actively and affirmatively involved in the source's management are not likely to be improperly disposed or mistaken for an item fit for the scrap pile.

In the event that a source is orphaned, assignment of unique serial numbers provides a mechanism for the finder to identify the source and to find the licensee who lost control of the source. Through careful scrap inspection and use of sophisticated detection systems, the metals

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recycling industry locates dozens of sources every year. Many times, it is difficult to identify the source, leaving the innocent finders in the metals recycling industry struggling for insight in how to handle the device. The presence of a serial number keyed into the NSTS will enable metal recyclers to quickly identify a source and determine how to manage it safely. Moreover, the serial number will provide a fail-safe mechanism for finding and fining the licensee who lost or discarded the source. MIRC believes that licensees are less likely to mismanage or lose a source if it bears an indelible code that links the source with the licensee, who could then be fined or otherwise sanctioned by the NRC.

For the reasons discussed above, the NSTS expansion is a very positive step, but, unfortunately, a step which falls short of its goals. Joel O. Lubenau, a certified health physicist and former NRC employee who is an expert on the impact of sealed sources on the metals recycling industry, provided MIRC with an analysis of the types of sources which have plagued the industry since its inception. He found that 96 percent of the 1,910 lost or orphaned sources for which the category could be identified were Category 4 and 5 sources.<sup>4</sup> He reviewed each of the 24 domestic accidental meltings between 1983 and 2006 and, of the 14 for which the source category was identifiable, found that 13 (93 percent) were Category 4 or Category 5 sources.<sup>5</sup> The incidents caused by these sources were not insignificant. Many required significant shut down periods, extensive remediations, and full assessments as to potential employee exposures. These incidents constitute a significant percentage of the hundreds of millions of dollars in remediation costs incurred by the metals recycling industry.

MIRC understands that NRC developed the NSTS to ensure that dangerous sealed sources are not made available to would-be terrorists, but we continue to believe that NRC should take account of the collateral impacts on the metals recycling industry as it considers the expansion of the NSTS. Thankfully, no sealed source has ever been used by a terrorist in a dirty bomb or radiation dispersal device. The metals recycling industry however, has experienced numerous dangerous radiation incidents from these same devices.

While MIRC does not believe that the currently-proposed expansion should be delayed in favor of further expansion, we believe that NRC should institute a new rulemaking, in the near future, to utilize the full and ample capacity of the NSTS to track all sources which pose a threat to human health, the environment, and the recycling industry, including all Category 4 and Category 5 sources. MIRC believes that such an expansion is entirely consistent with the stated goals of the NSTS and that such an expansion would only augment NRC's ability to protect national security.

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<sup>4</sup> 795 were Category 4 and 1,115 were Category 5.

<sup>5</sup> Nine were Category 4 and four were Category 5.

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#### IV. Conclusion

The expansion of the NSTS to Category 3 sources and sources with 1/10<sup>th</sup> the activity level of Category 3 sources is an extremely positive step toward increasing stewardship over dangerous sealed sources. MIRC appreciates NRC's continued willingness to work with the metals recycling industry and appreciates NRC's responsiveness to MIRC's prior comments and recommendations. MIRC, however, believes that the current proposed expansion falls short of protecting against all the types of sources which have adversely impacted, and will continue to adversely impact, the metals recycling industry. As such, we are recommending that NRC utilize more of the NSTS's ample capacity and institute a further rulemaking which extends the program to all Category 4 and Category 5 sources.

MIRC appreciates the opportunity to comment on this important rulemaking. If you have any questions, please feel free to contact John Wittenborn at 202.342.8514 or [jwittenborn@kelleydrye.com](mailto:jwittenborn@kelleydrye.com).

Sincerely,

A handwritten signature in black ink that reads "John L. Wittenborn" followed by a stylized flourish.

John L. Wittenborn  
Counsel to Metals Industry Recycling Coalition

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