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11/9/01
66 FR 56721
(3)

December 31, 2001

VIA COURIER AND ELECTRONIC MAIL

Chief
Rules and Directives Branch
Division of Administrative Services
United States Nuclear Regulatory Commission
11545 Rockville Pike
Rockville, Maryland

Re: Draft Supplement to the Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities, 66 Fed. Reg. 56,721 (Nov. 9, 2001)

Dear Sir or Madam:

The Metals Industries Recycling Coalition ("MIRC") submits the following comments on draft Supplement 1 to the United States Nuclear Regulatory Commission's ("NRC's") "Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities" ("the GEIS"), dealing with decommissioning of power reactors. 66 Fed. Reg. 56,721 (Nov. 9, 2001). The National Environmental Policy Act requires federal government agencies to complete a detailed environmental impact statement for every "major" action that "significantly affects" the environment. 42 U.S.C. § 4332(C). NRC will rely on this GEIS and the draft Supplement to meet its statutory obligation to prepare an environmental impact statement in future decommissioning activities.

MIRC is concerned because the draft Supplement does not contain any meaningful discussion regarding the serious environmental, economic, and socioeconomic impacts of the radioactively contaminated scrap metal that would be released into the economy from facilities preparing for and undergoing decommissioning. Such releases would affect the metals industries' ability to recycle scrap metal and threaten the economic viability of metals companies. MIRC urges NRC to consider these impacts when preparing the final Supplement to the GEIS.

I. THE METALS INDUSTRIES RECYCLING COALITION

MIRC is an ad hoc coalition of metals industry trade associations comprised of the American Iron and Steel Institute ("AISI"), the Copper and Brass Fabricators Council ("CBFC"), the Nickel Development Institute ("NiDI"), the Specialty Steel Industry of North America ("SSINA"), and the Steel Manufacturers Association ("SMA"). The metals industries comprise a major sector of the nation's economy. A significant and growing portion of this production is

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based on recycled scrap metal. In a recent study commissioned by the National Recycling Coalition, R.W. Beck, Inc. reports that combined ferrous and nonferrous metals recycling industry employment totals approximately 350,000 jobs, with a payroll in excess of $12 billion annually and receipts of approximately $90 billion.[1]

All of the members of MIRC consume metal scrap to make new metal products. The recycling of enormous tonnages of scrap by MIRC members provides substantial environmental benefits, including reusing material that otherwise would be discarded and conserving energy. The energy savings from the steel minimill industry alone in one year are enough to supply the energy needs of the city of Los Angeles for eight years. The recycling of scrap is a sophisticated, technology-based industry, involving highly controlled scrap selection and blending processes to meet detailed customer specifications. A growing number of customers are setting specifications that include certification of minimum radioactivity levels in metal components and products.

The metals industries that MIRC represents strive to boost public confidence in the safety, strength and recyclability of metal products, and they invest significant time and resources in product promotion, sponsoring advertising, grass-roots initiatives, and educational activities. Moreover, all of the metals industries expend considerable resources on research regarding the effects of metals on human health and the environment, with an emphasis on creating safer products.

In the metals business, scrap metal is a valuable feedstock that is bought and sold as a commodity. Scrap accounts for a significant, if not the largest, portion of metals companies' production costs. Given that scrap metal has such a high value, the metals industries generally support public policies that serve to increase the quantity of scrap metal available in the economy and actively promote recycling. Scrap metal with residual radioactive contamination, however, including scrap metal that would be released from nuclear power reactor facilities in preparation for and during decommissioning, would undercut efforts to protect the scrap supply from radioactivity, and is not acceptable to the metals industries.

II. METALS INDUSTRIES' RESPONSE TO RADIOACTIVITY

Since the 1980s, metals companies have been installing and using sensitive, highly sophisticated radiation detection systems. Metals producers also have developed sophisticated monitoring protocols and procedures to ensure that they do not inadvertently allow contaminated scrap metal, including sealed sources that have escaped NRC regulation, to enter their mills. The metals industries' objectives in doing this are to protect workers and consumers and to prevent radioactive contamination in their mills. Inadvertent meltings of sealed sources can contaminate products, waste streams, mill equipment and the surrounding property. Radioactive contamination has caused individual metals companies to incur tens of millions of dollars in

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[1] R.W. Beck, Inc., *U.S. Recycling Economic Information Study* (July, 2001) at ES-6, Figs. ES-3 & ES-4.

clean-up and decontamination costs, per incident. These incidents can bankrupt individual metals companies. Metals companies have a financial interest in keeping radioactivity out of their mills, and have set their detectors to detect at or slightly above background radiation levels, to protect against the possibility of sealed sources ending up in the melt. Accordingly, scrap metal that sets off metal company radiation detectors is rejected.

III. NRC'S RELEASE GUIDANCE

Since at least as early as 1974, NRC has espoused a policy of "unrestricted release" of solid materials, including scrap metal, from nuclear fuel cycle facilities, without any specific, health-based release criteria. Unlike NRC requirements applicable to gaseous and liquid releases from nuclear facilities, there are no specific criteria governing releases of solid materials by licensees. Requests to release solid material are approved on a case-by-case basis using existing regulatory guidance and license conditions.

The regulatory guidance is a generic, five-page document entitled "Regulatory Guide 1.86, Termination of Operating Licenses for Nuclear Reactors" ("Reg. Guide 1.86"). Reg. Guide 1.86 was published in 1974, without public notice and comment, by NRC's predecessor agency, the Atomic Energy Agency. Under Reg. Guide 1.86, nuclear fuel cycle facilities are allowed to release for unrestricted use solid materials that meet "acceptable surface contamination levels." *See* Table I, Reg. Guide 1.86. These "acceptable" contamination levels are based on surface activity as measured in disintegrations per minute. They are based on the detection technology readily available in 1974 and not on public health or environmental considerations. The measurements in disintegrations per minute have no bearing on doses to the public or exposure, nor do they account for the impact of the radioactive contamination on metals industry operations.

Under Reg. Guide 1.86, nuclear fuel cycle facilities do not have to employ the same level of screening for small amounts of residual surface activity that metals companies must use to keep radioactivity out of their mills. Scrap released pursuant to surface activity levels in Reg. Guide 1.86 has caused radiation detectors at metals company facilities to alarm when no sealed sources were present. In short, a load of scrap metal that is acceptable for a power reactor facility to release is not an acceptable feedstock for metals company manufacturing operations.

IV. THE DRAFT SUPPLEMENT

A. Environmental Impacts

NRC's intent in producing this Supplement was "to consider in a comprehensive manner all aspects related to the radiological decommissioning of reactors." NUREG-0586 Draft Supp. 1 at xi (Oct. 2001). Yet, the Supplement does not discuss the potential environmental impacts of releasing scrap metal or other solid materials pursuant to NRC's unrestricted release guidance, except to state that licensed facilities must comply with standards in 10 C.F.R. part 20, limiting

the sum of allowable internal and external doses to individual members of the general public to 0.1 rem per year. NUREG-0586 at 4-26. (Allowable doses to individual members of the public following license termination are limited to 25 millirem per year during the control period and 100 millirem per year after the end of institutional controls. *See* 10 C.F.R. § 20.1402.) As discussed in the previous section, 10 C.F.R. part 20 does not contain any release standards for solid materials. Although it is not certain, a strong possibility exists that power reactors could release scrap metal that has a serious impact on the environment, such as by contaminating the soils or groundwater underneath a scrap yard or by escaping detection and becoming melted inadvertently in a metal company furnace. Furthermore, certain isotopes in scrap metal that escape detection before melting may accumulate and concentrate in emission control systems at metals company facilities, to the extent that metals producers could generate low-level wastes ("LLW") or mixed wastes.

Even if NRC eventually does establish dose-based clearance standards for solid materials, thousands of tons of scrap metal with residual radioactive contamination still would be released into the economy or sent to LLW or industrial waste landfills. If the scrap is released for reuse in the economy, it could have a devastating effect on metals recycling. The introduction of added radioactivity in the scrap supply would make it difficult or impossible for metals producers to meet certain product specifications. Customers who require their metals components to be free of radioactivity are driven by consumer demand for safe products and by the necessity in sensitive applications, such as in computers, for the metal to be radiation-free.

The mere possibility that products made with recycled metals may contain materials that were released from nuclear facilities could cause a significant number of consumers to purchase consumer goods made of substitute materials. A survey commissioned by the Steel Alliance found that 61 percent of Americans believed it would be a bad decision (42 percent said "very bad") to allow steel from closed down nuclear facilities to be recycled into the mainstream production of new steel products.[2] When those who opposed the idea of recycling radioactive scrap metal were asked if they would change their mind if they were assured that the material met government safety standards, they remained skeptical, with 74 percent continuing to oppose such recycling (and 51 percent saying it would be a "very bad" decision). If radioactive scrap were recycled into the manufacturing of new steel, three out of four Americans (73 percent) said they would be less likely to purchase food products packaged in steel cans; 62 percent would be less likely to purchase a steel-framed house; and half (53 percent) would be less likely to purchase an automobile made of steel. Finally, survey respondents' favorable impression of steel before and after discussing the potential introduction of steel from nuclear facilities being recycled into everyday products plunged 24 points on a 100-point rating scale,[3] from

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[2] The survey was conducted by Wirthlin Worldwide, an independent research firm, and involved polling of four focus groups followed by a phone survey of 1,007 individuals.

[3] On the 100-point scale, a score of 50 indicates a neutral opinion, above 50 a positive opinion, and below 50 a negative opinion.

approximately 68 to 43.6. Hence, the impression of steel went from solidly positive to negative as a result of the radioactive scrap recycling issue.

Therefore, it is not implausible to expect that retail consumers would demand certification that their products are made with mined virgin ores or would eschew metal consumer products altogether. This consumer reaction, coupled with the fact that many sensitive applications, like computer components, require radiation-free metal, would lead manufacturers to demand that the metal they purchase be free of residual radioactivity. This result would be a marked reduction in metals recycling rates and an increase in consumption of virgin mined ores. Thus, the introduction of added radioactivity into the scrap stream would undermine the environmental contributions made each year by recycling scrap metal.

B. Economic and Socioeconomic Impacts

The draft Supplement discusses the economic impacts of decommissioning, including the fact that the Barnwell Low-Level Radioactive Waste Management Disposal Facility in South Carolina, the last remaining facility to dispose almost all classifications of LLW, is scheduled to stop accepting LLW from all NRC licensees except those in the Atlantic Compact, by 2009. *Id.* at 4-43. Yet, decommissioning of most nuclear power reactors is not expected to occur until after 2009. The existence of the EnviroCare disposal facility in Utah, which can accept Class A wastes for disposal, mitigates the economic impact of losing Barnwell, but nuclear power plant operators still are expected to incur significant waste disposal costs. The Supplement discusses how these costs are passed on to electricity customers. The Supplement also analyzes the socioeconomic impacts of decommissioning with respect to the communities surrounding power reactors. These impacts include direct and indirect job losses, losses in tax revenues and reductions in local governments' ability to pay for public services. *Id.* at 4-47 - 4-53. Yet, the draft Supplement does not discuss the economic and socioeconomic impacts on the metals industries related to the release of radioactively contaminated scrap metal into the economy.

1. Impact on Metals Company Operations

To prevent sealed sources from contaminating their operations, metals companies have installed sophisticated radiation detection systems and monitor all incoming shipments of scrap metal for radioactivity. When a radiation detector alarms, the metals company responds, typically by rejecting the load of scrap or hand sorting it to determine where the radioactive contamination is located. This causes metals companies to incur significant costs. Often metals producers stop the production process whenever the radioactivity is detected, to take appropriate measures, including rejecting the load of scrap outright. These measures are necessary but impose unreasonable costs on the metals industries.

The release of scrap metal from power reactors undergoing decommissioning will present a far more insidious problem than orphan sources, by greatly increasing the volume of radioactive scrap arriving at, and the frequency of alarms at, metals companies. This poses a

serious problem for the suppliers and transporters, who must manage and arrange for the ultimate disposition of the rejected scrap. It would have a similarly enormous adverse impact on the smaller producers, foundries, scrap dealers and processors, fabricators, and end product manufacturers. Metals companies experiencing several alarms daily would continue to incur enormous costs, either unfairly increasing their manufacturing costs or compelling them to raise detection levels to above background, thereby exposing themselves to increased risk of inadvertently melting sealed sources. Receipt of even slightly elevated levels of radioactively contaminated scrap imposes enormous costs on metals companies.

2. Impact on Consumer Perception of Metal Products

The unrestricted release of radioactively contaminated metal for recycling would tarnish the perception of recycling as a social good that should be encouraged. Aversion to perceived radioactive risk could lead consumers to avoid products made of metal, especially those with a recycled metal content. Metals recycling industries have worked hard to build public confidence in the safety and utility of products made from recycled metal. This confidence would be lost if the public, rightly or wrongly, perceives such products to be unsafe. For this reason, metal companies have not, and will not, accept scrap that is known or perceived to be radioactively contaminated.

The public's perception is that any level or type of radioactivity is unsafe, official assurances to the contrary notwithstanding. The public, including workers at metals companies, will neither understand nor accept the release of radioactively contaminated scrap from nuclear facilities and its use as a feedstock in the manufacture of consumer products.

Accordingly, MIRC urges NRC to look at all of the economic consequences (*i.e.*, lost sales, employment reductions, and losses in sales by suppliers of equipment, materials, and services to metals industries) to be incurred by the metals industries and allied sectors, as well as the losses in tax revenues to be incurred by governmental entities.

3. Incentives for Unrestricted Release

The economic and socioeconomic impacts of decommissioning, coupled with the lack of health-based release criteria using dose-based standards, create a disturbing incentive for the nuclear power industry to release as much surplus metal as it can into the economy and market it as useful material, rather than incurring additional disposal costs when the scrap metal meets general regulatory release guidelines but may contain levels of residual radioactivity unacceptable to metals producers. NRC's recognition of these economic and socioeconomic impacts and its concurrent failure to consider the impacts of contaminated scrap metal on the metals industries create the mistaken impression that the agency has covered all of the significant impacts of decommissioning.

V. CONCLUSION

MIRC appreciates the opportunity to comment on the draft Supplement and urges NRC to consider in the final Supplement to the GEIS the environmental impacts of releasing radioactively contaminated scrap metal into the economy for unrestricted use, as well as the economic impacts on the metals industries and related socioeconomic impacts.

If you have any questions, please contact us.

Sincerely,

John L. Wittenborn/CBP

John L. Wittenborn
Christina B. Parascandola