

64 FR 14952/3/29/99

**From:** "Cliff Honicker" <cliffhonicker@mindspring.com>  
**To:** OWFN\_DO.owf5\_po(SECY)  
**Date:** Wed, Dec 22, 1999 12:02 PM  
**Subject:** Comments on Rule-making of Radioactive Recycling Metals

(10)

December 22, 1999

TO: NRC

From: Cliff Honicker, Director, AEHSP

re: comment on proposed rule-making to recycle radioactive metals into the free marketplace (Comments on draft NUREG-1640, "Radiological Assessments for Clearance of Equipment and Materials from Nuclear Facilities," (F.R. Vol. 64, No. 59) )

Dear NRC:

Many thanks for inviting me to the NRC meeting in Chicago in December and paying for my plane ticket. Given the amount of money spent for that, and the fact that the environmental community boycotted the meeting, I feel it is important to provide just a few more comments in addition to those already made for the public record at the Chicago meeting. I too would have boycotted the meeting, had my mother not asked me to come deliver her opinion on the same issue two decades earlier. A transcript was being taken of that December 7, 1999 meeting in Chicago. I would also greatly appreciate a copy of that transcript for my records.

1. In times past, the main focus on the effort to get radioactive metals recycled back into the mainstream was based on something called "Cost Benefit Analysis." The main theory was that the "Benefits" of the recycling effort outweighed the "Costs" that would be paid for that effort. "Costs" were generally defined as the human health costs in terms of increased health problems from exposure to the radioactive sources by both the public and the workers handling the materials. Great lengths were taken by scientists with calculators to guess on paper the estimated "costs" that would take place should the recycling take place. "Benefits" were defined, somewhat arbitrarily as the "Benefit to society" primarily, and the economic benefit to the Nuclear contractors secondarily.

Today, the argument is vastly different, much simpler and to the point of "Costs" versus "Benefit" from a strictly economic point of view. If the main reason for recycling this radioactive metal is economic benefit, then it should be stopped. The mainstream metals recycling industry is against it. From their wisdom of recycling metals over the decades, the very "Perception" of radioactive metals, however nicely "cleaned up" could cause hundreds of millions of dollars in damages to their overall industry. Perception may seem rather flimsy, on the face of it, for rejecting a proposed rule-making, but "perception" of a company on the stock market, based on any number of things, rumor, bad press, a slight change in the winds can and has spelled disaster in many past instances. It is nothing that you can predict, hypothesize, or estimate with a calculator, but it is as real as Christmas just around the corner.

That one reason alone outweighs the economic "benefit" of recycling the radioactive metals. If the nuclear industry and DOE stand to benefit to the tune of hundreds of millions of dollars, but the overall metals recycling industry stands to lose on the order of billions of dollars, then it does not take a genius to see the folly of the proposed rule. If the NRC is truly engaged in a public-based rule-making process, then this one fact alone is sufficient to deny the passage of the proposed rule.

2. As the EPA reviewer pointed out in his rejection of the 1980 rule-making attempt to infuse this stuff back into the economy, it does not make sense from ALARA to increase radiation in the general public at any rate, period, if it can be avoided. The EPA's comments that certain industries, like the photo industry, might be hurt by little pockets of hot metal was a very good one as well. I'm sorry I did not have time to provide you the addendum to his letter. But, you should have that letter, as well as the 5,000 other

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comments that were submitted to the NRC that were against the proposed rule-making from 1980. If you cannot find it, and you really want it, write me and I will be happy to provide you a copy.

3. As I said in Chicago, I wonder if this rule-making, involving public input is really valid, given that NRC never responded to the thoughtful comments made by thousands of people opposing the idea in 1980, never responded to my mother's comments, nor her request for a copy of those 5,000 comments, along with NRC response to each comment?

I say this especially in light of the fact that I asked for very specific, and easily retrievable information regarding the current rule-making process, to which the NRC was completely and totally unresponsive (other than a few cheerful phone calls from the Legal Counsel's office saying "we're working on it.") It is now my understanding that the PACE union, on behalf of their thousands of workers who would be impacted by this rule-making, have also been systematically denied requested information along the same lines. Please provide me the names, telephone numbers and addresses of the individuals at the NRC who decided whether or not to respond to requests for information regarding this rule-making that were made by myself and the PACE union representative, Mr. Dan Guttman, Esq.

4. In my request to Chip Cameron of the NRC earlier this Fall, I asked for specific information on compliance and non-compliance of DOE with respect to the current handling of radioactive materials with respect to its contractors. I have yet to hear one word from that. Do you remember the saying, "if a tree falls in the woods, and no one is there to hear it, does it make a sound?" The parallel, is, "if DOE or it's Contractors break the laws of our land, is there anything we can do about it?" Given the deafening silence of the NRC's non-response to my very simple questions, the answer is sadly and clearly "No."

5. As I also said in Chicago, if the NRC were really interested in the public's comments on these very important matter, they would have crafted a document that clearly, carefully and concisely spelled out the true environmental health, and economic impacts of the matters with respect to recycling radioactive metals. NUREG-1640 should go down in government annals as one of the most poorly written nuclear documents of the Century ("poorly" in terms of effectively communicating the information to the public and to officials in the sister regulatory agencies). I imagine only the scientists who actually wrote the report could even half-way understand what they wrote. Even then, I'm not so sure. If you compare that to the 1980 NUREG report on the same issue, you see a world of difference. Perhaps that is why the report was written so poorly. Perhaps the NRC wanted to buffalo people, intimidate them with something they could not understand, so that public comment would be muted. Poor form, gentlemen, poor form.

6. The recycling metal industry already has a pretty good idea of the lack of real control and accountability that the NRC has with respect to rogue sources of radioactivity in the metal stream today. Millions of dollars have been lost by metal recyclers through contamination of recycling facilities from old, improperly discarded radioactive sources, presumably from discarded medical equipment. We have three examples here in Oak Ridge and Knoxville, the David Witherspoon junkyard, the Atomic City Auto Parts junkyard, and the AmeriSteel plant in urban Knoxville where local metal recyclers have all been hurt by radioactive materials in their metal streams, not only from civilian medical sources from from old AEC castoffs. The recyclers are not the only one's to suffer. The sick workers and the people in the communities adjacent to these affected scrap yards have no way to gauge their health impacts from such exposures.

7. You have no mechanisms in place today that insures that every ounce of final scrap metal that is part of the current free-release plan of DOE's for instance, is in fact uncontaminated. That is a scary, scary thought, given DOE's past track record of shameful disdain for health and safety and the environment.

8. The Portal Geiger counters through which the train cars of scrap metal pass through at the metal scrap yards would have to re-calibrated several fold higher, should these new rules go into effect. The practical reality is that would increase the chances that rogue pieces of radioactive materials would slip through, thus contaminating millions of pounds of clean metal and requiring millions of dollars of clean-up. That

again defeats the practical philosophical principles of ALARA.

9. Who pays when someone is injured by radioactive metal? That is something that is not addressed in any of your rules, or regulations, is it? Who do the metal recyclers sue today when a rouge source of Cobalt craps up their entire operations and puts workers out of work for days/weeks/months? Who reimburses the metal recycler when millions of dollars worth of crapped up equipment has to now be disposed of as radioactive waste? That is something your report fails to address.

Well, it's three days from Christmas, I've yet to get ready for Christmas and I have a load of friends coming over for a Winter Solstice celebration. Later in the next Millennium, I will follow up my request for a complete copy of all records in NRC possession of previous attempts at changing these rules, along with all comments from people favoring it, and opposing it, as well as the NRC's responses to each comment. I will put you on notice right now that under FOIA, I request a complete hard copy, and if possible, as complete as possible a complete electronic copy as well. That material needs to be in the hands of the public interest organizations such that the public may refer back to the full historical public record each time the NRC and the nuclear industry team up to make this request in the future. It disturbed me that the gentlemen from the EPA sitting on the panel with me in Chicago "had no knowledge of the institutional record of the EPA" in the past decisions regarding this issue.

If the public and the sister agencies to the NRC have soundly rejected this issue several times in the last generation, why does it keep cropping back up? This is a pretty good example of a waste of time, and taxpayers money. To be honest with you, I'm not holding my breath to my current request for all the past records and comments. My mom asked for the same thing twenty years ago and you, the NRC blatantly ignored her request. From the looks of things, it appears NRC has not changed its stripes one iota. I will do my best to put my own records in a safe place and explain to my children, twenty years hence, when the NRC again raises its head on this issue, why they should go and tell them what a incredibly poor idea this is. Better to take care of the problems now, such as safely identifying and containing the rogue sources of radioactivity in the current metal stream, than to knowingly, allow a single microcurie out for free release.

Merry Christmas,

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CC: "Diane D'Arrigo" <dianed@nirs.org>, "Dan Guttman" ...

64 FR 14592/3/29/99

**COMMENT ON**  
**NUREG 1640 - Radiological Assessments for Clearance of Equipment and Materials From**  
**Nuclear Facilities**

Comment Summary

I would like to provide the NRC Staff with comments regarding NUREG 1640. The NRC should be commended for initiating the rulemaking process to establish a dose based national standard for the release of equipment and materials from nuclear facilities. A proposed rule has been anticipated with great enthusiasm. The vagaries of the current 'detectability' guidance should be replaced with more definitive dose based 'clearance' screening values. However, review of NUREG 1640 shows that the screening values are overly conservative and as a result are not possible to implement.

The assumptions used to determine the clearance values are over-conservative instead of reasonable. Adoption of the proposed screening values will cause a significant increase in the generation of radioactive waste for disposal to limited burial space incurring greater expense to the rate-paying public and to nuclear generating utilities and deny society the benefits of recycling.

The staff should revise clearance screening values by incorporating more reasonable assumptions. Clearance values consistent with the recommendations of other international radiation safety organizations such as the European Commission and the soon to be published ANSI N13.12 are workable and provide an adequate margin of safety for the public. Alternatively, the NRC should adopt ANSI HPS N13.12 *Surface and Volume Radioactivity Standards for Clearance* which uses a reasonable approach to determine clearance screening values.

Discussion

The NUREG states that the rule is to be comprehensive for equipment and materials. Therefore, it impacts not only items stored for disposition, but items used in the day-to-day operation and maintenance of licensed facilities. Equipment and materials are brought into and released from radiologically controlled areas (RCAs) routinely. The proposed rule in its current form threatens the ability of licensees to be able to move material and equipment out from RCAs. Without the ability to free release material and equipment, the space within the RCA would soon become filled or each item used in the RCA would require disposition as radioactive material.

Table 2.3 *Comparison of derived NRC surficial clearance levels with Regulatory Guide 1.86 acceptable contamination levels* establishes a clearance value for Co-60 of 280 dpm/100 cm<sup>2</sup>. By comparison, Reg. Guide 1.86 provides a value of 5000 dpm/100 cm<sup>2</sup>. Co-60 is a major component of licensed radioactive material produced at commercial nuclear power facilities. Regulatory Guide 1.86 was based principally on the detection capabilities of readily available instrumentation at the time the guides were developed and not on the potential dose to an individual that may result from coming in contact with the released materials. Therefore, it is in the best interest of the public and the licensees to have a dose based process for controlling the release of equipment and materials. In promulgating such a process, it needs to be understood that the conditions under which Regulatory Guide 1.86 were written have not changed significantly. Although more sophisticated laboratory instrumentation has been developed, field instrumentation has remained basically the same. Guidance provided by Reg. Guide 1.86 and IEN 81-07 have been adopted by the licensed community to produce a free release standard based on detectability of Co-60 for field instrumentation at 5000 dpm/100 cm<sup>2</sup>. The type of field instrument utilized when these

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documents were produced remains an essential part of radiological survey programs at many licensed facilities. That is because a high percentage of items requiring free release are too large to be measured by lab instruments. Additionally, in order to control and contain contamination at the source, field instruments must be used to perform surveys near contaminated area boundaries. These field instruments are not capable of measuring to the proposed clearance values. The capability of a frisker probe (the standard field instrument for survey of equipment and materials that cannot be measured by laboratory instrumentation) about 100 ccpm on a 15.5 cm<sup>2</sup>. That is equivalent to 5000 dpm/100 cm<sup>2</sup>. Introduction of a standard requiring measurement capability to 280 dpm/100 cm<sup>2</sup> would be equivalent to about 6 ccpm on a frisker probe – to which any trained individual will attest cannot be measured.

Modeling assumptions were reviewed for reasonableness. Many examples were found where conservative assumptions compounded other conservative assumptions, which caused production of unrealistic clearance values. For example, all scrap from nuclear facilities was assumed to be contaminated at 100% of the clearance limit. However, the EPA data referenced, estimates that only 16% of scrap metal from nuclear facilities is potentially contaminated. Additionally, industry experience has demonstrated that control for dose and radioactive contamination normally results in levels substantially below the limits. Therefore, contamination levels on materials released for scrap can be expected to average substantially below the clearance limits. Additionally, the 'critical member' of the public – a truck driver – was assumed to drive cleared material for 1000 hours per year. This is possible if the driver only moves material from licensees. However, scrap from nuclear facilities is a factor of 20,000 less than the total amount of scrap produced in this country. It is unreasonable to assume that a driver or a recycling facility would only deal with material from licensed facilities. A great deal of 'dilution' would occur. Finally, a resuspension factor was chosen for the trucker's cab to be consistent with other typical workplace scenarios where contamination may become available for inhalation or ingestion. However, the trucker's cab is not like the typical workplace for which resuspension factors were developed. A cab is subject to more extreme drafts and the availability of contamination in the cab of a truck cannot be likened to the inside of a building. It should not be assumed that materials and equipment without detectable smearable (loose) activity is released, that a resuspension factor to the driver's cab is appropriate. When combining all of these conservative assumptions it is easy to see how an overly conservative clearance value of 280 dpm/100 cm<sup>2</sup> was derived.

It should be noted that the detailed pathway development in the proposed rule is certainly an achievement. However, the assumptions and pathways need to be reassessed for reasonableness in order to make this into a workable rule.

As stated in the Issues Paper released by the NRC to initiate the scoping process: "Public Law 104-113 (passed by Congress in 1995) requires Federal agencies to use technical standards that are developed or adopted by voluntary consensus standards bodies unless the use of such a standard is inconsistent with applicable law or otherwise impractical." The ANSI HPS N13.12 *Surface and Volume Radioactivity Standards for Clearance* has been approved and is scheduled for publishing early in 2000. Because it has not yet been published, it may not be cited and therefore no values will be stated. However, I have also reviewed that document in detail. The values in that standard are consistent with RG 1.86, IEN 81-07 and the European Commission. The N13.12 values provide assurance that dose to critical members of the public due to the release of materials within the clearance guidelines will be trivial – that is less than 1 mrem in a year. This provides an adequate margin of safety for members of the public and assures that the potential additive effects from multiple pathways will not exceed 100 mrem from all licensed activity.

Robert M. Leib, MS, RRPT, CHP

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RULES & DIR. BRANCH  
US NRC

**From:** Carol Gallagher  
**To:** Adria Byrdsong, Frank Cardile  
**Date:** Tue, Dec 21, 1999 2:41 PM  
**Subject:** Issues paper comment

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Here's another comment on Frank's issues paper. It's from:

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Carol