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December 26, 2002 (8:44AM)

and,

OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

attn: Rulemakings and Adjudications Staff

Dear Mr. Secretary,

I am writing to comment briefly on the NRC's proposed rule entitled "Financial Assurance Amendments for Materials Licensees" which appeared on 62403-62410 Federal Register/ Vol. 67, No. 194/ October 7, 2002. Thank you for the opportunity to comment.

Qualifications to Comment

For approximately 35 years, Neutron Products has been in the business of manufacturing, marketing, shipping, installing, using and recycling sealed sources containing cobalt-60. During that period, we have safely handled in excess of 50 million curies, we have viably recycled more than 10 million curies, and we have established a practical program to utilize more than 99% of the activity originally contained in the sources when first put to use. We operate two radiation processing plants of our own in which we have recycled millions of curies of cobalt-60 which we have removed from other facilities.

Our customers for low-cost or no-cost source removal services have included several large scale industrial irradiators, and hundreds of cancer therapy clinics, saving our customers millions of dollars in what would otherwise be waste disposal costs, while simultaneously providing valuable feedstock for our cobalt-60 recycle program.

General Preliminary Comments

The proposed rule was apparently based almost entirely upon studies performed by ICF, Inc. and Pacific Northwest National Laboratories ("PNNL"). Although the studies were prepared by two

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separate institutions, they are clearly not independent as the ICF report relies almost exclusively upon two other PNNL studies (NUREG/CR-6477, *Revised Analyses of Decommissioning Reference Non-Fuel-Cycle Facilities*, July 1998; and NUREG/CR-1754, *Technology, Safety and Costs of Decommissioning Reference Non-Fuel-Cycle Nuclear Facilities*, 1981).

We submit that the biggest common flaw in the ICF/PNNL approach is that it completely discounts industrial creativity in favor of hypothetical "reference facilities" for which they prepare "reference decommissioning cost estimates", even going so far as to develop "cost equations based on a regression analysis of the reference decommissioning cost estimates", as if the multiple variables involved in a decommissioning project can be reduced to a simple (or complex) mathematical equation and that such an equation (based upon a hypothetical facility) somehow has more value than reviewing what has actually been happening in the industry.

For example, the PNNL study:

lists the Isomedix facility in Parsippany, NJ as "decommissioned";

lists George Dietz of Isomedix as a contributor to the study; and

totally ignores the actual cost of decommissioning the Parsippany facility, preferring instead to rely upon its own estimates of how much manpower **should** be required to decommission such a facility and, more importantly, what the "supplier handling charge" would be for accepting the return of the sources involved.

Before submitting these comments, we spoke with Mr. Dietz, now retired, and he estimates that the total costs for decommissioning that facility were less than \$20,000. Why isn't actual experience the most valuable input in the calculus for these studies?

Similarly, the PNNL study lists the Johnson and Johnson irradiator in Arlington, Texas as "decommissioned" and lists five representatives of Johnson and Johnson as contributors to the study, but again fails to reveal the actual costs associated with the decommissioning and the beneficial role played by cobalt-60 recycling.¹

Perhaps the Isomedix facility, the Johnson and Johnson facility and a host of other real world

¹ Instead, the only large irradiator discussed at all in the PNNL study is the International Nutronics facility in Dover, NJ which cannot be described as a typical facility in the industry, as it used a mild steel tank for its source storage pool, failed to maintain the water quality in its pool, apparently failed to act promptly when it became obvious that the activity content of its pool water was significant, and eventually managed to contaminate much of the entire site.

examples are contained in NUREG/CR-6477, "*Revised Analysis of Decommissioning Reference Non-Fuel Cycle Facilities*", another study prepared by PNNL. Unfortunately, this NUREG is not available for review. The draft was evidently prepared in 1996 and is cited in the proposed rule as the basis for the statement that decommissioning costs have "increased by 34-66 percent between 1986 and 1996". Apparently, however, the draft was never finalized and, as late as today (the last day to file comments) the Rulemaking/Ruleforum website states that it "is being processed in order to prepare it for publication and is not available." The NRC's Public Document Room informed us that they did not have a copy of it, nor did they have access to the 1996 draft. Although the ICF study also found increases in the costs of decommissioning, it stated specifically that it did not address large irradiators (upon which our comments are focused), relying instead on NUREG/CR-6477. We would appreciate the opportunity to extend our comments for 60 days after this NUREG is published.

I trust that you recognize that the comments contained herein are from an entirely different perspective than the ICF/PNNL approach, and are based upon the premise that this industry is safest when costs are creatively reduced to a safe optimum and decommissioning funding assurance regulations (as well as other regulations) are based upon a sound technical foundation.

Large Irradiators

The justification for the proposed rule is based upon the following paragraph:

"PNNL's study of large irradiator decommissioning costs, *Technology, Safety, and Costs of Decommissioning a Reference Large Irradiator and Reference Sealed Sources*, NUREG/CR-6280, PNL, January 1996, provides estimates of decommissioning costs under a number of scenarios. Estimated decommissioning costs for an irradiator facility with 1 million curies of source activity are at least \$128,000; for a facility with 2 million curies, estimated costs are at least \$231,000. These cost estimates are for the least costly decommissioning scenarios, with all sources being returned to the supplier and no leakage of contamination."

This paragraph is severely flawed. First of all, it is apparent that the market value for the cobalt-60 contained in these irradiators is totally discounted. Historically, cobalt-60 used in large irradiators sells for about \$1 per curie or more, so that a facility with 2 million curies should be able to sell its inventory for some significant fraction of its \$2 million market value, so that the act of decommissioning such a facility would more likely result in an accounting write-off, with little or no out of pocket cost and perhaps a positive cash flow.

Instead, the dominant cost of the "least costly decommissioning scenarios" in the PNNL study is the "supplier handling charge", as if the supplier (or one of its competitors) would not recognize the value of 2 million curies of encapsulated cobalt-60. For example, of the \$231,000 cost

estimate for the decommissioning of a "reference irradiator", \$170,000 is attributed to this "supplier handling charge" (see NUREG/CR-6280, Table 4.5), a figure which was supplied to PNNL by MDS/Nordion and which we believe is significantly higher than actual market conditions would bear in most situations.

It is fairly standard in the industry that, on the few occasions such facilities are decommissioned, the licensee will either use the sources in another one of its facilities, or a cobalt-60 source manufacturer will perform the decommissioning work in exchange for title to the cobalt-60, or for a modest fee - depending upon the particular circumstances. A few examples in which we have participated follow.

Example 1 - Precision Materials in Mine Hill, NJ

In 1987, Precision Materials went out of business (with no decommissioning fund) having a license limit of 2 million curies and 320,000 curies on-site. Midlantic National Bank, who had a lien on Precision's property, got a decommissioning estimate from one of what we politely call the Undertakers of the industry (those companies whose business it is to decommission facilities and who therefore have an interest in ensuring that the cost of decommissioning remains high) for approximately \$2 million. Conversely, we offered to do the job in exchange for title to the cobalt. It took three of our people no more than three days to complete the project for which we received clear title to 320,000 Ci of useful cobalt-60, some of it worth \$0.25 to \$0.50 per curie, most of it worth about \$1 per curie or more.

It was a profitable transaction for Neutron, and the out of pocket cost for Precision Materials (and the bank) for us to decommission this facility was nil.²

The cobalt from Mine Hill was a valuable raw material for us, and had we not gotten it there, we would have had to purchase it elsewhere. Clearly, our approach to recycle the cobalt-60 is preferable to the Undertakers' approach of disposing of potentially useful material as waste, thereby requiring additional cobalt-60 production to meet the demands of the market.

Once again, NUREG/CR-6280 ignores the actual cost of decommissioning such a facility in favor of a hypothetical idea of what the authors think such a project **should** cost.

² Unfortunately, our costs were artificially inflated by \$5,000 because we were not authorized by MDE to return several microcuries of radioactive waste associated with the decontamination of the facility back to our plant for subsequent disposal, but were instead forced to ship it (in a dedicated trailer) across the country for burial. The unnecessary additional truck miles associated with that shipment were undoubtedly the most hazardous part of the entire decommissioning operation.

Example 2 - Dow Corning

Also listed in Table B-1 of the PNNL study is the Dow Corning irradiator in Midland, MI, the decommissioning of which was performed from 1999 to 2001. In all, we removed in excess of 200,000 Ci from that facility for which we charged a total of approximately \$39,000 for services and shipping (and nothing for source disposal). Rather, we invested several thousand dollars to refabricate the contained cobalt-60 into recycle sources which now have an estimated useful future life of one to three decades in our own radiation processing plants.

Both of these examples involve less than 1 million curies of cobalt-60, and both refute the arguments in the proposed rule in favor of increasing the certification amount for such licensees to \$113,000. Furthermore, a decommissioning project involving as much as 2 million curies would likely involve still more valuable cobalt, thereby resulting in even lower net decommissioning costs. In fact, we submit that the proposed requirement for licensees with more than 1 million curies to prepare a site specific decommissioning plan would ultimately result in **reduced** levels of financial assurance held by such licensees because they would be able to demonstrate that their net out of pocket cost of decommissioning would be less than the current \$75,000 certification amount.

Currently, if they believe it is in their interest to do so, licensees may decide to bear the burden of preparing such a decommissioning plan in order to reduce the amount of money set aside for decommissioning. However, by *requiring* them to prepare such a plan, the proposed rule would place an unnecessary burden upon:

the licensees to develop such a plan; and,

the NRC to evaluate such plans,

with the most likely end result being that the amount of financial assurance for such licensees will actually be reduced from their current levels. We do not believe that either the industry or the regulatory community would be well served by such a sequence of events and submit that the certification amount of \$75,000 should not be modified for large scale irradiators.

Cost Impacts on Licensees

In assessing the cost impact of this proposed regulation upon licensees, it appears that the NRC only considers the costs upon its own licensees, completely discounting the costs to be incurred by Agreement State licensees. Although Agreement State Programs are not required to adopt the proposed rule based upon its compatibility category D rating, it is unrealistic to expect them not to ultimately adopt it and I submit that, in evaluating the costs to be incurred by the industry, the costs of all licensees should be included.

Neutron Products - Comments on Proposed Rule
23 December 2002
Page 6

Furthermore, the proposed rule references the NRC's "Policy Statement on Adequacy and Compatibility of Agreement State Programs", and that based upon that policy, "[s]tates are given flexibility to allow different dollar amounts based upon jurisdiction and local conditions". However, in order to be more stringent upon its licensees the Policy Statement also requires that the States do so such that:

"...the more stringent requirements do not preclude, or effectively preclude a practice in the national interest without an adequate public health and safety, or environmental basis related to radiation protection."

Unfortunately, NRC does not actually enforce this provision of the Policy Statement (at least for the State of Maryland which routinely adopts additional stringency without providing any justification whatsoever) so that the ultimate cost upon Agreement State licensees of this proposed rule may be infinitely higher than for NRC licensees.

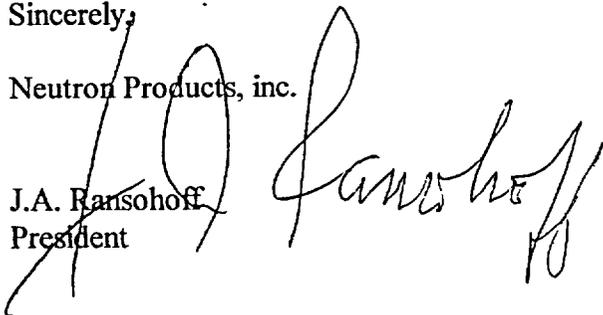
We believe with good cause that the NRC's failure to enforce its written policies in this regard has severely damaged this company, and needlessly threatens both Neutron and cobalt-60 source users in the markets it serves with readily avoidable increases in decommissioning costs - a presumably unintended result which we believe violates both The Atomic Energy Act of 1954, as amended and NRC's written Policies, a concern of ours which has been, and will continue to be the subject of separate correspondence. That will have to wait for another day.

Thank you again for the opportunity to comment on this proposed rule, we hope you find our comments helpful, and would welcome any questions you may have. I suppose that, too, will have to wait for another day as it is time to cook the Christmas goose. Happy New Year.

Sincerely,

Neutron Products, inc.

J.A. Ranshoff
President

A handwritten signature in black ink, appearing to read "J.A. Ranshoff", is written over the typed name and title. The signature is fluid and cursive.

NEUTRON PRODUCTS inc