

SCHEDULING NOTES

Title: Meeting with Stakeholders on Control of Solid Material

Scheduled: 9:00 am. - Tuesday, May 9, 2000 (PUBLIC)

Duration: Approx. 3 hours

Participants:

Panel - Government Agencies/Consensus Standards Organizations

- Brian Costner 5 mins.
Senior Policy Advisor
Office of the Secretary
Department of Energy
- Craig Conklin 5 mins.
Director, Center for Radiation Emergency
Preparedness, Prevention, and Response
Environmental Protection Agency
- William (Bill) Kennedy 5 mins.
Health Physics Society, and
Chair, ANSI 13.12 Committee
American National Standards Institute (ANSI)

Panel - Citizen Groups and Tribal and State Governments

- Diane D'Arrigo 5 mins.
Director of Radioactive Waste Project
Nuclear Information and Resource Service
- David Adelman 5 mins.
Project Attorney
Natural Resources Defense Council
- Robert Holden 5 mins.
National Congress of American Indians
- Steve Collins 5 mins.
Assistant Manager, Office of Radiation Safety
Illinois Department of Nuclear Safety
Conference of Radiation Control Program
Directors, Inc. (CRCPD) / Organization of
Agreement States (OAS)
- Jeff Deckler 5 mins.
Remedial Programs Manager
Department of Public Health and Environment
State of Colorado
Association of State and Territorial Solid
Waste Management Officials (ASTSWMO)

Panel - Industry, Affected Industries, and Workers

- Lynnette Hendricks 5 mins.
Director, Plant Support
Nuclear Energy Institute

- Val Loiselle 5 mins.
Managing Director
Association of Radioactive Recyclers

- Mike Mattia 5 mins.
Director of Risk Management
Institute of Scrap Recycling Industries, Inc.

- John Wittenborn, Esq. 5 mins.
(Collier Shannon Scott PLLC)
Representing the Metals Industry Recycling
Coalition (MIRC). Members include:
American Iron and Steel Institute
Copper and Brass Fabricators Council
Nickel Development Institute
Specialty Steel Industry of North America
Steel Manufacturers Association
American Iron & Steel Institute

- Dan Guttman 5 mins.
Paper, Allied-Industrial, Chemical and Energy
Workers International Union (PACE)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MAY 8 2000

OFFICE OF
AIR AND RADIATION

Ms. Annette L. Vietti-Cook
U.S. Nuclear Regulatory Commission
11555 Rockville Pike
Rockville, MD 20852

Dear Ms. Vietti-Cook:

Thank you for your letter dated April 11, 2000, inviting the Environmental Protection Agency (EPA) participation in a Commission meeting scheduled for May 9, 2000, with stakeholders on efforts regarding establishment of a standard addressing radioactively contaminated solid materials. We appreciate the invitation to participate in this important meeting to solicit comments on the paper to the Commission entitled "Control of Solid Materials: Results of Public Meetings, Status of Technical Analysis and Recommendations for Proceeding." Unfortunately, I will be unable to participate in this meeting due to prior commitments, but I would like to take this opportunity to comment on NRC's proposed direction.

In the mid-1990's, EPA studied the risk involved with the recycling of slightly radioactive metals from Department of Energy (DOE) facilities and Nuclear Regulatory Commission (NRC) licensees. Our investigations demonstrate that the risk from lost (orphaned) radiation sources and the potential import into the U.S. of highly contaminated metals from foreign countries present a greater risk to human health than does recycling of metals. As a result, EPA is currently directing its limited resources toward addressing the first two issues.

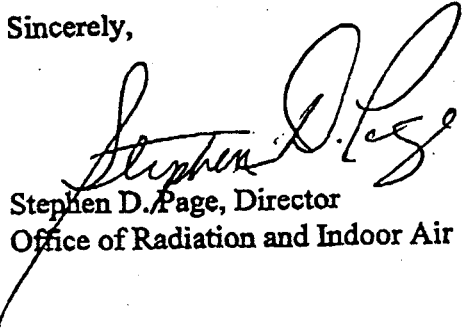
EPA agrees with the staff recommendation in SECY-00-0070 to defer establishment of a standard for radioactively contaminated materials, and that the issue be submitted to the National Academy of Sciences (NAS) to examine alternatives to the clearance of slightly contaminated materials. The tracking of international initiatives in this area and the continued development of an information database will provide useful data in addition to the NAS recommendations. We recommend that the NRC encourage the NAS to use an open process in selection of the study panel and for soliciting all available information.

Given that NAS will be studying this issue further, we do not think that it is appropriate for EPA to comment on the best approach to address this issue until that study is complete, and all other information is gathered. We appreciate NRC efforts to engage in continuous dialogue on the difficult issues related to the release of slightly contaminated solid materials. EPA

recommends continued use of an open process so that the public can provide its views on the regulatory issues.

Please feel free to call Frank Marcinowski of my staff at (202) 564-9290 for further information on EPA's efforts relating to the disposition of radioactively contaminated materials.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen D. Page". The signature is written in a cursive style with a large, looping initial "S".

Stephen D. Page, Director
Office of Radiation and Indoor Air



HEALTH PHYSICS SOCIETY

Specialists in Radiation Safety

Release of Solid Materials: May 9, 2000, Commission Meeting Comments

William E. Kennedy, Jr.
Member of the Board of Directors,

On Behalf of Raymond H. Johnson, Jr., C.H.P., P.E.,
President of the Health Physics Society

May 9, 2000

Chairman Meserve and distinguished Commissioners of the U.S. Nuclear Regulatory Commission (U.S. NRC), the Health Physics Society is pleased to have the opportunity to provide you with our comments on SECY-00-0070, *Control of Solid Materials: Results of Public Meetings, Status of Technical Analyses, and Recommendations for Proceeding*, and our overall comments on control of solid materials.

In summary, the Health Physics Society:

- applauds the U.S. NRC for their efforts to gather background information and public opinion regarding the control of solid materials,
- believes that SECY-00-0070 provides background information that will be useful in developing a formal recommendation on whether to proceed with a rulemaking or other staff actions regarding the control of solid materials,
- agrees that the requested National Academy of Sciences (NAS), Board on Energy and Environmental Systems study should provide essential information needed to facilitate making a decision regarding the regulation or control of solid materials,
- understands the depth of emotions and the diversity of public views on the control of solid materials, but believes that establishing uniform standard criteria for the control of solid materials is a necessary and important part of protecting the public and the environment from radiation exposure,
- recommends that regulations for radiation protection should be based on consensus standards whenever possible, including those issued by the American National Standards Institute (ANSI) and the Health Physics Society; specifically ANSI Standard N13.12,
- recommends that a primary dose criterion should be established that can be related to screening levels to be used to establish radiation survey programs, and
- believes that ANSI Standard N13.12 is consistent with current international efforts to establish both a dose standard and screening levels appropriate for the release of solid materials.

Background Information

The development and use of release criteria for materials is not unique to radiation and radioactive materials. For example, the Food and Drug Administration sets acceptable levels of pesticides in foods and the U.S. Environmental Protection Agency (EPA) sets contamination levels in water and soil in the cleanup of land contaminated with hazardous materials.

Comprehensive, unconditional release criteria for materials, equipment, and facilities with low levels of radioactive contamination have been needed in the United States for several decades. In addition to invoking radiation protection requirements during facility operation, release criteria would serve as the basis for deciding what materials require disposal as radioactive waste.

The Health Physics Society has; (1) been an active participant at the public meetings that were held by the U.S. NRC on the release of solid materials, (2) developed and published a position paper on clearance, and (3) provided written comments for consideration by the U.S. NRC. *We believe that the U.S. NRC has done a credible job in attempting to gather background information to support a decision about its future actions to deal with the release of solid materials. After a careful review of SECY-00-0070, we believe that it provides background information that will be useful in developing a formal recommendation on whether to proceed with a rulemaking or other staff actions regarding the control of solid materials. We also agree that the requested study by the National Academy of Sciences Board on Energy and Environmental Systems should provide essential information needed to facilitate making a decision regarding the regulation or control of solid materials.*

Based on the reactions of the metals industry and members of the public at the U.S. NRC public meetings, the Health Physics Society is aware of and understands the emotions and diversity of public views on the control of solid materials. However, from a radiation safety perspective, *we believe that establishing uniform standard criteria for the clearance or release of radioactively contaminated materials is a necessary and important part of protecting the public and the environment from radiation exposure.*

The motive for establishing criteria for the release of solid materials is not to produce unnecessary sources of radiation, but rather *to increase protection of the public by establishing strict standards and guidelines to ensure that harmful sources are controlled, while conserving our natural resources.*

Metal Recycle Issues

Much of the input during the U.S. NRC public meetings concerned the recycle of contaminated metals, and fears that consumer products will become contaminated to unacceptable levels. However, the subject of control of solid materials covers much more, including establishing uniform, dose-based, radiation survey criteria for routine facility operations. Currently, nuclear facilities regulated by the U.S. NRC, States, or the Department of Energy (DOE) can release materials, on a case-by-case basis, if no radiation can be detected using field instruments. This practice does not imply that radioactive contamination does not exist, only that none is "detected." The level of detectable radioactivity can vary from facility to facility. Clearance standards established in the U.S. NRC regulations will finally provide uniform guidance in the United States on acceptable detection levels that are, hopefully, consistent with those recommended by the International Atomic Energy Agency (IAEA) and accepted by the international community. *The existence and application of uniform monitoring and survey criteria should reduce the potential for the unintentional release of radioactive materials.*

Recycling cleared metals would not mean the dilution of highly contaminated metal with other metal in the industry. Rather, it would mean the careful sorting of metals, using standard criteria, such that no metals above the clearance criterion would find their way into commerce.

Metals containing levels above the standard could be further decontaminated or sent for low-level radioactive waste disposal if decontamination to the clearance criteria could not be achieved. *The credibility of the United States' radiation safety framework is at stake since many other countries have already adopted uniform clearance criteria that the U.S. currently does not have.*

ANSI Standard N13.12

In 1964, the Health Physics Society, under the auspices of ANSI, began the technical evaluation of clearance, resulting in early drafts of ANSI N13.12. These early drafts of the clearance standard were based primarily on detection levels that could be achieved using field instruments, with secondary concerns about the potential individual doses that may result. An early draft version of ANSI N13.12 was consistent with the surface contamination limits that were published by the U.S. Atomic Energy Commission in the 1974 version of Regulatory Guide 1.86, "Termination of Operating Licenses for Nuclear Reactors," which is still in use by the U.S. NRC today.

However, the criteria in Regulatory Guide 1.86 are not dose based, and are not consistently applied across all situations. *The current rulemaking under consideration by the U.S. NRC addresses updating these existing release criteria and the process used to make release decisions.*

The decision to continue efforts to develop an ANSI standard was driven by the continuing need for comprehensive release criteria, changing national and international guidance, and risk or dose based regulations. In 1993, the Health Physics Society Standards Committee, in agreement with ANSI Committee N13, established a technical writing group to develop the final N13.12 clearance standard. The final clearance standard was approved in August 1999 as N13.12, *Surface and Volume Radioactivity Standards for Clearance* and was published in January 2000.

The purpose of ANSI Standard N13.12 is to provide guidance for protecting the public and the environment from radiation exposure. It does this by specifying a primary radiation dose criterion and derived screening levels for the clearance of items that could contain radioactive materials. The standard sets a primary radiation dose criterion of 1 millirem per year (mrem/y), and provides derived screening levels that define the allowable amount of radioactivity per unit surface area or per unit mass.

Perspective on the ANSI N13.12 Primary Dose Criterion

In its deliberations, the ANSI writing group considered international dose criteria for release of materials. These dose criteria have been defined by the IAEA and have been adopted by most nations. They state that the dose rate to an individual in the population expected to receive the highest dose from the released material should not exceed 1 mrem/y, i.e., exactly the same criterion contained in ANSI N13.12. In addition, the draft requirements developed by the European

Commission (EC) also endorse an annual dose standard of 1 mrem/y to a member of a critical group, which is also exactly consistent with ANSI N13.12.

This primary dose criterion is a very low dose rate. Part of the reason for selecting a dose rate so small was to ensure that members of the public that may be exposed to multiple sources of radiation would receive only a small fraction of the doses permitted by Federal regulations. The 1 mrem/y dose rate is an even smaller fraction of the doses they receive from background sources. For example, Americans typically receive about 300 mrem/y from natural background sources, including radon in their homes. The dose standard defined in ANSI N13.12 is only 0.3% of the dose Americans normally receive from these natural background sources. For perspective on the yearly dose in this criterion, I would like to point out 1 mrem is about 20% of the dose I will have received from cosmic rays at an altitude of about 35,000 feet while flying to attend this hearing and returning home.

This 1 mrem/y dose rate is also considered to be a "Negligible Individual Dose" by the Congressionally Chartered National Council on Radiation Protection and Measurements. Materials that meet the ANSI Standard N13.12 criteria are only slightly contaminated and should not be confused with low-level radioactive waste.

Thus, there is a solid scientific basis and a good regulatory rationale associated with the dose criteria defined in ANSI N13.12.

Perspective on the Derived Screening Levels

In terms of derived screening levels, there is excellent agreement across the draft IAEA recommendations, the draft EC standards, and ANSI Standard N13.12. This finding is quite significant since the IAEA, EC, and ANSI standards were largely developed independently using different consensus groups and processes. The draft regulations developed by the EC were described at an international meeting held in Hamburg, Germany in November 1999. A direct comparison of the derived screening levels is provided for selected radionuclides of importance in Table 1, shown below.

For consistency, I have provided the comparison in Table 1 in international units of Becquerels per square centimeter (Bq/cm²) for surface contamination and Becquerels per gram (Bq/g) for volume contamination. A Becquerel of radioactivity is equal to one radioactive disintegration per second and is the international unit defining radioactivity. The table shows excellent agreement for the derived screening levels across all three references. For these important radionuclides, the ANSI Standard N13.12 value is generally consistent with the lower end of the range defined by either the IAEA or the EC. *The overall agreement with derived screening levels indicates that ANSI Standard N13.12 is currently consistent with the international recommendations, and is therefore also currently consistent with international commerce.*

Table 1: Comparison of the Screening Levels in ANSI N13.12 With Draft

Recommendations from the International Atomic Energy Agency and The European Commission

Radionuclide	ANSI N13.12 (Bq/cm ² or Bq/g)	IAEA Range ^(a) (Bq/cm ² or Bq/g)	EC Value or Range (Bq/cm ²) ^(b)	EC Value or Range (Bq/g) ^(b)
⁶⁰ Co	1	1 – 10	1 – 10	0.1 – 1
⁹⁰ Sr	1	1 – 10	10 – 100	1 – 10
¹³⁷ Cs	1	0.1 – 1	1 – 100	1
¹⁴⁴ Ce	10	10 – 100	10	10
²²⁶ Ra	0.1	1 – 10	0.1 – 1	0.1 – 1
²³² Th	0.1	0.1 – 1	0.1	0.1 – 1
²³⁸ U	1	1 – 10	1	1
²³⁹ Pu	0.1	0.1 – 1	0.1	0.1 – 1

(a) International Atomic Energy Agency (IAEA). 1996. *Clearance Levels for Radionuclides in Solid Materials - Application of Exemption Principles, Interim Report for Comment*. Vienna, Austria.

(b) Janssens, A. 1999. *Release of Radioactive Material From Regulatory Control*. European Commission Technical Paper Presented at the Second International Symposium on the Release of Radioactive Material From Regulatory Control, Hamburg, Germany, November 8 – 10, 1999.

Current Issues Regarding the U.S. NRC Rulemaking

Industry standards, such as ANSI Standard N13.12, can play an important role in the regulatory process. As recognized in SECY-00-0070, the White House Office of Management and Budget (OMB) issued proposed revisions to Circular A-119, *Federal Participation in the Development and Use of Voluntary Standards*. These revisions are the outcome of the National Technology Transfer Act of 1995 (Public Law 104-113) signed by the President in March 1996. The law now requires federal agencies to use voluntary, industry standards developed by the private sector whenever possible. The purpose of this requirement is to eliminate excessive costs to the government by developing its own standards. As a recognized standards institute, standards developed under ANSI must be considered. Agencies who choose not to use private-sector standards are required to document their actions to the Secretary of Commerce. *Thus, ANSI Standard N13.12 should play a key role in the development of Federal regulations and policy regarding clearance.*

Closing Comments

Mr. Chairman, as I have outlined, the Health Physics Society believes that it is important that release criteria for low levels of radioactivity in solid materials be established to provide consistency in radiation protection requirements, thereby increasing protection of the public. The establishment of strict standards and guidelines will ensure that potentially harmful sources

are controlled, while conserving our natural resources. *We strongly encourage the U.S. NRC to continue to consider rulemaking in this area, and we encourage the U.S. NRC to adopt the criteria outlined in ANSI Standard N13.12.*

Nuclear Information and Resource Service
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202.328.0002; fax: 202.462.2183; nirsnet@nirs.org; www.nirs.org

Comments to the US Nuclear Regulatory Commission
May 9, 2000
RE: SECY 0070
Radioactive Waste and Materials Release and Recycling

The US Nuclear Regulatory Commission (US NRC) is asking for the public's opinion. I have provided the Commissioners with opposition statements from over a hundred organizations. We repeat—We do not want ANY MORE exposure from the nuclear power and weapons fuel chain. That means that we want the source, byproduct and special nuclear material now under the control of governments and industries to remain regulated, monitored, isolated from general commerce for as long as it remains radioactively and/or chemically hazardous.

We are responding to your desire for public input by calling for you to require continued care of the radioactive wastes and materials that have been created and to isolate them. You do not have our permission to release or to stop holding radioactive wastes and materials in a condition that prevents public exposures. NRC's job is to prevent exposures to the public and environment. *Take this job seriously and develop workable scenarios to prohibit release and recycle of radioactive waste and materials.*

Environmental organizations and much of the public did not participate in the NRC's workshops because of the predetermined outcome to allow radioactive materials to be released from regulatory control into general commerce and regular trash, as stated in the NRC's June 1998 Staff Requirements Memo directing staff to come up with a standard that "allows quantities of materials to be released," prohibits a "detectability standard, and codifies "clearance levels above background."

After the bitter experience of participating in the NRC's "enhanced rulemaking" on decommissioning standards, it does not appear that our voices are being heard or taken at all seriously. They still are not. Not one level of this Commission is capable of articulating even a theoretical plan that would *prevent* radioactive wastes and materials from being deregulated and released into daily commerce and normal trash. SECY-00-0070, March 23, 2000 appendix 1 page 1 lists the US NRC's options: make a rule to release radioactive materials or continue releasing under the current provisions with a possible "update" of those provisions. Both avenues mean continuing and increased radioactive materials and wastes being released/recycled.

Punting public attention to the National Academy of Sciences (NAS) is a waste of tax-dollars, time and the public's attention. It was admitted last week at the staff briefing that the purpose of the NAS study is to divert attention from the US NRC while NRC continues to "develop a

technical basis” for recycling and releasing atomic waste into everyday household items. The public deserves to know the missions and potential conflicts of interest of those agencies, organizations and contractors on whom you rely for that technical basis.

Be forewarned that the NAS does not have the prestigious reputation that you might hope regarding radioactive waste and radiation issues. In my years of observation I have witnessed a pattern of bias, imbalance and secrecy by the panels and staff carrying out studies on Ward Valley, Yucca Mountain, so-called “low-level” radioactive waste siting in New York State, which were the subject of letters from federal and state legislators and members of the National Academy itself to the president of the NAS. The current panel on the Biological Effects of Ionizing Radiation (BEIR VII), reassessing radiation health effects, is under international scrutiny and criticism for imbalance, conflicts of interest and secrecy, which could result in the federal agencies being prohibiting from using their conclusions when they come out. We have grave concerns another ongoing NAS study on “low-level” radioactive waste. The 1968 restructuring of the section of the NAS that works on radioactive waste resulted in more sympathy to the Atomic Energy Commission, whose mission was to promote nuclear power. That sympathy toward the nuclear industry continues today in the attitude and makeup the committees and panels and in the procedures behind closed doors.

The NAS Board proposed to carry out the US NRC’s project on radioactive recycling has already produced a report (NAS BEES report 1996, “Affordable Cleanup?” pages 129 and 134) which recommends that ...” DOE and regulatory authorities [to] set free-release standards quickly and permit recycling of recovered metals (within DOE complex or for sale to the commercial market) where economically feasible,” and states that “A DOE commitment to permit such release once the new criteria have been approved is essential.”

The NAS procedures are highly secretive and will not result in the openness and impartiality US NRC might be seeking to evaluate the proposed standards and radioactive release options. Exactly how will the NAS committee evaluate public opposition to unnecessary exposures if it proceeds?

We oppose the proposed NAS /US NRC contract and call on NRC to move directly to *prohibiting* releases and recycling of radioactive wastes into commerce.

One of the unconscionable ways the US NRC is attempting to justify setting standards legalizing recycling of nuclear waste into commerce is by pointing to international efforts to do so. The fact is the US NRC and nuclear industry are major promoters of those international standards. The international bodies such as the International Atomic Energy Agency¹, the European Commission² section on nuclear power, Euratom, the Nuclear Energy Agency of the OECD³ are

¹ International Atomic Energy Agency (IAEA) ARTICLE II Objectives: The Agency shall seek to accelerate and enlarge the contribution of atomic energy...throughout the world. (article II Statute of the International Atomic Energy Agency; (<http://www.iaea.org/worldatom/Documents/statute.html#A1.1>))

² Euratom: The specific programme of research and training in the field of nuclear energy implements the section of the Fifth Framework Programme covered by the European Atomic Energy Community (Euratom) Treaty. The aim of the Nuclear Energy programme is to help exploit the full potential of nuclear energy, both fusion and fission, in a sustainable manner, by making current technologies even safer and more economical, and by exploring promising new concepts.

all nuclear power promoters by definition and mission statement. US NRC directing the NAS to review their proposals does nothing to assuage public opposition to unnecessary exposure from release and recycling of atomic power and weapons wastes.

Conflicts of Interest

Once US NRC was forced to look at its contractor for technical support, Scientific Applications International Corp. (SAIC), their blatant conflict of interest required the contract be stopped. But NRC appears to continue to rely on the data from their work over many years to justify radioactive waste recycling into the marketplace.

Has the US NRC evaluated the potential conflicts with its other contractors [ICF, DOE's Environmental Measurements Lab and Oak Ridge Institute of Science and Education (ORISE) and any others]? The reliance on international pro-nuclear agencies is also highly questionable. Asking the NAS, which has its own nuclear propensities to review the work is not the next best step for the US NRC.

An ironic point is that recycling has a very positive connotation by the public right now but contamination of recycling streams with nuclear waste at any level threatens that important step the public has made toward resource conservation.

We are frustrated with the refusal by this commission at every level to do what it is charged to do: protect us from ionizing radiation from Source, Byproduct and Special Nuclear Materials from nuclear power and weapons. This is another effort to encourage NRC to prohibit radioactive release and recycling into commerce and normal trash.

³ OECD NEA: The Nuclear Energy Agency (NEA) is a semi-autonomous body within the Organisation for Economic Co-operation and Development (OECD), located in the Paris area in France. The objective of the Agency is to contribute to the development of nuclear energy as a safe, environmentally-acceptable and economical energy source through co-operation among its participating countries.

**Release of Solid Materials:
May 9, 2000, Commission Meeting Comments**

Steven C. Collins, M.S.
Illinois Department of Nuclear Safety
Past Chairman, CRCPD

On Behalf of the
Conference of Radiation Control Program Directors, Inc.
and the
Organization of Agreement States

May 9, 2000

- The scientifically correct levels established to protect the public, workers and environment should not prevent commercial firms from imposing additional restrictions for materials used as feedstock, if the firms believe that loss of market share or other harm from acceptance of released materials is likely to occur.

Improvement in Protection by the NRC & States

How did we get here?

Inconsistency in the application of NRC and states regulations and guidelines covering releases from licensed facilities has been identified. The NRC has no specific regulatory requirements regarding release of solid materials. Guidance was based upon technical capabilities of survey instruments, and these instrument capabilities have changed, with no concurrent change to the guidance. Also, licensees use different survey instruments that have different levels of detection, leading to disagreements and confusion over permissible levels of release that are costly to both licensees and regulatory agencies. In addition, implementation of current guidance may not provide adequate accountability for demonstrating that releases are consistent with protecting human health and the environment. Also, the public had no involvement in the development of current guidance.

EPA is tasked with setting national environmental radiation protection standards, and their available resources targeted the control of orphan sources because this was the area where the greatest, and most immediate, reduction in risk to human health and the environment could occur through its efforts. The EPA developed its Cost Benefit Analysis and Technical Basis Documents for recycling of metals, and these serve as good basis documents in identifying issues important to the consideration for rulemaking by NRC.

The NRC should work with the states as equal partners in the establishment of uniform national dose-based criteria for control of solid materials, because the criteria is needed to ensure consistent adequate level of protection of the public. The states' motive for establishing criteria for the release of solid materials is to ensure consistent application of uniform criteria and adequate protection of the public, workers, and the environment without excessive cost. This may be accomplished by establishing uniform criteria and guidelines to ensure that radiation sources are controlled, while conserving our natural resources.

Chairman Meserve and honorable Commissioners of the U.S. Nuclear Regulatory Commission (NRC), the Conference of Radiation Control Program Directors, Inc. (CRCPD) and the Organization of Agreement States (OAS) appreciate the opportunity to provide you with our comments on SECY-00-0070, *Control of Solid Materials: Results of Public Meetings, Status of Technical Analyses, and Recommendations for Proceeding*, and our suggestions regarding the control of solid materials.

The items covered in written remarks that I do not have time to fully cover include: How did we get here? What is the appropriate choice? What do the stakeholders think? Where do we go from here?

Executive Summary of Main Points

The CRCPD and OAS make recommendations and comments as follows:

- The NRC should work with the states as equal partners in the establishment of uniform national dose-based criteria for control of solid materials, because the criteria is needed to ensure consistent adequate protection of the public.
- Scientific consensus standards and recommendations should be the basis for the dose-based criteria. We should use appropriate recommendations from the NCRP, ICRP, IAEA, and ANSI Standard N13.12, which have consistent recommendations for a dose criterion and screening levels appropriate for the unrestricted release of solid materials.
- The requested National Academy of Sciences (NAS) Board on Energy and Environmental Systems study and recommendations on possible alternatives should provide needed information and a time frame to supplement SECY-00-0070 and to support a decision that rulemaking is needed for control of solid materials.
- There is a scientifically correct action to establish criteria for release of solid materials that are adequately protective of the public, workers and the environment. The action will not be supported by some stakeholders. The lack of support will be for reasons other than actual radiation risk. We recognize that radioactivity is present in everything, including metals. Radioactivity will not pose a significant radiological risk to anyone at the levels recommended for release by the NCRP, ICRP, IAEA, and ANSI Standard N13.12. These levels were developed considering benefits, costs, and the publics' reluctance to accept anything other than a trivial dose.

What is the states' vision for implementation of the criteria? Although case-by-case evaluations have not resulted in unsafe releases of radioactivity, they have resulted in extra cost by some facilities and states responding to facilities that detected materials that had been legally cleared for release. The states desire to have flexibility to continue case-by-case evaluations with uniform criteria and derived values for individual radionuclides. It is very important that the values derived for release of radioactive solids, along with the corresponding data, analyses, and description of how the values were derived be made available. This would allow licensees to present alternative proposals based on knowledge of specific situations and history of practice. Alternatively, a licensee could choose to use the regulatory agency's derived values. This information would also provide other regulators with information needed to determine if the values are acceptable based on different circumstances.

Most importantly, the rule should not allow licensees to exercise the provisions of the rule independently, without the specific approval of the regulatory body. Specific regulatory approval will help avoid instances where, after-the-fact, it is found that a licensee has mis-applied the rule, and there is no longer an alternative to recover released materials. Perhaps this specific approval can be modified after experience has demonstrated assurance of compliance. Currently, most industries with radiation detection equipment have equipment that is adequate for gamma-ray emitting radionuclides. Case-by-case review would identify radionuclides that could cause unexpected exposure, but that would not be detected by the gamma-ray detection instruments. Many states would approve of higher levels, for example, levels based on ten mrem/year to the average member of a critical group, when the state has been provided more knowledge of dilution and future concentration potential before decay occurs.

Nuclear facilities regulated by the NRC, states, or the DOE have released materials for many years on a case-by-case basis, if no radiation could be detected using field instruments. This practice does not imply that radioactive contamination does not exist, only that none is "detected." The determination of what can be detected may vary from facility to facility. The detected levels have also been substantially lowered by improvements in radiation detection instruments. By establishing criteria for control in the NRC regulations, there will finally be uniform guidance in the United States on acceptable levels that are, hopefully, consistent with those recommended and accepted by the international radiation protection community. The existence and application of uniform monitoring and survey criteria should reduce the potential for the unintentional release of radioactive materials. Using uniform criteria, recycling of cleared metals would only occur after the sorting of metals, such that no metals above the recommended one mrem/year release criteria would find its way into commerce. Metals containing levels above the criteria could be further

decontaminated or sent for low-level radioactive waste disposal if decontamination to the release criteria could not be achieved economically.

An additional item that could increase benefits and reduce cost for the metals industries and the regulatory agencies would be to require a final survey or analysis just prior to release of the contaminated solids with documentation of the assay. This would identify the radionuclide(s) and the concentration to the intended recipient(s).

The NRC is regulating a small and decreasing fraction of licensees. Because the Agreement States regulate most licensees and have comprehensive programs that regulate all radioactive materials, not limited to those specified by the Atomic Energy Act, the states should be, at a minimum, equal partners in the establishment of criteria for control of solid radioactive materials. Also, the state radiation regulatory programs have matured such that the centers of expertise are not just within NRC but in the state regulatory programs as well.

In addition to controlling release of contaminated solids, the release criteria would serve as part of the basis for deciding what materials require disposal as radioactive waste during facility operations.

Scientific Consensus Standards and Recommendations

What is the appropriate choice?

The basis for the legally binding dose-based criteria should be scientific consensus standards and recommendations of national and international scientific organizations. These organizations include the International Commission on Radiation Protection (ICRP), the National Council on Radiation Protection and Measurements (NCRP), the International Atomic Energy Agency (IAEA), and the American National Standards Institute (ANSI)--specifically, ANSI Standard N13.12 entitled *Surface and Volume Radioactivity Standards for Clearance*. These organizations have established criteria and derived levels that have a consensus of the scientific community, and are currently being adopted in Europe. The consensus criteria is one millirem per year dose, and will include derived individual concentration limits per unit area or volume of the material for individual radionuclides. Typical background radiation exposure in the United States averages one mrem/day. A cross-country airline flight gives approximately three millirem. However, until the full range of issues and concerns addressed by stakeholders is further underway, it seems premature to say what the specifics will be in terms of calculational methods for deriving concentration limits and

capturing the universe of reasonable exposure pathways that include potentials for re-concentration of materials.

Although scientific argument can be made for a higher dose-based level, for example, ten mrem/year, such higher level could result in a disproportionate amount of released materials being sent to the United States. We would not want the United States to become the recipient of a majority of the released radioactive material with levels near the criteria limit. Also, the one mrem/year criteria was chosen based on consideration that it will increase cost. One millirem/year is such a trivial dose that no person can reasonably object to it based on radiation risk to humans or the environment.

Information Needed to Support a Decision for Rulemaking

We hope the Commission's requested National Academy of Sciences (NAS), Board on Energy and Environmental Systems study will provide needed information and a time frame to supplement SECY-00-0070 and to support a decision that rulemaking is needed for control of solid materials. Review of SECY-00-0070, other NRC documents related to the release of solids, and the comments from stakeholders indicates that the NAS study is necessary to support a rulemaking and establish uniform national criteria for the control of solid radioactive materials. Also, this effort should increase the probability of good science being the basis for the criteria established.

The Scientifically Correct Decision may be an Unpopular Decision

What do the stakeholders think?

Ironically, the public seems most intent in demonstrating against the inclusion of slightly contaminated materials in recycled metals that may find its way to consumer products. However, current information indicates that other groups, such as slag pile workers and refinery workers, are more likely to have exposures in need of more evaluation. Consequently, while it is legitimate to state that the metals industries' concerns are market based with regard to unjustified public perception, they nevertheless have health and safety issues to consider for their workers. Additionally, more attention could be focused on presenting these facts to the public. The public may not be technically trained to make sense out of the technical documents available, and "plain language" documents have not been made available on this topic. We won't get far with the training by shooting ourselves in the foot.

The scientifically correct action in establishing criteria for release of solid materials that are adequately protective of the public, workers and the environment will not be supported by some. The lack of support will be for reasons other than actual radiation risk.

Some have developed extreme levels of fear from what they believe to be dangerous levels of radioactivity that could appear in products that would be used every day. We know that radioactivity is present in everything, including metals and natural sources in the human body. At the levels recommended for release by the NCRP, ICRP, IAEA, and ANSI Standard N13.12, there is not a significant radiological risk to anyone. The NRC and states should work together to develop some plain language fact sheets regarding solid materials released by NRC and Agreement States using the current case-by-case approach. These fact sheets should specify the radionuclides, surface and volume contamination levels released, anticipated or known concentration after recycle, and the estimated likely maximum dose to the average member of a critical group. These levels should then be compared to the levels of radioactivity that already exist in the consumer products and that have been accepted by society at large. The risk should be presented relative to other daily risks that the public accepts. This information will not convince anyone who does not care what the facts are, but it will demonstrate the willingness of the NRC and states to educate with realities based on what we know. It should also demonstrate why we say that uniform national dose-based criteria is needed.

Allow Freedom of the Marketplace

The main concern expressed by the metals and recycle industries and also by some public interest and environmental groups is based primarily on the potential for loss of market share because of fear that customers would not buy products made from recycled metals. This, however, is a financial issue rather than a radiological protection and health issue. The NRC's primary purpose is to ensure radiation safety and safeguards. The NRC considers potential financial impact during rulemaking, but must set its criteria based on scientific analysis of benefits and risk rather than fears of radiation risks that are not realistic. Nevertheless, commercial firms should not be prevented by NRC rules from exercising rights to refuse acceptance of contaminated materials based on reasons other than radiation safety, such as potential loss of market share or other financial harm.

Summation

Where do we go from here?

Mr. Chairman and honorable Commissioners, this document outlines items that the CRCPD and OAS believe are important in demonstrating that uniform national criteria for control of very low levels of radioactivity in solid materials should be established. The establishment of such criteria will improve consistency in radiation protection requirements, and help to ensure adequate protection of the public, workers and the environment without too much excessive cost. Using such criteria, along with implementing guidelines, will ensure that sources of radiation are adequately controlled while simultaneously conserving our natural and economic resources. We strongly encourage the NRC to pursue rulemaking in this area, and we encourage the NRC to adopt criteria as recommended by the aforementioned national and international scientific organizations.

In considering where we go from here, it is important to look at the pros and cons of rulemaking. For simplification, some of the more obvious are listed in the following table:

PROS

CONS

Consensus on the dose criteria chosen among international, national, industry and professional associations would be an excellent starting point for resolving remaining complex issues	Despite consensus on protective dose criteria, the public will remain suspicious
The public would be part of the process	Costs associated with educating the public and getting the facts across so public participation is more constructive
Specific rules would reduce disagreements and confusion	Restrictions on decision making with no significant risk reduction
Drawing the "line in the sand" would make responding to monitor alarms at landfills more efficient for regulatory agencies and facility operators, because more than metals are involved in the issues	Increased costs for improving monitoring technologies for regulatory agencies and facilities
Increased accountability for releases	Increased costs for assessments and surveys
The states need to be an equal partner in the development of rules for all radioactive materials from licensed facilities located in the states	Jurisdictional issues involving releases from DOE facilities (it has no independent regulatory oversight)
Rulemaking would be an improvement over the current process	Overcoming inertia
One jurisdiction's "release criteria" would not become another jurisdiction's "problem" when criteria differ	
Meeting the public's expectation for controlling materials at levels unilaterally agreed to as protective of human health and the environment	Increased responses to contamination alarms at facilities receiving released materials

ASTSWMO Radiation Task Force
Comments on Release of Solid Materials
May 9, 2000

From a technical perspective, ASTSWMO supports rule making that would provide uniform release criteria. It would be beneficial, especially in states with decommissioning power plants, to have a uniform and easily available release criteria for metal and concrete. We believe that the release standard used by IAEA and proposed by ASTM of 1 mrem is protective of human health and the environment. The standard is based on the most exposed individual, which is generally not the consuming public. Therefore the standard is conservative relative to the user of the recycled product. We further believe that international consistency is a desired goal.

Any NRC rule must emphasize that states retain the right to impose more stringent requirements, and that all applicable state standards and regulations must be followed.

Based on comments received to date, there are several non-technical issues that may override technical considerations. In particular the steel (and concrete) recycling industry's comments are critical. If they can detect contamination at the release level, and if they will refuse all shipments when they detect radiation, NRC must ask whether a promulgated rule will be useful to anyone; or whether this rule will impair rather than improve the current business environment. NRC should therefore focus efforts on obtaining information on the volumes and types of materials expected to be released under this rule. If it is mostly office furniture in uncontaminated areas, or any other source where there is not great opposition to the recycling of the material, a rule would be a good idea. If it is largely steel which will be turned into consumer products, then the opposition of both the recycling industry and the consuming public would make such a rule ineffectual. NRC may want to target only those waste streams where a rule could be effectively implemented.

NRC has recommended NAS to perform studies and additional staff analysis on the technical aspects of this rule. However, ASTSWMO does not believe that additional technical information will persuade detractors of the rule to embrace it. As mentioned above, more research is needed regarding the need for a rule, based on anticipated volumes of material. In addition, effort could be given to discussing the psychology of risk and stigma related to radiation. It is this psychological underpinning which is not being addressed by the NRC, not the technical basis for the rule. For example, what is it about the prospect of a rule that has people upset? Whether there is a rule, or the current case by case analysis is performed, material is released. Either way you need a technical basis for the release. Why is the public perception of these things so different? NRC must direct resources to the issue of risk communication if this rule is to be successful.

For the reasons listed above, ASTSWMO supports the staff recommendation to defer a final decision on whether to proceed with a rulemaking, until NAS and NRC staff perform additional study.

NRC appears to be devoting considerable attention to soils in the staff recommendations. ASTSWMO does not understand why free release of soils is an important issue. Are facilities really attempting to ship clean soil off their sites? If not, isn't it the decommissioning standards that would apply, and not the release standards?

ASTSWMO agrees it is a good idea to continue research on appropriate survey techniques for volumetrically contaminated material, regardless of whether a rule-making goes forward.

Commission Stakeholder Meeting on Release of Solid Materials
May 9, 2000

Lynnette Hendricks, Director of Plant Support, NEI

NEI represents industries as well as universities, and medical and research institutions using radioactive materials. I appreciate this opportunity to provide the views of all these organizations on material release.

Use of Nuclear Technologies Offers Enormous Benefits to Society

Its important to remember up front that the reason we are here today is to preserve the important benefits provided by nuclear technologies. Radioactive materials save lives in diagnosing and treating diseases. Ten million Americans are diagnosed and treated every year using radioactive materials. Radioactive materials are used extensively in the search for cures to AIDS, cancer and other diseases. In addition, radioactive materials are used extensively in other industries, for example, to test the quality of steel in cars and aircraft engines. Nuclear power produces 20% of the energy in this country without releasing SO₂, NO₂ or CO₂.

Release Standards are Needed

Operators of nuclear facilities that provide these benefits must move materials and equipment in and out of their facilities on a routine basis. Further, materials, furniture or equipment that needs to be removed from service because it is broken or obsolete or when the facility is closed and dismantled must be evaluated to ensure the material is appropriately dispositioned. Industries, medical and research organizations are placing a great deal of emphasis on material release programs and devote a large amount of resources to these efforts. But today there are different standards for different facilities.

Rulemaking Offers Opportunity for Adding Consistency, Stability and Transparency to Release of Materials

Industry believes NRC's current initiative offers invaluable opportunities to add consistency, stability and most importantly transparency to on issue that has perhaps the single greatest potential for positive impact on public confidence.

Although fully protective of public health and safety, the current regulatory practice lacks consistency. In some cases quantitative limits are used, in other cases a "no detectable activity" standard is used or a "no licensed material" criteria. This practice is inconsistent with the dose-based regulatory scheme used for controlling releases of gases and liquids from facilities.

The current practice lacks stability. Guidance documents and enforcement practices have changed over time and will continue to change without the

stabilizing influence of clear consistent standards established through the regulatory process.

The current regulatory practice lacks transparency. It is difficult for the public to understand the application of different standards to the same activities at different facilities. Further, the level of effort and resources expended to adhere to the NRC's "no detectable activity" or "no licensed activity" criteria could mislead the public into believing that even one atom of radioactive material poses a hazard. We urge the agency to set appropriate standards and then to be unequivocal in its conviction that the standards its sets are safe. To do less will undermine public confidence, impose unjustified economic burden on licensees and subsequent users of materials released from nuclear facilities, and constrain societal benefits provided by nuclear technology.

A Dose-Based Standard is Appropriate

Industry supports the option of a dose-based standard established through rulemaking for control of solid materials. A clear dose-based standard with a nexus to public health and safety is the foundation for control of solid materials. A dose-based standard makes it possible to translate the different properties of radionuclides, i.e., the physical properties (how fast it decays to its non-radioactive form) as well as its biological properties (how and where it might interact with the body) into a single standard of protection. In other words, the same level of protection is assured each time the standard is applied.

The dose value chosen for the standard should be low enough that predicted doses to the most highly exposed population are trivial, but not so low that the standard is in essence zero. A standard of "zero" is the same as no standard at all because it can't be practically and reliably applied. Industry supports the views of bodies of national and international scientific experts on radiation safety. National and international experts believe the remote possibility for releases from several facilities ending up in the same place supports using a trivial dose for releasing materials. Because the doses are calculated in a conservative manner and the standards are applied in a conservative manner, in the unlikely event that multiple releases went to the same place, the dose would still be far below nationally and internationally recognized standards for protection of the public.

Industry believes that the recently issued ANSI standard (ANSI N13.12) meets each of the objectives listed above. In addition, the ANSI standard takes the next step and translates the dose standard into practical survey methods.

Use of the ANSI standard will avoid wastage of limited disposal space that was designed to protect the public from the types of radioactive material where that protection is warranted. Use of the ANSI or similar dose-based standards would also help preserve our natural resources by permitting reuse of valuable materials

versus using new materials to reproduce discarded products. Without a standard, in each case, potentially large expenditures of resources occurs without a commensurate benefit to public health and safety.

Some have suggested that the agency pursue an approach that ducks the issue of setting a standard. This approach involves prohibiting removal of material from certain areas of a facility (to other than licensed disposal or reuse) based on the materials' potential to have come into contact with radioactive material. The inability of the licensee to verify its best efforts to sort clean materials from materials that may contain contamination under this approach, make it unacceptable. Likewise, direct independent verification by regulatory bodies is not possible.

We believe the existence of uniform survey standards is the best approach to ensure only clean materials are released. Consistent and effective standards promote excellence and represent the best approach to holding responsible parties accountable for releasing only those materials that are in compliance with the standard.

Impact of Material Release Standards on Site Release Standards

The Commission has issued a final rule establishing standards to release buildings and lands from regulatory control. The standard is 25 mrem/year with additional efforts required to ensure that the site is as far below the standard as reasonably achievable. Upon meeting the standard the license is terminated and the site is released for unrestricted use. Many companies have completed or are in the process of releasing their sites using these standards.

The generic environmental impact statement (GEIS) for the site release rule states that subsequent removal of material from the site was anticipated. The GEIS determined that removal of material from the site would result in doses lower than what was considered to be acceptable for direct reuse of the site because the material would be diluted with other material prior to use by other than residents of the site. We urge the Commission to clarify that the site release standards are not impacted by the rulemaking on release of materials.

Standards for Industries with Tangible Impacts

Iron and steel recycling issues have dominated discussions at all four of NRC's workshops. Radiation surveys are conducted at some scrap dealers and many smelters to detect orphaned radioactive sources. The loss of control of these highly concentrated radioactive sources has cost the steel industry tens of millions of dollars in cleanup costs and has the potential to place their workers at risk. The recapture of these sources for appropriate reuse or disposal under licensed conditions is a high priority here and abroad. In response to this issue the steel industry has instituted a program of surveying truckloads of metal scrap using very

sensitive counting systems to detect orphan sources before they become feed material for steel products. Very sensitive counting systems are used because orphan sources can be highly shielded by other metal on the truck. In some cases the orphan sources are packaged in their own specially designed shielding.

The presence of naturally occurring radioactive materials in concrete, soil, fertilizer, pipe scale and refractory residue discarded from welding operations as well as terrestrial background radiation reaching detectors through voids in the scrap, are causing a large number of false positives. One solution is to improve upon the unpredictable truck counting geometry. By counting sections or individual pieces of scrap metal the industry would be able to determine the source of counts and their significance.

The nuclear industry believes NRC should give due consideration to those industries with tangible measurable impacts from release of materials from nuclear facilities. This includes the film and electronic industry as well as the steel industry. To avoid undue impact on these industries, the standard for recycling in those situations could be set at a level to avoid tangible impacts (e.g., where film fogs or scrap monitors detect orphan sources under a predictable, reproducible geometry).

We are willing to work with the steel industry to develop technically defensible standards to ensure materials do not contain levels of radioactive materials in excess of detection limits necessary to avoid unintentional recycling of orphan sources. A dose-based standard that applies equally to materials, regardless of their origin, is the foundation upon which these detection standards must be set if the detection standards are to be practically and reliably implemented.

Harmonize with International Standards

The industry believes the Commission must make every effort to harmonize its standards with those of the rest of the world. This is particularly important for trade of materials like steel. Discussions at a recent international symposium in Hamberg, Germany indicated that trade impacts associated with inconsistent clearance standards could approach \$6 billion per year. The Commission should coordinate its efforts closely with the IAEA.

Timing for Rulemaking

In determining the timing of its actions the Commission must balance immediate needs for a standard with the need to refine its technical bases and evaluate inputs by stakeholders and actions taken by regulatory bodies internationally. We support the Commission's initiative to request evaluation from the NAS. We encourage the Commission to direct the staff to prepare a rulemaking package in the interim. This will permit the Commission to move expeditiously into rulemaking upon receipt of the NAS recommendations. At the completion of the time necessary for

NAS to prepare its recommendations, the staff should be able to complete analyses of the impact of various options, and sufficient time will have elapsed for international bodies to complete their reports on proper levels for a standard.

Summary

In summary, NEI supports the actions taken to date by the Commission to obtain input from a broad spectrum of stakeholders on the issue of release of materials from nuclear facilities. The Commission should act expeditiously to establish a standard through the rulemaking process. The industry supports a dose-based standard and encourages the Commission to adopt the ANSI standard. The Commission should also consider international standards for recycle of metals. The nuclear industry will work with the steel and recycling industries to set technically defensible standards that ensure the steel industry has the capability to detect orphan sources.

5/09/2000

ARMR POSITION STATEMENT RELATIVE TO A PROSPECTIVE RULEMAKING AFFECTING METALS RECYCLE, SOLID MATERIALS OR BOTH

ARMR was formed 5 years ago by licensees interested in metals recycle. The purpose of the association is to coordinate and disseminate information on the topic and assimilate the industry's resources, capabilities and performance. During 1997, ARMR supported EPA's investigations into the feasibility and conditions of metals release until the public and steel industry opposition was defined.

ARMR cannot support NRC's current plan unconditionally, even though we represent a portion of the regulated community and the NRC is essentially our regulator. We sympathize with the owners of the metals/materials in question, they are our clients. We identify with the metals industry and the steel industry in particular, because of economic issues and the perception of contamination present in commerce. We do feel however, that rules and standards can be developed to make this a safe action in the interest of the public and other stakeholders once all of their concerns have been addressed.

More Specifically,

The **Metals Industry** has to be comfortable with the plan. It is not just a regulatory action defining risk versus the former limit based criteria. It is to avoid the perception of the spread of contamination to commerce and the environment. We support the steel industry's call for collaboration to determine what it can accept.

While nuclear technology is not now responsible for the incidence of cancer in the US, our choices under the law and regulation must continue to show that it never will be. And to that end, we will need the cooperation of the environmental community to see the safety and legitimacy of the processes we perform. The key to management and disposition of contaminated materials or the activity therein is to isolate these substances from the biosphere. We have the ability to do that. Taken in balance then, there is a need to focus more on the benefits of nuclear technology for energy, pollution-prevention and medicine where the given practices are found safe.

There has to be a "**Demonstration Plan**" acceptable to both the industry and the public. The plan should be the collaborative work of key stakeholders to gain their acceptance for determining the impacts we have already analyzed in terms of risk. The plan should include restricted and unrestricted metal recycle options according to some proposed standard. The plan should encompass NORM materials and address a sufficient time period to substantiate the prior analyses performed.

The demonstration approach would be our appeal to the steel industry in its quest to determine the detectability and levels of contamination that could impact the steel/metals supply and subsequent products before recycle is adopted. And, if the demonstration is successful, the steel industry will have defined what it can accept (other than "zero tolerance").

ANS/LNTH

On April 23, 1999, the American Nuclear Society (ANS) came forward with its position statement on the subject of Linear No-Threshold Hypothesis (LNTH) for radiation exposure at very low doses. We agree with ANS to the effect that there is no evidence of harmful effects so that a threshold must exist. We support research proposals to establish the needed science. We also disagree with the application of the "Collective Dose" concept.

HPS/ANSI 13.12

The Health Physics Society (HPS) adopted a Clearance Standard in September, 1999 for the subject materials given under their Standards Working Group as ANSI 13.12. It is essentially a 1 mr/yr standard with good features toward implementation practice. We feel however, the 1 mr/yr standard is embraced without account of the full range of options we have for dealing with the candidate materials. And, while there is merit in adopting a regulation which guarantees no consequence, we feel such an approach to regulation really isn't doing the job right. And, as we have found from last year's hearings, it isn't the number at which you regulate and it may not be a safety issue at all. So let's find out what it needs to be and go from there.

SECY-00-0070

Our comments for the SECY document are submitted separately.

Finally, should this process continue to define a rule, consideration ought to be given toward defining, "What is Radioactive and What is Not"? We should be able to satisfy our publics in a simplified and quantifiable way that the control of contamination and the fear of cancer from continued exposure to low levels of radiation that might exist or arise from future releases of solid materials will be inconsequential.

ar00013

April 26, 2000

Mr. William Hill
Office of the Secretary
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Hill

The Institute of Scrap Recycling Industries, Inc. (ISRI) herein presents comments in response to the Nuclear Regulatory Commission's (NRC) paper SECY-00-0070, dated March 23, 2000, on the subject: Control of Solid Materials: Results of Public Meetings, Status of Technical Analyses, and Recommendations for Proceeding.

This paper is the result of comments offered at several public meetings and the request for written comments. ISRI participated in the public meetings and submitted written comments as well. The results, published in SECY-00-0070, were the NRC's staff recommendation that:

- The National Academy of Science conduct a study and provide recommendations on possible alternatives for release of slightly contaminated materials; and
- NRC staff continue to develop technical basis work on issues such as individual dose assessment.

In our December 22, 1999 comments filed following the public meetings we outlined two major issues of concern for the recycling industry relative to the release of solid material from NRC licensees, regardless of the actual level of radioactive contamination:

1. The release of solid material from NRC licensees is a cause of great fear and concerns throughout the recycling industry as well as the general public.
2. There are numerous scientific issues to be resolved before any recycling facility would consider the receipt of material from NRC licensees.

ISSUE #1: FEARS AND CONCERNS

For many in the recycling industry, radioactivity elicits a fear of both health risks and tremendous financial risks. These fears stem from the numerous incidents of licensed sources that have been lost, stolen or forgotten by the individual or company that was responsible for assuring that such potentially dangerous devices not reach the general public. Worldwide, more than 65 smeltings of radioactive sources have been confirmed with the subsequent costs related to decontamination, suspension of operations, and storage and disposal of radioactive waste often exceeding \$20 Million US dollars per occurrence. While these costs have been a tremendous burden to the recycling industry, the cost to human life has been horribly tragic. To date worldwide at least 8 individuals involved in scrap recycling have died directly due to exposure to radioactive material that entered the recycling stream, while over 300 workers received hazardous doses of radiation. The fatalities included men and women as well as the children of recycling facility workers. The exposed workers include five pregnant women who are among 44 people who have shown symptoms of radiation poisoning following the recent incident at a scrap recycling facility in Thailand.

We understand that the issue at hand is not related to the inappropriate release of sources of radioactivity. We are grateful that the Commission has recognized this potential threat and has taken action to decrease the threat to the recycling industry from these sources. Yet it is clear that just the mention of the issue of release of radioactive material is a cause of great fears and concerns both throughout the recycling industry as well as the general public.

Until these concerns and fears are adequately addressed, there will be no opportunity to find a solution that is acceptable to the stakeholders who would be involved in the release and recycling of scrap from these facilities. If NRC's intent is that solid material to be released from licensed facilities never enter the commercial recycling stream and that products manufactured from such recycled material are never to be offered to the general public, then all that may be necessary for the Commission to deal with these fears and concerns would be to adequately assure all stakeholders of this fact. However, if the Commission's position is that solid material released from licensed facilities could be released into the general recycling stream more freely than it is today, it is imperative that the stakeholders involved with this potential release be allowed to actively participate in all phases of the decision-making process. In our December 22, 1999 submission we indicated that it is "imperative that the key stakeholders in this effort achieve a complete understanding of all that is involved in this issue. This will then allow these stakeholders to reach a consensus on an acceptable release, recycling, and reuse criteria based on a full understanding of the factual elements involved in this issue." Also in our submitted comments we stated clearly that "until these concerns and fears are adequately addressed, there will be no opportunity for a solution that is acceptable to the stakeholders who would be involved in the release and recycling of scrap from these facilities."

In SECY-00-0070 the NRC staff proposed that the National Academy of Sciences (NAS) Board on Energy and Environmental systems "conduct a study and provide

recommendations on possible alternatives for release of slightly contaminated solid materials.” We applaud the involvement of the NAS. Such a respected scientific body will provide tremendously useful insights and recommendations towards the ultimate solution of this issue. However, the NRC staff continues to ignore the fundamental concern of the recycling industry-that what is crucial here is not the NRC’s position on release criteria, but rather it is the stakeholder’s acceptance criteria. With its proposal to only request the NAS to study this issue, the NRC staff has once again placed the potentially affected stakeholders outside of the study and decision making process involving a crucial issue that will have a tremendous impact on each stakeholder.

In our December 22, 1999 submission we called for the creation of an advisory task force whose members represent the affected stakeholders. These stakeholders include the entities that would release such material and the entities that would recycle such material. Such a task force would seek the input and involvement of the various government organizations that have direct authority over the key issues, the industries that would potentially use the recycled material to create useable products, and the general public who would directly use or be exposed to such products.

The goal of this advisory task force would be to report to the Commission on the criteria for the acceptable release, recycling, and reuse of solid material from licensed facilities. This would be achieved through clarification of the critical issues, a review of all of the facts, and a dialogue between stakeholders with the goal of achieving a consensus on acceptable release, recycling, and reuse criteria. Given the NRC’s staff recommendation of involvement by the NAS we would propose that our recommended stakeholder advisory task force be combined within the NAS’s proposed study or be tasked to conduct its study concurrently with the NAS study.

The time has come for the Commission to definitively acknowledge that there will be no acceptance, agreement or compromise by the recycling industry on any new position for the release of solid material from NRC licensed facilities to private recycling industries without the direct and continuous involvement by representatives of all affected stakeholders in all phases of any applicable scientific study or decision-making process.

ISSUE #2-UNRESOLVED SCIENTIFIC ISSUES

In our December 22, 1999 comments we advised the Commission that before any acceptance criteria on the release of solid material from NRC licensees for commercial recycling, regardless of the actual level of radioactive contamination, could be achieved numerous unresolved scientific issues would need to be addressed. Those issues include:

1. The quantitative effects of contamination on employees, machinery and equipment from the recycling of such material. Currently this information is theoretical, based on the known action of the isotopes
2. The contamination of byproducts and waste from the recycling of such material. This would include current restrictions for the handling and/or disposal of such material.

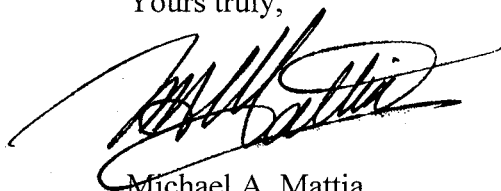
3. The potential for detection of radioactivity in material approved for release. Recycling companies currently reject any material that alarms a radiation detector. This is done because of the fear that the cause for such an alarm could be a dangerous source of radioactivity, such as an "orphaned source". Therefore, it is important that a complete understanding of the detectability of material acceptable for release be achieved.
4. The potential uses of such recycled material, taking into account the potential for contamination of human beings, animals, or the environment, as well as the acceptance, by affected industries and the general public, of such uses.
5. The potential to assure that such material could be used only for the purposes acceptable to the affected industries and the general public.

In addition, an acceptable mechanism must be established to significantly assist any industry that has been compromised due to contamination from released material that did not meet the criteria for acceptable release. Additional unresolved issues could be added to this list by the proposed stakeholder advisory task force.

CONCLUSION

ISRI welcomes the NRC's staff recommendation that the NAS conduct a study of this issue and provide recommendations on possible alternatives for release of slightly contaminated solid material. This effort can provide valuable independent advice that is essential to clarify the factual issues on this topic. However, a complete resolution of the issue of release of solid material from NRC licensed facilities will be achieved only when representatives of the affected stakeholders have a direct involvement in all phases of any applicable scientific study and decision-making process. ISRI is prepared to work with the Commission and all other involved agencies and scientific entities on all aspects of the proposed task force and any endeavor to provide answers to the noted scientific issues of concern to our industry.

Yours truly,



Michael A. Mattia
Director
Risk Management

**Statement of the
Metals Industry Recycling Coalition**

presented by
**John L. Wittenborn, Esq.,
Collier, Shannon, Scott, PLLC**

before the
Nuclear Regulatory Commission

regarding
**The Development of Standards to Govern the Release
of Radioactively-Contaminated Scrap Metal**

May 9, 2000

STATEMENT OF THE METALS INDUSTRY RECYCLING COALITION

The Metals Industry Recycling Coalition ("MIRC") is pleased to have the opportunity to present this statement to the U.S. Nuclear Regulatory Commission ("NRC") and express its support for the NRC staff recommendation to defer rulemaking until completion of a National Academy of Sciences ("NAS") study of the radioactive scrap recycling issue. MIRC remains opposed to NRC policies or rulemaking activities that sanction or encourage the "free release" of radioactively contaminated scrap metals without any additional regulatory controls. MIRC's support for the NAS study is conditioned on the assumption that NAS will examine alternatives to free release, including the "restricted release" and "modified unrestricted release" options discussed below.

NRC's proposed rulemaking would set specific requirements on the release of solid materials from nuclear facilities, including the possible establishment of clearance standards for free release. 64 Fed. Reg. 35,090 (June 30, 1999). MIRC is hopeful that deferral of the rulemaking will enable NRC to explore more sufficiently the economic impact and other effects on metals industries that would result from the free release of radioactive scrap, and give adequate consideration to alternative policies.¹ This statement summarizes our concerns regarding the rulemaking under consideration by NRC and presents issues that MIRC urges NAS to consider when conducting its study, including the following key points:²³

- Current standards for the release of radioactively contaminated scrap are inadequate.
- Free release would adversely affect the marketability of metal products and severely tarnish the image of recycling.

¹For the purposes of this statement, we define "radioactively contaminated scrap metal" as any scrap metal originating at an NRC-licensed fuel cycle facility or a facility that is, or was formerly, operated by the U.S. Department of Energy ("DOE"), because of the presumption that this material is or may be radioactively contaminated. Scrap metal that can be certified as never having been exposed to radiation or located in areas where radiation exposures would not have occurred would not be considered "radioactively contaminated scrap metal."

²Additional explanation of each of the points addressed in this statement is provided in MIRC's comments on the proposed rule submitted to NRC on December 22, 1999.

³In addition, MIRC is concerned that NRC may not have the statutory authority to allow the release of radioactively contaminated scrap into the stream of commerce. *See* Atomic Energy Act, ch. VII, 42 U.S.C. §§ 2111-2114 (restricting the interstate transfer of byproduct material). NRC will need to fully explain its legal authority as a predicate for undertaking any rulemaking that results in the release of radioactively contaminated materials. NRC will also need to provide an opportunity for public comments on this legal authority.

- Metals industry operations would be substantially burdened by a free release program.
- Shifting the costs and burdens of handling radioactive scrap to metals industries is unfair and inefficient.
- More reasonable alternatives to free release should be considered, including "restricted release" and "modified unrestricted release."
- NRC standards should be scientifically sound and designed so as to preserve the integrity of metal products.

I. BACKGROUND

MIRC is an *ad hoc* coalition of metals industry trade associations comprised of the American Iron and Steel Institute ("AISI"), the American Zinc Association ("AZA"), 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"). As noted in our previous comments, the free release of radioactively contaminated scrap from nuclear fuel cycle facilities into the stream of commerce will have a significant economic impact on the industries represented by MIRC.

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 consuming material that otherwise would be discarded and conserving energy by avoiding the energy intensive processes associated with refining virgin ore. The recycling of scrap has become a sophisticated, technology-based industry, involving highly controlled scrap selection and blending processes to meet detailed customer specifications. In fact, some customers require certification regarding radioactivity levels in their products.

The metals industries continuously strive to boost public confidence in the safety, strength, and recyclability of metal products, and 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.

Metals companies use sensitive, highly sophisticated radiation detection systems, to prevent the accidental melting of sealed sources that have escaped NRC regulation and been inappropriately discarded in the scrap supply, and to protect against potential health risks to workers. Inadvertent meltings of sealed sources can contaminate products, waste streams, mill equipment, and the surrounding property. Such contamination has caused individual metals companies to incur tens of millions of dollars in clean-up and decontamination costs, per incident. Accordingly, metals companies have a financial interest in keeping unwanted radioactive material 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.

The deregulation of the electric power generation industry and retirement of obsolete nuclear fuel cycle facilities will generate several hundred thousand tons or more of scrap metal, much of it radioactively contaminated, in the coming years. Additionally, the ongoing decommissioning and dismantling of facilities that were operated by DOE will produce an additional two to three million tons of radioactively contaminated scrap metal. This material, if released, would significantly disrupt metals facilities' radiation detectors and their mills. For the reasons set forth below, NRC must not allow radioactive scrap metal to be free released into the economy, even if the NRC establishes dose-based clearance standards.

II. CURRENT STANDARDS FOR THE RELEASE OF RADIOACTIVELY CONTAMINATED SCRAP ARE INADEQUATE

NRC has not promulgated uniform clearance standards to govern the release of solid materials that are, or may be, radioactively contaminated, from nuclear fuel cycle facilities. Instead, NRC, Agreement States, and DOE rely on a generic, five-page NRC guidance document entitled "Regulatory Guide 1.86, Termination of Operating Licenses for Nuclear Reactors" ("Reg. Guide 1.86"), which was published in 1974 without public notice and comment, for determining clearance standards on a case-by-case basis. This standard was based on the detection technology available at that time and not on public health or environmental considerations. It covers only surface radioactive contamination on solid materials, not volumetric radioactive contamination. Reg. Guide 1.86 is a wholly inappropriate standard today.

NRC also uses the allowable annual radiation dose limits for individuals to make case-by-case release determinations. *See* 10 C.F.R. § 20.2002. However, scrap released pursuant to Reg. Guide 1.86 or NRC annual radiation dose limits may not be fully protective of human health and may cause detectors to alarm when no sealed sources are present.

III. ENVIRONMENTAL AND ECONOMIC IMPACTS

NRC's *Federal Register* announcement and draft technical report, "NUREG-1640," do not sufficiently address, or fail to address at all, several of the environmental and economic impacts that would result if NRC established clearance standards for the free release of radioactively contaminated scrap metal. These impacts include: loss of public confidence in metal products, the impact on recycling generally, and the impact on metals industry operations.

A. Loss of Public Confidence in Metal Products

The most significant adverse economic impact of the free release of contaminated metal would be the damage caused to the product integrity of metals. The release of radioactively contaminated scrap metal from nuclear facilities for unrestricted recycling into industrial and consumer products could adversely affect the marketability of metal products and severely tarnish the image of recycling. The establishment of release levels that NRC deems to be "safe" would not mitigate this problem. The public's perception is that any level or type of radioactivity is unsafe, official assurances to the contrary notwithstanding.

A survey commissioned by the Steel Alliance, a coalition of steel companies formed in 1997 to promote the public image of steel, 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.⁴ 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' 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,⁵ from 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.

The survey results make a striking point -- not only do the majority of the public oppose recycling of radioactive metal, but government assurances that such recycling is safe will not change, and may in fact reinforce, this negative opinion of radioactive scrap recycling. To be acceptable to MIRC and its members, NRC's ultimate policy must account for the adverse impacts that such a negative public perception of radioactive scrap recycling will have on the image -- and, accordingly, economics -- of metals industries.

There have already been numerous media reports shaping public perception on the free release program, including several newspaper and magazine articles, as well as a segment on ABC's World News Tonight, that drew attention to the possibility that everyday products could contain radioactive metal if the free release program is implemented.

⁴The survey was conducted by Wirthlin, an independent research firm, and involved polling of four focus groups followed by a phone survey of 1,007 individuals.

⁵On the 100-point scale, a score of 50 indicates a neutral opinion, above 50 a positive opinion, and below 50 a negative opinion.

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. 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 NRC does not appear to have given any consideration to the adverse market impact on the metals industries and on recycling. NRC -- and NAS as it conducts its study -- must consider the economic consequences (*i.e.*, lost sales, employment reductions, and losses in sales by suppliers of equipment, materials, and services to metals industries) that will be incurred by the metal recycling industries in comparison to the projected government savings and profit of those who stand to gain from a free release program.

B. Impact on Recycling

The unrestricted release of radioactively contaminated metal for recycling would tarnish the perception of recycling as a social good that should be encouraged. While introducing radioactive metal into the stream of commerce provides, for some, a short-term economic benefit, the consequences of public suspicion regarding the safety of recycled metal could be disastrous. 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 or to demand certification that their products are made with mined virgin ores. Indeed, several customers of the metals industries are requiring certification that the metal components they buy are free of radioactive contamination. These customers' concerns 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. Accordingly, free release would lead to an *increase* in the consumption of mined virgin ores, as consumers avoid products made with recycled metals.

C. Metals Industry Operations

Metals producers are already burdened by the problem of shielded radioactive sources that have escaped NRC's licensing program and have been improperly discarded in shipments of metal scrap destined for recycling. Often metals producers respond to detector alarms by stopping the production process wherever the radioactivity is detected and taking appropriate measures, which can include outright rejection of a load of scrap, hand sorting through a truckload of scrap, or prompt sequestration and notification of the proper authorities. These measures are necessary but impose unreasonable costs on the metals industries.

Free release presents a far more onerous problem than orphan sources and would greatly increase 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 cost of manufacturing or compelling them to raise detection levels to above background, thereby exposing themselves to increased risk of inadvertently melting sealed sources. In sum, the metals industries and their customers derive no economic benefit from recycling radioactive scrap.

Radioactive isotopes present on or in scrap metal may partition to the metal, slag, or emission control dust. Even small concentrations may build up over time, especially in the emission control baghouse, potentially leading to health risks to workers or to expensive disposal requirements. NRC has not adequately explored the impact of processing radioactively contaminated scrap metals on personnel or equipment in metals production facilities and at scrap processing operations. The NRC must consider the accumulation of radioactive materials on equipment and in metals industry by-product and waste streams, and exposure of workers and members of the public to this contamination.

Shifting disposal costs from DOE and nuclear fuel production facilities to the metals industries, by compelling them to accept increased radioactivity in their metal scrap feedstocks, is economically inequitable, inefficient, and unfair. It would be more economically efficient overall to require the nuclear power industry to adopt stringent monitoring to control radioactive contamination at a handful of facilities that are the sources of the scrap, rather than imposing these burdens on the hundreds of metals facilities that would consume this material.

III. PROPOSED SOLUTIONS

In light of the increasing amount of materials, including scrap metal, coming from decommissioned nuclear fuel cycle and DOE-operated facilities, and the inefficiency and inconsistency associated with case-by-case determinations, MIRC recognizes the need for NRC to establish uniform dose-based clearance standards for radioactive isotopes. However, dose-based standards alone will not solve problems such as adverse consumer reaction to products made with radioactive metals, disincentives for recycling, and cost shifting. MIRC cannot support the establishment of clearance standards in the absence of other measures deemed necessary to mitigate those consequences.

Described below are two policy alternatives that, when implemented in combination with dose-based clearance standards, would be acceptable to MIRC: "restricted release" and "modified unrestricted release."

A. Restricted Release

MIRC strongly supports a policy of "restricted release," whereby release of scrap metal from nuclear facilities meeting dose-based standards is limited to one of the two following options:

- (1) Recycling or recovery at a dedicated, licensed facility for use only at an NRC-licensed fuel cycle facility or at nuclear facilities operated by the DOE; or
- (2) Disposal into an appropriate landfill (*i.e.*, low-level radioactive waste, municipal or industrial landfill).

Under the restricted release alternative, certain products could be manufactured from the radioactively contaminated scrap metal, as long as the metal stays within NRC licensing or DOE regulation as radioactive metal. NRC must emphasize to other agencies, notably DOE, that these restrictions should apply to releases of scrap from nuclear facilities not under NRC's jurisdiction. DOE facilities are a major source of radioactively contaminated scrap.

B. Modified Unrestricted Release

MIRC would support a program of releasing scrap metal from nuclear fuel cycle and DOE-operated facilities, provided that NRC establishes dose-based clearance standards and additional controls are put in place (1) to protect the environment, public and worker health, and the integrity of metal products, and (2) to ensure that metals companies do not face the operating problems associated with radioactive contamination in scrap. Such measures would have to include the following requirements, all of which must be met, before the scrap metal is released:

- (1) the operator of the facility releasing the scrap reasonably believes and certifies that the scrap has not been radioactively contaminated;
- (2) when tested under stringent monitoring and sampling protocols, and by detectors capable of detecting alpha, beta, and gamma radiation, the scrap metal does not exceed NRC dose-based clearance standards or background radiation levels for the area from which it is being released;⁶ and
- (3) the scrap metal is manifested, labeled, and tracked.⁷

⁶The sampling and monitoring protocols would have to be sufficiently advanced to detect above-background levels of alpha, beta, and gamma radiation for all relevant isotopes. They also would have to include technology-based requirements for detectors and whistleblower protections to ensure compliance.

⁷Manifesting, labeling and tracking requirements would have to be designed to ensure that any processing or recycling facility to which the scrap metal ultimately may be sent will be advised of its origin and can make an informed decision as to whether to accept the material. Manifests

(continued...)

Scrap metal meeting all of these requirements could then be free released. This would allow scrap metal that has not been contaminated by radioactivity to be returned to commerce, but would not allow radioactive material to leave NRC or DOE control, except to an appropriate landfill. Metal items, or metal-containing equipment and products from licensed facilities that are to be re-used for their originally intended purpose, e.g., filing cabinets, and that meet the NRC's established dose-based standards, could be released off-site for re-use under this provision.

IV. RECOMMENDATIONS FOR SETTING HEALTH-BASED STANDARDS

MIRC supports NRC's effort to develop a health-based standard to govern the release of radioactively contaminated scrap metal, but, for the reasons noted above, believes that public acceptance of such a standard will be difficult to achieve. Accordingly, MIRC believes that any health-based standard should not be applied to scrap metal that is destined for use in the production of consumer products. Such a standard, however, could be used with respect to the "restricted release" and "modified unrestricted release" options noted above. MIRC strongly believes that any health-based standard that is developed by NRC must be scientifically credible and accepted by the scientific community and the general public.

NRC should be guided by the following considerations in setting the restricted release or modified restricted release standards:

1. Scientifically Sound, Health Risk-Based Modeling

NRC standards should be scientifically sound and designed so as to preserve product integrity of metal products. In selecting the benchmark dose level from which to calculate restricted release standards, NRC should be consistent with the guideline levels it has established in the past. If NRC decides to use a significantly more stringent dose criterion for the restricted release of solid materials from licensed facilities, it should explain why adoption of a lower dose criterion is necessary for public health reasons. NRC must also explain why it is reducing the permissible dose levels so as not to induce skepticism among members of the public, some of whom believe that exposure to any level or type of radiation whatsoever is unacceptable.

NRC release standards also should include detailed measurement, calibration, sampling, and instrumentation protocols to protect the public against the inadvertent release of contaminated material. The need for such standards is demonstrated by the unsophisticated and unreliable procedures permitted by the DOE contract with British Nuclear Fuels Ltd. for decontamination and decommissioning of the Oak Ridge site formerly operated by DOE.

2. International Standards

⁷(...continued)

would have to indicate content, tonnage, origin, and radioactive content. These same restrictions must apply to metals being released from DOE facilities.

The buying and selling of scrap takes place not only across state lines but internationally as well. Accordingly, the establishment of standards and restrictions on the release of radioactively contaminated scrap is an international issue. There is a need to better safeguard our borders against the entry of radioactively contaminated scrap or metal products. Should NRC adopt the type of restricted release model that we support, the U.S. government should encourage the U.S.'s trading partners to adopt a similar model. International adoption of this policy would deter the arrival of radioactive metal into the U.S. from foreign sources. Regardless of whether the U.S. standards are adopted internationally, we urge NRC to work with the U.S. Customs Service to ensure that customs will reject shipments of metal or metal products registering above normal background levels, even if the shipments meet NRC's restricted release standards. We believe that such a measure could be implemented in a way that is compatible with World Trade Organization ("WTO") rules.

3. *Use of the Existing ANSI Standard*

The existing standard developed in September 1999 by the American National Standards Institute ("ANSI"), ANSI N13.12 ("Surface and Volume Radioactivity Standards for Clearance"), was not developed to address the recycling of large quantities of radioactively contaminated materials. Therefore, it would not be appropriate for NRC to adopt the ANSI standard without assessing the health and economic impacts its use would have when applied to the release of large quantities of radioactive metal scrap. In particular, the ANSI standard is unacceptable to MIRC members because scrap metal that meets this standard still can be detected by radiation detection systems at metals facilities. Hence, application of the ANSI standard will not avoid the significant operational disruptions at metals facilities, discussed above, that result from radiation detections in scrap loads.

V. CONCLUSION

MIRC supports the NRC staff recommendation to defer the rulemaking until NAS conducts a study of this issue. For this study to be meaningful, NAS must examine the commercial, economic, and public perception issues raised in this statement and, in particular, alternatives to free release. MIRC will not support a program that permits the unrestricted release of scrap metal from NRC licensees and DOE facilities into the stream of commerce. Rather, NRC should establish a program of tight regulatory controls, that includes the establishment of scientifically sound, dose-based standards for the restricted release of such metal, that are fully protective of human health and the environment. This is the most economically equitable and environmentally sound solution. The metals industry cannot become a dumping ground for the discards of the global nuclear age.

MIRC is grateful for the opportunity to provide this statement on the NRC staff recommendation and to reiterate our views on the proposed rulemaking to establish dose-based clearance standards. If you have any questions, please do not hesitate to contact John Wittenborn at (202) 342-8514.

**COMMENTS OF THE PAPER, ALLIED-INDUSTRIAL, CHEMICAL, & ENERGY
WORKERS INTERNATIONAL UNION, AFL-CIO ("PACE")
U.S. NUCLEAR REGULATORY COMMISSION PROCEEDING ON
RELEASE OF SOLID MATERIALS
May 2, 2000**

Pursuant to the Commission's April 14, 2000 request, the Paper, Allied-Industrial, Chemical and Energy Workers International Union, AFL-CIO ("PACE"), hereby provides its comments on the Staff "SECY-00-0070" Paper ("Staff Paper")¹ and the related Commission determination to employ yet a further contractor to perform its work in this proceeding (the National Academy of Sciences ("NAS")).

PACE has long been the primary representative of the hourly workers at the United States Government's nuclear weapons complex sites. Its members also work in steel facilities, machining operations, metal working plants and other workplace settings where radioactive metals can be smelted, cast, ground, machined, plated, welded or otherwise processed. PACE therefore has a long and continuing interest in the understanding of the risks posed by exposure to radioactive materials and the protection of the public, including PACE members, their families, and the communities in which they live and work, from these risks. PACE has need to understand not only the health effects of exposure to radioactive materials, but, of no less importance, the capabilities, competence, and historic and continuing shortcomings of the institutions -- public agencies and private corporations -- to whom radioactive materials have been entrusted for processing and use.

INTRODUCTION AND SUMMARY

Pursuant to the Commission's prior invitations, PACE submitted three lengthy sets of comments,² and participated in two of the Commission's public meetings. PACE's comments are essentially ignored in the Staff Paper and in the related employment of the NAS. In essence, PACE stated:

- < The integrity of the rulemaking requires affirmative demonstration that alternatives -- including no unrestricted release at all -- are seriously and fairly considered; and
- < No unrestricted release can be found safe without full fact finding, and accounting for, evidence that those entrusted with public releases of radiation cannot be presumed to comply with the law, to possess the competence to protect the public,

¹ "Control of Solid Materials: Results of Public Meetings, Status of Technical Analyses, and Recommendations for Proceeding."

² PACE's written comments were submitted on November 1, 1999; November 15, 1999; and December 22, 1999.

and to tell the exposed public the truth.

As to these points:

- < The Staff Paper and the Commission deployment of the NAS confirm that the Commission is determined not to come clean with the public regarding the full circumstances surrounding:
 - C the Commission's determination to pay millions of dollars to a tainted contractor to perform the technical analysis on which the Commission relies; and
 - C the Commission's determination to write a prejudgment of the outcome here into the August, 1999 contract with that contractor.
- < The Staff Paper and the Commission deployment of the NAS confirm that the Commission takes no issue with the uncontradicted evidence that those entrusted to promote recycling cannot be trusted to abide by public protection requirements, but takes no interest in fact finding and analysis needed to correct the culture and conduct that has earned the public's distrust.

Rather than repeat its prior lengthy comments verbatim, PACE respectfully incorporates them by reference here, and summarizes the most salient omissions in the Staff Paper and the Commission's determination to punt its obligations to the NAS.

It is now acknowledged that the Atomic Energy Commission, its successors, and their contractors, knowingly hid risks from workers, their communities, and the public at large in order to avoid embarrassment and liability to themselves (even where they knew that national security did not justify keeping secrets).³ The central issue here is not, as the Commission's referral to the NAS would evidently have it, whether a given amount of radiation is safe (or, if

³ See, e.g., "U.S. Acknowledges Radiation Killed Weapons Workers, Ends Decades of Denials; Compensation is Possible for Survivors of Cancer Victims," *New York Times*, January 29, 2000; "Gov't Admits Nuclear Danger; Workers were exposed to cancer-causing chemicals," ABC NEWS.com, January 29, 2000; and "Belatedly, an Attempt to Make Amends: Clinton wants Nuclear Workers Compensated," *U.S. News & World Report*, April 24, 2000. In addition to recent press reports and Department of Energy statements regarding the exposure of workers and communities at Paducah, Kentucky and other nuclear weapons complex sites, see *The Human Radiation Experiments: Final Report of the President's Advisory Committee*, Chapter 13 (Oxford University Press, 1996), which summarizes recently declassified disclosures of the long secret policy and practice of coverup of worker and community (as well as human research subject) exposures by the Atomic Energy Commission.

not safe, a risk somehow worth taking), but whether the governmental and contractor institutions that embody this legacy today (*i.e.*, the Department of Energy, this Commission, and their instrumentalities, delegates, contractors and licensees) can be entrusted to honor and effectuate any standard under which unlabeled radioactive waste will be put into commercial goods that will come into daily and intimate contact with citizens.

The public record -- including evidence presented by PACE in this proceeding which has not met with any response, much less contradiction from the Commission -- now shows that the Department of Energy ("DOE") and its designated recycling contractor's (BNFL) promotion of the recycling of radioactive waste is faithful to the tradition of secrecy, lawlessness, and public endangerment.⁴

This evidence should be at the heart of this proceeding, but, if the Staff Paper and the NAS referral are the measure, it is an utter stranger to it. The Staff Paper, consistent with the Commission's presentation at the public participation meetings, is devoid of reference to, much less analysis of, the continued revelations regarding the DOE and British Nuclear Fuels, Inc.'s ("BNFL") Oak Ridge recycling project -- the largest effort at radioactive recycling ever (publically, at least) undertaken in this country. That project now involves, for example: (1) a Federal court finding that, acting with distressing secrecy, the government and its contractors put citizens at great environmental risk in disregard of basic environmental law; (2) the Secretary of Energy's confirmation that the license granted by this Commission's delegatee (Tennessee) cannot be credited, and that no recycling can take place under it; and (3) daily public revelation that DOE's lead contractor (BNFL) has managed to deploy a frightening lack of integrity on a truly global scale. (*See*, footnote 4.)

⁴ In addition to the evidence recounted in PACE's comments herein -- which, again, has scarcely been addressed, much less disputed, by the Commission here -- PACE notes, regarding the evolving global scandal created by the practices of the Department of Energy's designated recycler of nuclear metals (BNFL), *e.g.*, "Plan to Recycle Nuclear Materials Runs into Flak from Unions, Industry and Environmentalists," *Wall Street Journal*, December 22, 1999; "SAIC Conflict of Interest Roils Recycling Rule," *Energy Daily*, January 7, 2000; "Safety over a Barrel", *USA Today*, March 20, 2000; "Lax Pace for safety rules for leaves public and workers at risk," *USA Today* (editorial) March 24, 2000; "A Lapse At Home Comes to Haunt a British Export," *New York Times*, March 22, 2000; "Energy Department to Review all of BNFL's Operations," *Hanford News*, March 24, 2000; "BNFL: Now the Swiss Ban Shipments from Sellafield," *Independent News*, March 24, 2000; "Safety Fears Put Sale of BNFL on Hold," *Daily Telegraph London*, March 30, 2000; "New Crisis Hits Sellafield as Germans say BNFL 'Lied.'" *Independent News*, March 28, 2000; "BNFL Pollution Risk: Double the Reported Level," *Independent (London)* April 1, 2000; "Crisis of Confidence after Damage to Credibility of BNFL," *Irish Times*, April 3, 2000; and "BNFL Dirty Tricks Revealed in Memos," *Guardian Unlimited*, April 13, 2000. *See also*, "Chronology of BNFL MOX Falsification Coverup Scandal," CNIC - Citizens Nuclear Information Center.

The Staff presentations at the public meetings and the current Staff Paper confirm that this Commission would rather focus on abstract discourse about rules being set by some foreign country(ies) than by the reality of the conduct of those promoting recycling in the United States. This Commission's proclamations that it bears no responsibility for developments sponsored by the DOE is not credible.

The DOE/BNFL Oak Ridge experience shows that the DOE and its contractors have contrived to launder the recycling of their waste through this Commission's (delegated state) process. By consequence, this Commission's own proceeding is now stained by multiple taints, including: (1) this Commission's reliance on a contractor with multimillion dollar ties to the DOE/BNFL recycling promotional efforts to perform the bedrock analysis here; (2) this Commission's repeated prejudgment of this proceeding, including in its August, 1999 contract with SAIC; and (3) this Commission's whitewashing of the conduct of its state delegatee's (Tennessee) blessing of the DOE/BNFL promotion, without regard for Federal Court finding (and much further evidence) that Tennessee's closed door licensing of BNFL put the public health and safety seriously at risk.

This Commission must undertake the public disclosure and self-inquiry that are predicates for any trust in the integrity of this proceeding. The needed steps, all of which are further discussed below, include:

- (1) the Commission must make public the facts surrounding its determination to turn the analyses underlying this proceeding (NUREG-1640) to a contractor (SAIC) tainted by obvious conflict of interest -- as previously and repeatedly called for by PACE, numerous other participants in this proceeding, and common sense;
- (2) the Commission must make public the facts surrounding its embodiment in SAIC's August, 1999 contract of language confirming the Commission's prejudgment of this proceeding;
- (3) the Commission must make public the facts surrounding this Commission's rubberstamp approval of its delegatee Tennessee's closed door licensing of radioactive metals recycling, which a Federal judge had called into strong question and which, Secretary of Energy Richardson has now confirmed, cannot be relied on;
- (4) the Commission must fulfill its commitment to respond to reasonable inquiries by participants in this proceeding, rather than proclaim that they will be attended to where in fact they are not;
- (5) the Commission must reconsider its determination to employ the National Academy of Sciences. If the Commission feels that it lacks the capability to perform needed analyses in its own right, then it must:

- C empanel an independent body to consider the issues of institutional competence raised by PACE and others, but ignored in the referral to the NAS;
- C assure that the independent body deliberates in public, as is required under the circumstances of historical misconduct and immediate taint that define this proceeding; and
- C assure that the independent body has the means to get to the facts.

I. RECYCLING IS UNSAFE AT ANY SPEED UNTIL DOE, NRC, AND THEIR CONTRACTORS, DELEGATEES AND LICENSEES DEMONSTRATE AN ABILITY TO ACT LAWFULLY, COMPETENTLY AND ETHICALLY IN MATTERS THAT EXPOSE THE PUBLIC TO UNLABELED AND UNRESTRICTED REUSE OF RADIOACTIVE WASTE

The Staff Paper and the NAS referral confirm that the Commission wishes to believe that the primary issues here are technical -- *i.e.*, the amount or quality of radioactive materials that can, in the abstract, harm humans and their environment, and the ability of equipment to decontaminate waste to these levels. The record here, and the record being compiled in the press on a virtually daily basis, shows that this question is an academic exercise in the absence of any showing that the institutions entrusted with any resulting standard -- the Department of Energy, its contractors, and this Commission and its state delegates and licensees -- can be trusted to abide by it.

The Staff Paper's summary of PACE's concerns illustrates the shallowness of the Commission's appreciation of that which is well known to readers of the daily press. The Staff Paper blandly summarizes PACE and others as stating that "[b]ecause workers have been misled about radiation hazards in the past and because rules have not always been followed, it is not clear if a rule in this area would be followed." (Attachment 3, at 8).⁵ Of course, the public

⁵ To be fair to the Staff Paper, it also notes that "Lack of trust issues" include:

(3) Workers at licensed facilities can't be trusted to detect radiation in releases when it may not be in the best economic interests of the licensee;

(4) There have been unreported releases at NRC facilities and NRC must fully disclose all metals that have been released and are currently in consumer products.

(Attachment 3, at 8).

record now shows that this misleading was hardly a “once in a while” occurrence of the distant past. Rather, the public record shows that the coverup of risk to workers, their communities, and even the broader public was a policy and practice that existed at the birth of this Commission’s predecessor (the Atomic Energy Commission (“AEC”)) and that, as new revelations show, has extended without effective public countermand for decades (and may continue to be ongoing today).

Most directly, the Staff Paper ignores that the public record shows a straight line connection between the secrecy and lawlessness of the ostensibly distant past and the current and ongoing efforts by the government and its contractors to forward the release of radioactive materials for commercial use. The public record now contains:

- < DOE’s too recent admission that for decades it, and this Commission’s predecessor (the AEC), covered up radioactive risk from workers and their communities, thereby depriving them of the means to protect themselves from risk, and actually increasing the resulting illness (see footnote 3 above) ;
- < Federal court confirmation that the Department of Energy awarded its quarter billion dollar recycling contract to BNFL, Inc. without regard for the basic requirements of environmental law and openness (*See, Oil, Chemical & Atomic Workers, et al. v. Pena, et al.* 62 F. Supp. 2d 1 (D.D.C. 1999));
- < evidence that the BNFL contract proceeded in defiance of Secretary of Energy Pena’s direction to high level officials (including the DOE signatory to the contract) that the contract provide that no recycling take place absent approval of DOE;⁶
- < evidence that, aware of the controversy surrounding recycling, BNFL sought to

As to the first point, the Staff Paper raises the question of why the enforcement issue is cast in terms of the trustworthiness of “workers,” where, by the very words used by the Staff, the problem is the “economic interest of the licensee” (*i.e.*, management).

As to the second point: (1) it is now sadly plain that the Commission has little idea as to amount and quality of materials released under its auspices; and (2) even so, the Staff Paper ignores the further question raised by PACE and others -- how much material has been surreptitiously released over the past half-century? (See PACE’s November 1, 1999 Comments, at pages 15-16).

⁶ As PACE has noted, Secretary of Energy Pena’s directive to DOE’s Oak Ridge Manager James Hall, the DOE signatory to the DOE/BNFL contract, that the contract provide DOE with the right to veto proposed end uses was mysteriously ignored.

launder the volumetrically contaminated nickel through the State of Tennessee's processes, which it knew did not provide for public participation;⁷

- < evidence that the DOE awarded the quarter billion dollar contract to BNFL, Inc. with shockingly little due diligence, including no apparent awareness that the affiliate which would perform the recycling was in noncompliance with a host of environmental, safety, and health requirements, and, by BNFL's lights, lacked basic management competence (See PACE November 1, 1999 Comments at 11-12);
- < daily press reports that BNFL's lack of integrity is a growing global scandal, to the point that even the Department of Energy has expressed the need to review BNFL's contracts (see footnote 4 above);
- < this Commission's effective confirmation that this Commission blithely embraced BNFL's "teaming partner" SAIC to draft the technical analysis here without the

⁷ As summarized by PACE in its November 1, 1999 Comments here (at 14), with which the Commission has not taken issue:

the ongoing DOE/BNFL/Oak Ridge recycling is a tragicomedy characterized by:

-- the government award of a quarter billion dollar recycling contract prior to any inquiry as to the contractor's sheer competence to comply with OSHA -- most basic worker protection requirements;

-- the belated, post contract award, DOE discovery that the contractor was in profound non-compliance with OSHA, as well as many other rules designed to protect workers;

-- the TDEC grant of a license without any evident independent inquiry as to whether BNFL/MSR are truly capable of complying with worker safety requirements;

-- the absence of any publicly disclosed study or analysis of the risks to workers (whether involved in recycling or subsequent uses) of the recycling;

-- the absence of any formal opportunity for workers to comment on the (undisclosed) risks to the licensing agency (TDEC).

slightest thought to the possibility that there might be a conflict of interest;

- < this Commission's confirmation that this Commission would rather apply a rubberstamp than hard inquiry to the question of how and why its delegatee (Tennessee) managed to grant a recycling license to BNFL without public review and with disregard for the licensee's historic failure to comply with health, safety, and environmental requirements.⁸

In sum, the Commission has given no reason to believe that it seeks to come to terms with the culture that underlies the public's distrust of those institutions to whom recycling would be entrusted. By this neglect, the Commission itself necessarily provides further confirmation that the distrust is merited.

II. THE COMMISSION HAS AMPLY DEMONSTRATED THAT IT LACKS BASIC INFORMATION TO ADDRESS ISSUES OF INSTITUTIONAL COMPETENCE, AND THAT IT WILL NOT HONOR ITS PUBLIC COMMITMENT TO RESPOND TO PUBLIC REQUESTS FOR THIS INFORMATION

Pursuant to the Commission's invitation, PACE, and others, identified basic factual questions regarding historical competence which must be addressed and answered before any steps are taken to proceed with a rulemaking that might result in the release of materials for public use. The Commission assured PACE that these questions would be addressed and answered. However, these questions are not even referred to in the Staff Paper, and there is no basis for presuming that they will, or can be, addressed by the NAS study.

For example, the summary to PACE's November 1, 1999 comments identified a series of questions:⁹

- No unrestricted release can be found safe without full fact finding, and accounting for, evidence that those entrusted with public releases of radiation cannot be presumed to comply with the law, to possess the competence to protect the public, and to tell the exposed public the truth. This fact finding and accounting must include:

⁸ For a summary of some of the shortcomings of the Tennessee process which this Commission appears to have determined to ignore, see, again, PACE's November 1, 1999 comments.

⁹ The above is a summary of the questions. PACE's comments presented evidentiary and documentary support for each of the questions.

- Factfinding regarding Federal court confirmation that precedent setting Oak Ridge recycling is proceeding in violation of environmental law, and prompt action to comply with the law and hold those responsible for noncompliance to account;
- Factfinding regarding the State of Tennessee's issuance of a license for Oak Ridge recycling in the absence of authority to do so, and prompt action to comply with the law and to hold those responsible for noncompliance to account;¹⁰
- Factfinding regarding the government and its contractors' historic policies and practices of keeping information on radioactive releases secret from the exposed public, and prompt action to assure full disclosure and accounting for the effects of past releases;
- Fact finding regarding the NRC's declaration that this rulemaking will rely on expertise that is possessed of conflict of interest, and prompt corrective action;
- Fact finding regarding evidence that those entrusted with the public release of radioactive materials do not have requisite competence to protect the public;
- Fact finding regarding the failure of DOE and recycling contractors to provide credible analysis of the worker exposures stemming from recycling, and the real world difficulties of assessing such effects; and
- Fact finding regarding evidence that this Commission's predecessor may have historically sanctioned the commercial release of radioactively contaminated materials without any public notice.

The Commission provided assurances to PACE and other public participants that information sought by PACE and others would be diligently pursued. Thus, in opening the

¹⁰ PACE notes that TDEC has yet to respond to an October, 1999 written inquiry from PACE and the Natural Resources Defense Council regarding the basis for the terms of its licensing to BNFL (or its affiliate).

November 1, 1999 public participation meeting, NRC staff proclaimed that the NRC's intent was "to exchange information, not just between NRC and you, but also amongst yourselves." (Tr. at 24.)

The public meetings confirmed that the NRC knew stunningly little about the historic and present institutional practices and policies regarding the release of materials.¹¹

When it became evident that NRC staff lacked the information to respond to the questions, the Commission's facilitator and staff made a show of asking PACE to distribute its written questions to all present -- presumably on the representation that they would be considered and responded to.¹²

¹¹ Thus, the following exchange regarding the Commission's knowledge of the amount of plutonium or other radionuclides that have been released by NRC delegates, such as Tennessee, that may now be in commercial goods:

MR. HUFFERT [NRC Staff]: Yes. I can't answer or speak to the metals in Tennessee and what is contained in that nickel, what kind of contamination levels of plutonium are in there. As far as the amount of plutonium that's been released from the NRC, we are currently studying that. We do not have a handle on exactly how much has been going out to date of any of the radionuclides.

MR. GUTTMAN: Is that to say that some plutonium may be out in the public now, you just don't know?

MR. LESNICK [NRC Facilitator]: Hey, Dan, I think we are jumping ahead to where people may see problems with the current case by case --

MR. GUTTMAN: This is not a problem. This is just a fact question. It may be fine. Some people think plutonium is no big deal. I mean a lot of the health physicists' business thinks it is fine. I am just trying to get the facts out.

MR. HUFFERT: I don't have a response.

MR. GUTTMAN: You don't know.

MR. HUFFERT: We don't know how much plutonium is out there.

¹² *E.g.*, November 1, 1999 Tr. 200-202;

MR. GUTTMAN: . . . Is there a way in this public participation process for we to get from the government answers to the questions we've been asking? I thought that would be part

The instant Staff Paper, however, shows that staff has not even informed the Commission of the issues identified by PACE, much less provided PACE and the public with the promised "exchange" of information.

III. WHAT IS THE COMMISSION HIDING? THE NRC MUST COME CLEAN ON

of what -- to me, public participation is. . .

You know, like, we'd like to know what happened in 53? Have you guys been releasing material without telling the public or how do you explain Union Carbide's letter. How much plutonium is out there now? The whole bunch of questions. How do we go about getting that set of answers from you in a systematic fashion, because it's obviously stuff that's relevant, and we'd like to know the answers. So what's the best way, and I'm not asking you to give me an answer now, but as part of the outcome of this, you could have some procedure by which questions that we have that are relevant will be systematically answered.

* * *

MS. STINSON: Don?

DR. COOL: Can I clarify something, because a comment you just made, you say, you've given a specific set of questions to?

MR. GUTTMAN: I filed it with the -- with your -- you know, in the Federal Register notice, it said, please file comments with the Secretary, so I did.

But here -- actually, let me give you --

MS. STINSON: Great. You have copies of it, though. Can you pass those around also to your left?

MR. GUTTMAN: Sure.

MS. STINSON: That would be great. Since you hauled all that paper over here.

MR. GUTTMAN: Yes, glad to -- glad to get rid of it.

MS. STINSON: Oh, it looks like you may have enough for the audience, too, but let's make sure that they get around the table and then we'll.

MR. GUTTMAN: Anybody who wants them is welcome. Yes, obviously.

MS. STINSON: Pass them around to observers as well.

**THE CIRCUMSTANCES THAT PERMITTED THIS PROCEEDING TO BE
TAINTED BY CONFLICT OF INTEREST AND PREJUDGMENT**

**A. The Commission Must Come Clean On The Failings That Led It To Delegate
Its Technical Analysis To SAIC**

In November, 1999 PACE pointed out to the Commission that its employment of SAIC to perform the technical analysis for this proceeding was unacceptable where the company has long been the teaming partner to BNFL in the quarter billion dollar DOE sponsored effort to promote nuclear waste recycling. Moreover, PACE pointed out, the conflict was particularly egregious where:

- (1) the terms of the SAIC contract called on a private contractor – likely in violation of longstanding prohibitions against contracting out inherently governmental functions – to do the Commission’s basic thinking, and even to provide the Commission with a summary of the views of other stakeholders;¹³

¹³ If the terms of the public portions of the initial SAIC contract are credited SAIC, and not the Commission, is the source of the proposed rule here. The “delivery schedule” under the November, 1996 amendment (one of over a dozen amendments) included, in part:

November 22, 1996	Submit outline for draft issues paper
March 8, 1997	Submit draft issues paper
April 22, 1997	Submit resolution of comments and revised draft issues paper
May 22, 1997	Submit final issues paper
June 8, 1997	Submit draft regulatory options paper
September 30, 1997	Submit final regulatory options paper

PACE notes that if the contract terms are to be credited (which, of course, they must be), the use of SAIC to perform these tasks is a violation of the longstanding prohibition against the reliance on private contractors to perform inherently governmental functions. As the Comptroller General has confirmed, the test for unlawful delegation of governmental functions is one of form, not substance. See December 29, 1989 letter of Comptroller General of the United States to Honorable David Pryor, Chairman, Federal Services, Post Office and Civil Service Subcommittee, B-237356) which states, at 4 (fn. omitted):

- (2) the Commission relied on SAIC over a period that began in 1992; and
- (3) the Commission was forced to award SAIC a second contract in August, 1999 because it did not complete the required work under the first.¹⁴

By letter to SAIC of December 16, 1999, NRC issued a stop work order to SAIC regarding the August, 1999 contract. In March, 2000 the NRC announced the termination of the August, 1999 contract. The instant Staff Paper duly takes note of the termination of SAIC's contract, but conspicuously fails to address the Commission's failure to take action that is essential to a cure of the taint on this proceeding.¹⁵

The taint on this proceeding will remain until there is full public disclosure and discussion of why and how such a blatant breach of this Commission's integrity could have gone undetected by this Commission for years. (Indeed, if the matter had not been brought to the Commission's attention by the public, it still would be undetected). Thus:

- (1) the public must be apprized of the full range of conflicting interests possessed by SAIC;

the policies established by the OMB Circulars and decisions of this Office do not focus solely on the outcome of the a decisionmaking process or on the ultimate decisionmaker. Rather, our decisions and the policy established by OMB Circulars, are based on the degree of discretion and value judgment exercised in the process of making a decision for the government.

¹⁴ The statement of work begins by explaining that, notwithstanding the \$2.5 million dollars previously provided to SAIC (an amount double that initially deemed needed) to provide the "technical basis" for the rulemaking, SAIC failed to complete its job, and, therefore, more money was needed. The contract explained:

The technical basis for conducting a rulemaking on clearance is incomplete, and this statement of work is designed to provide technical assistance for the remaining technical information on collective doses and some related costs as required by the Commission for their consideration of regulatory alternatives in the matter of clearance.

¹⁵ Indeed, the repeated characterization of the episode employed in the Staff Paper (*e.g.*, Attachment 3, at 2) might leave the reader with the impression that the Commission itself still does not recognize that the conflict identified by the public exists, but terminated SAIC for appearances sake.

- (2) the public must be apprized of the time and manner in which the Commission was informed of these interests;
- (3) the public must be apprized of the reasons for the failure of the Commission to protect the public (and the millions of dollars spent on SAIC) against conflict of interest;
- (4) the public must be provided with the NUREG 1640 workpapers, drafts and related memos, needed to begin to understand the measure of damage done by reliance on a tainted contractor; and
- (5) the public must be provided with adequate disclosure regarding the further interests possessed by those now employed as NRC contractors in this proceeding (at least, as PACE understands it, ICF Kaiser and ORISE).

B. The Commission Must Come Clean On Its Prejudgment Here

In the November, 1999 public sessions, many public commenters noted that the Commission's own statements in this proceeding show that it had prejudged the outcome. The Commission staff vigorously protested this conclusion, and professed to openmindedness. (*See*, November 1-2, 1999 transcripts.) No sooner was the proceeding adjourned, then PACE learned that, evidently unknown to the staff who provided assurances of openmindedness, the Commission's prejudgment of this proceeding was locked into the very contract which -- at that time -- was the basis for the technical analysis here.

SAIC contract NRC-04--99-046, effective August 4, 1999 is entitled, "Technical Assistance Support for Clearance of Materials and Equipment."

The statement of work declared that the predicate for SAIC's continuing work is the NRC's June 30, 1998 Staff Requirements Memorandum. The statement of work explains (at 1):

The Commission in an Staff requirements Memorandum (SRM) dated June 30, 1998 directed the NRC staff to proceed with rulemaking on clearance of materials and equipment having residual radioactivity. Specific directions regarding the content of a clearance rule contained in SRM are that: (1) it will not be a detectability standard but will instead be a dose-based regulation...(2) it will base standards on realistic scenarios of health effects from low doses; and (3) it will be a comprehensive rule applicable to all metals, equipment, and materials, including soil, unless a narrower scope is justified based on problems with applying the rule to certain categories of materials that could delay completing the rulemaking.

At the November 1 public meeting, PACE and many other stakeholders pointed out that a proceeding based on the June 30, 1998 memorandum constitutes the impermissible prejudgment of the outcome. The NRC staff, and facilitators, provided assurances that the Memorandum no longer governed, and that the NRC was open-minded. The terms of the August, 1999 SAIC statement of work belie these November 1 proclamations. The current "SECY" document (See Attachment 2, at 21) still fails to indicate awareness that the Commission's prejudgment was embodied in the August, 1999 contract. The Commission must explain why its inability to act with an open mind in this proceeding is not conclusively demonstrated by its own insertion of the prejudgment in the August, 1999 contract.

IV. THE SECY DOCUMENT FAILS TO NOTE THAT THE "REALISTIC SCENARIOS" EMPLOYED BY NUREG-1640 ADMITTEDLY DID NOT CONSIDER THE PRIMARY SOURCE OF METALLIC RADIOACTIVE WASTE -- THE U.S. DEPARTMENT OF ENERGY

Throughout the November and December, 1999 public participation proceedings, PACE (and other public representatives) pointed out the obvious -- no rule regarding the release of radioactive waste can be meaningful without full consideration of the waste generated by the DOE nuclear weapons complex.

In its December, 1999 comments, PACE stated that: "[i]t is now evident beyond peradventure that facts relating to DOE have not been considered at all (at least in any legitimate manner) in the NUREG drafting process."¹⁶ The Staff Paper (*See*, Attachment 3: "Status of Technical Basis Development") does not refer to, much less address, this point. PACE respectfully reiterates, in truncated form, that stated by PACE to the Commission its December 22, 1999 Comments:

First, NUREG-1640 acknowledges the essential importance of considering real world conditions and admittedly does not consider the Department of Energy's radioactive waste handling and contracting. NUREG-1640 states, at xvii (emphasis in original):

The purpose of this report is to calculate realistic estimates of the dose factors for the average member of the critical group associated with the clearance of equipment and of scrap iron and

¹⁶ As a corollary, the NRC staff fails to note that there was, and is, no public and (or independent) analysis of the effects of the technology proposed for recycling of the DOE's volumetrically contaminated nickel on workers.

steel, copper, aluminum and concrete on a radionuclide-by-radionuclide basis.

- * “Realistic” estimates are estimate using scenarios and models whose parameters are based on general practices of the U.S. nuclear power industry.

Thus, as just quoted, the NUREG document does not even purport to address the “general practices” of the DOE (and DOE contractors). As was explained by knowledgeable participants at the November hearings, DOE has upwards of one million tons of contaminated metals. Moreover, as was declared by a DOE representative at the December hearing, DOE fully intends to release them into commerce.

The historic and continuing poor track record of the DOE and DOE contractors in managing contractors and dealing with environmental matters requires thorough scrutiny. (*See PACE November and December written and oral comments*).

In sum, even if the unlawful taint and violation of the inherently governmental principle could be put aside, the NUREG-1640 document does not begin to address the “realistic scenarios” that are at issue here.

V. THIS COMMISSION’S PROCLAMATIONS OF IGNORANCE OF, AND LACK OF RESPONSIBILITY FOR, THE DEPARTMENT OF ENERGY’S WASTE IS INCREASINGLY UNBECOMING

The public proceedings confirmed that the lion’s share of the metallic waste at issue is that created by the Department of Energy (and its contractors). Moreover, the proceedings confirmed that DOE and its contractors are the prime -- perhaps the sole -- active promoters of the unrestricted release of metals.

Throughout the public participation proceedings, NRC staff and officials expressed an inability to respond to queries regarding the Department of Energy’s radioactive waste, and suggested that the matter is not within their purview.¹⁷ This position is untenable, and particularly unbecoming where DOE and its contractors have now made plain that they intend to avail themselves of this Commission’s imprimatur to launder their contaminated materials for

¹⁷ As one Commission staff member put it, “Fortunately, of course, I am not in a position to directly address the DOE issues.” *See*, colloquy at Tr. 149-151 of November meeting transcript.

public distribution.

Thus, the public record here shows:

- < DOE is the primary source of radioactively contaminated metals, with an estimated volume in excess of 1,000,000 tons;
- < DOE's project to recycle 100,000 tons of radioactive metals from the Oak Ridge K-25 facilities is far and away the most ambitious recycling project undertaken. NRC staff repeatedly declared that they were not capable of discussing the salient details of this project even though the DOE and its contractors (BNFL and its team) contrived to avoid "Federal" regulation by laundering the volumetrically contaminated nickel through this Commission's delegatee -- Tennessee;
- < DOE's contractors (BNFL, *et al.*) calculated that they could avoid both Federal standard setting and public review by invoking the cozy closed door confines of this Commission's delegatee -- Tennessee;
- < DOE managed to further taint this Commission's proceedings by failing to assure that this Commission was aware of the obvious conflict of interest in employing SAIC, BNFL's teaming partner; and
- < Secretary Richardson, through his January 12, 2000 announcement, has now made plain that the DOE's pursuit of recycling will follow this Commission's action in this proceeding.

In sum, the failure of the SECY memo and the NAS referral to focus on DOE and its contractors is neither tolerable nor credible.¹⁸

VI. THE COMMISSION'S DEPLOYMENT OF THE NAS PUNCTUATES THE COMMISSION'S DETERMINATION TO AVOID THE ISSUES RAISED BY THE PUBLIC HERE

In its 1995 report to President Clinton, the Advisory Committee on Human Radiation

¹⁸ In a similar vein, as a representative of workers who must work in and around products that may include recycled scrap metals, PACE (as well as the metals industry at large) has pointed out that the Commission cannot ignore the impact of any recycling on the economics, as well as the health, of the metals industry. The Staff Paper, and the NAS referral, indicate a continued determination to dump unlabeled radioactive waste -- with no provision for recall -- into the marketplace without consideration of the economic, as well as health and safety, impact on industrial users of the metals, and their workers. These potential effects must be considered.

Experiments found that -- at its birth -- this Commission's predecessor (the AEC) followed a policy of covering up health, safety, and environmental information that could embarrass, or be a source of liability to, this Commission's predecessor or its contractors.¹⁹ The Advisory Committee did not find that this covert policy was ever countermanded. Recent disclosures show that it continued for decades, and may still continue to this day.

The Advisory Committee found that AEC insiders were well aware of the AEC's credibility problem and of the valued role of the NAS as a cover for the AEC -- but a cover no less credible than this Commission's predecessor itself. The Committee reported: (*Id.*, at 406)(emphasis added; fn.omitted)

AEC insiders recognized that credibility was a problem. In a December, 1954 letter to DBM's [AEC Division of Biology and Medicine] director, Charles Dunham, Los Alamos Health Division Leader Thomas Shipman...lamented the lack of credibility possessed by those too closely associated with the AEC:

There is also the fact that Los Alamos may be regarded as a rather biased institution. Some people may feel that we are rather interested parties. *I am certainly only too well aware of a resistance, particularly in the Press, to accept pronouncements and conclusions coming out of the AEC. Strangely enough, they were quite willing to accept the conclusions of the National Academy of Sciences, completely forgetting that the subcommittees were in very large measure composed of AEC or AEC contractor representatives. They were the same guys wearing different hats.*

The Commission's Staff Paper and the Commission's embrace of NAS provide no reason to believe that the NAS' relationship to this Commission and its proposed role in this proceeding is any different from that well understood by insiders -- if lost on the press and public at large -- in days that the public might have hoped were now past.

To the contrary, the materials provided by this Commission regarding the funneling of taxpayer dollars to the NAS show -- by omission -- that the NAS will not be called on to address the basic questions that need to be addressed here -- questions of institutional competence, integrity, and lawfulness.

¹⁹ See, footnote 3 , *supra*.

Moreover, even if the NAS had been empaneled to address the matters at issue, there is nothing in the Commission's materials that calls on the NAS to vary its historic secretive deliberative processes. The NAS can hardly be credited on issues of institutional competence and trust which implicate the past, and perhaps continuing, excesses of secrecy engaged in by NAS panel members who simultaneously depended on the nuclear weapons complex and/or nuclear utilities for income and, indeed and perhaps -- though the story remains to be made public -- the NAS itself.

In short, if this Commission feels compelled to call on another source to address the questions here, it must:

- (1) find a source that has the independence sufficient to merit trust in its judgment on the issues of institutional integrity, competence, and lawfulness at issue here;²⁰
- (2) make plain that issues of institutional competence must be fully inquired into and addressed as a predicate to any technical analysis of the level of safety of the release of radioactively contaminated materials;
- (3) provide the entity performing the study with the means (including rights of access to data possessed by this Commission, its state delegates and licensees, and comparable access to DOE and its contractors) needed to assure the integrity of the analysis; and
- (4) require that the panel's deliberations, drafts, and further procedures be conducted

²⁰ In addition, PACE notes that the Commission's request that the NAS look at international standards has all the hallmark of an effort to justify a standard here by reference to lower standards set by others that would not withstand scrutiny if the Commission sought to adopt them in their own right here. As cast, the Commission appears to suggest that it is this country's policy to uncritically rubberstamp health, safety and environmental standards approved by other countries. Therefore, any suggestion that the NAS (or other panel) consider international standards would be markedly deficient without parallel requirement that:

- (1) no international standard(s) be considered absent thorough and public review of the adequacy of the means by which they were developed and the means proposed to effectuate them, including such factfinding as may be required; and
- (2) no international standard(s) be considered absent thorough and public review of the historic ability of those subject to the standards -- either as regulatees or regulators -- to be entrusted with their implementation, including such factfinding as required.

in the open, and that the panel be responsive to public comments and requests for information essential to public participation.

For information regarding the above comments please contact Dan Guttman at 202-638-6050 or Richard Miller at 202-293-7939.