Association of State and Territorial
ASTSWMO
Solid Waste Management Officials

444 North Capitol Street, N.W., Suite 315
Washington, D.C. 20001
tel: (202) 624-5828 fax: (202) 624-7875

64 FR 14952
3/29/99
19

November 23, 1999

Secretary
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555
ATTN: Rulemaking and Adjudications Staff

Mr. Secretary:

These comments regarding NRC's Clearance Rule Issues Paper were developed by members of the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) Radiation Focus Group. The proposed rule was published in the June 30, 1999 Federal Register on pages 35090 through 35100. This Focus Group's comments have not been reviewed or adopted by ASTSWMO's Board of Directors, and therefore, this submittal reflect the views of the Radiation Focus Group. The word "States" throughout this documents refers to the members of the ASTSWMO Radiation Focus Group. In addition, individual State programs may submit comments directly to you conveying their own perspectives.

These comments are provided in a format responding to the sequence of questions posed in the NRC issues paper on controlled releases of solid materials at licensed facilities. Consequently, the order of presentation and overlapping of these responses may obscure two central messages we wish to convey to the NRC. We ask that in your consideration and use of any of our detailed comments, they be understood in the overarching context of the following central premises upon which our comments are fundamentally based.

1) While we are generally open to the development of regulations, and updating and expanding existing guidance to clarify this subject, the Commission must understand that
2) these are acceptable outcomes to us only if the agencies and departments of the Federal government act in unison and agree on all the provisions of these regulations and guidances. We cannot support independent, inconsistent Federal directions. State implementers will be among those caught between any conflicting directions, and our experience over the last few years with the disparity of such seemingly basic standards as allowable radiation exposure levels provides us with the empirical basis of demanding fully coordinated Federal regulations and guidance. Our agreement with development of national standards is conditional to such Federal consensus.

Template = ADM-013

E-RIDS = ADM-03
Add = R. Meck (RAM2)

While we think the Federal government would assist national consistency by establishing safe levels and conditions of release of these materials, we want it clearly understood that our agreement is based on the presumption that it is always possible for other levels of government to make independent judgement and decisions regarding more stringent standards to meet their individual needs and conditions. Nothing in these regulations should be preemptive of this basic government right, nor should any guidance be framed in such a way as to effectively preempt the ability to implement more stringent standards. Again, our agreement with development of national standards is conditional on the accuracy of this presumed future condition that other levels of government can establish more stringent levels.

The ASTSWMO Radiation Focus Group appreciates the opportunity to comment on this issues paper, and NRC's efforts to provide such opportunities throughout this process, so that a consensus on the final rule or guidance can be reached. If you have any questions, please contact the ASTSWMO office at (202) 624-5973 or myself by phone at (303) 692-3387.

Sincerely,

Jeff Deckler, CO/bee

Jeff Deckler, CO
Chair, ASTSWMO Radiation Focus Group

cc: ASTSWMO Radiation Focus Group
ASTSWMO Solid Waste Subcommittee
ASTSWMO Hazardous Waste Subcommittee
Sean Flynn, U.S. EPA FFRRO
Tom Peake, U.S. EPA ORIA

ASTSWMO RADIATION FOCUS GROUP COMMENTS
NRC PAPER ON RELEASE OF SOLID MATERIAL AT LICENSED FACILITIES

1. Page 21, Issue No. 1 B Should the NRC Address Inconsistency in its Release Standards by Considering Rulemaking on Release of Solid Wastes?

The following comments, designated 1x apply to sections in the issues paper pertaining to Issue No. 1.

NRC should consider a rulemaking on release of solid wastes. We recommend that NRC pursue Alternative 2, that is, proceed with rulemaking to supplement its gaseous and liquid release standards in Part 20 by developing dose-based regulations limiting releases of solid material to provide a consistent regulatory framework protective of public health and safety. This is the preferred alternative because: (1) it could provide a consistent regulatory approach nationwide to clearance of solid materials (depending on the compatibility requirements for Agreement States); (2) regulations could save time and resources now spent on case-by-case determinations; and (3) the rulemaking process would provide for public participation and compliance with NEPA.

1a) Page 23 (1) Does the current case-by-case system work? Should Regulatory Guide 1.86 be updated with dose-based values?

The current system of case-by-case decisions does work; however, it does not provide for consistent decision making or assessment of cumulative impacts. It has led to some degree of ambiguity and confusion, and it is time consuming.

If a rule is not issued, Regulatory Guide 1.86 should be reviewed to assess whether the surface contamination criteria in it adequately protect public health and safety and the environment. Those criteria that cannot be justified on a health and safety basis should be revised. In addition, dose-based concentration criteria for solid materials should be added because the surface criteria in Regulatory Guide 1.86 may not be protective, depending on the geometry of items. For example, ten sheets of sheet metal could just meet 1.86 limits and so could one metal sphere of the same mass. If both were melted down into respective ingots, one ingot would contain significantly higher concentrations of radioactive material than the other because of the surface-area-to-mass ratios peculiar to the original geometries. A dose-based limit would eliminate this inconsistency when evaluating different geometries and even different radionuclides.

NRC is considering defining a level for volumetric solids at which no restriction, based on radioactivity, is required. A calculation or determination based on risk/dose is suggested as the basis of deciding about release for unrestricted use, but the federal agencies

(NRC, EPA, DOE, DOD) do not agree on what dose to reach or risk to accept. Therefore, before a solids release criterion is set, NRC and EPA must harmonize both the method of calculation and risk/dose standard to be attained before establishing a derived release criterion.

Thus, a third option between the use of old Regulatory Guidance 1.86 and a new rulemaking, is for the federal agencies to produce a multi-agency guide based on risk/dose considerations, which provides acceptable methods for decision-makers to make case-by-case determinations. This may be preferable to a rule that would be too lax for some and too strict for others. Further, such guidance might be necessary to implement any rule.

1b) Page 23 (2) Should NRC develop dose based regulations on release of solid material?

The NRC should develop regulations that define volumetric criteria for the unrestricted release of solid materials. The rule or the supportive regulations (or both) would have to be specific in addressing the types of materials covered and their management. NRC should allocate up front resources for refinement of computer pathway models such as the DOE ResRads Recycle and provide them for industry and regulator use.

One important factor to consider in developing the rule is that many States have specific exclusion of all radioactive waste other than some naturally occurring material or household products. As mentioned in the ALLRW-funded Current Policies of International Agencies, the impact of the NRC allowing volumetric contamination in small amounts could cause problems at the facility and with State regulators if the material were taken to a disposal facility. Similarly, if such material were taken to a demolition disposal site, controls/monitoring are not in place to provide assurance that the contamination would not leach from the material.

Therefore, the release concentration that is defined should be sufficiently low to prevent such problems. NRC has already approved exemptions and general licenses for a number of consumer products which contain radioactivity in their solid volume. NRC should include an evaluation of the levels permitted in these cases in its analyses of restricted and unrestricted release.

1c) Page 24 (3) To what extent would such a rule contribute to maintaining public safety, enhancing the effectiveness and efficiency of the NRC, building public confidence, and reducing unnecessary regulatory burden?

Any rule that is established should contain all of the mentioned aspects. Public safety should be the paramount goal. Appropriate clearance levels set by rulemaking would contribute to maintaining public safety because the rulemaking would require an assessment of the cumulative impacts of all materials likely to be released under the rule.

Such a comprehensive assessment of public dose does not occur with case-by-case approvals. NRC should address the two-step or multi-step situation in which a broker/treater/processor sorts and conditions material prior to final release or disposition. The rulemaking is likely to increase the efficiency and effectiveness of the NRC and Agreement States, by eliminating the need for case-by-case analyses and reviews. To enhance public confidence, the lowest release criteria that have consensus with several expert groups and agencies could be used. A rulemaking could also contribute to public confidence by providing the comprehensive assessment of the cumulative effects of releasing this material and by establishing nationwide, uniform standard for release of solid materials. A rule would reduce the burden on regulated parties, who would no longer have to prepare individual requests for approvals.

1d) Page 24 (4)Would issuance of a NRC rule on release of solid material definitively resolve licensee questions regarding finality of NRC release decisions if EPA, which has authority to set generally applicable environmental standards in this area, promulgates a rule at a later date?

A rule would not necessarily resolve that question. Coordination between federal agencies is essential to alleviate the potential problem. Clearance criteria for materials and properties should be coordinated and unified between the EPA, NRC, DOD, and DOE. If not, the potential exists for EPA to come back to a closed NRC site, for example, and reopen it. As commercial power plants live out productive lives and are decommissioned, this may become a real problem. Finally, the risk of a new rule at a later date is always present in any rulemaking. It should not delay the adoption of a rule needed to protect public health and safety.

1e) Page 24 (5) Substantial NRC resources would be needed to conduct the complex safety, environmental, and regulatory analyses required to support a rulemaking.

Without a regulation, the NRC will have to review the anticipated increase in requests for release of solid materials on a case-by-case basis which could mean less efficient and less consistent reviews. Would potential savings in resources by having a regulation in place offset the resources spent on rulemaking? It is difficult with the information presented to evaluate the relative costs of these options to the NRC. Unless NRC performs a significant number of case-by-case analyses, a rulemaking may not be less expensive. However, in the long run, a new rule could be beneficial. NRC would be busy at first in development of the regulatory framework, of course.

One approach to save NRC resources is to address in the rule only the most common candidates for release. The NRC could then entertain petitions for rulemaking to add other materials and require that parties requesting the rulemaking submit the detailed dose assessments needed to support the proposed criterion. This may save the NRC both time

and resources, and allow more materials to be added to regulation in a shorter time period. A way to potentially minimize NRC resources would be to utilize the American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) as clearinghouses, peer review, and data bases for industrial standards. NRC could give priority to petitions coming through these or comparable organizations.

Page 24, Issue No. 2 If NRC decides to develop a proposed rule, what are the principal alternatives for rulemaking that should be considered, and what factors should be used in making decisions between alternatives?

The following comments, designated as 2x, apply to sections in the issues paper pertaining to Issue No. 2.

We recommend that the rule permit routine release of materials only for unrestricted use and only if the potential dose to the public from the material is less than a specified level as determined during the rulemaking process. The dose assessments and cumulative impacts assessments may be more complex than those required to support release for restricted use; however, clearance criteria based on unrestricted use would be universal and more efficient. Furthermore, clearance for unrestricted use is the more conservative approach, and does not rely on any future controls or regulation. In addition, tracking issues related to restricted use would be overly burdensome, and susceptible to failure. While release limits will need to be lower for unrestricted use as opposed to restricted use, the rule will be more useful and simple to apply if the assumption is that the material could be put to any use.

Further, the rule would be more efficient if it contained concentrations (similar to the tables in Part 20) derived from that dose limit, rather than requiring a dose assessment each time material is to be released. The rule should also recognize that there might be some restricted uses that could be authorized at a higher limit on a case by case basis if properly justified. The dose limit established should be consistent with the international community, should avoid conflict with EPA, and must have minimal impact on industries that are sensitive to radiation, and must be acceptable to the public.

Therefore, we would prefer to see a dose limit of 0.01 mSv/yr (1 mrem/yr) recommended as the basis for adopting a table of unrestricted release concentrations for solids. This table should be similar to the criteria in 10 CFR 20 for liquids and gasses. In addition, consideration must be given to establishing volume limits as well as a dose limit. Rulemaking should also allow a case-by-case determination for release at concentrations higher than those in the table, for small volumes of material with a restricted use by a licensee. Such determinations should be based on a dose not to exceed 0.1 mSv/yr (10 mrem/yr).

2b) Page 30 (A)(2) Balancing of impacts in decision-making.

Health impacts should be emphasized more than economic impacts.

2c) Page 30 (A)(2)(i) What exposure pathways should be considered?

NRC should consider starting with the pathways used in ResRads-Recycle 3.00 which are in the broad categories of consumer products, scrap inventory, scrap delivery, ingot delivery, product distribution, public products, reuse products, scrap melting, fabrication, and controlled products. This computer code needs refinement but is currently adequate to illustrate pitfalls and problem areas in a volumetric clearance approach. For example, in trial runs with default pathway settings for volumetrically contaminated metal, the dose to non-occupationally exposed slag workers is the limiting factor, and not doses to the public from consumer products.

The pathway of concern will be both process and isotope specific. For example, in metals recycling cobalt will go into the steel, and cesium will end up in the baghouse dust. This fact requires two separate pathway analyses.

2d) Page 30 (A)(2)(ii) What environmental impacts should be considered?

Protection of public health, waste minimization, and conservation of natural resources should be emphasized. Solvents or other materials used in decontamination efforts should be properly managed. Wash water, if a water blast/canon is used, should not adversely impact the Public Owned Treatment Works (POTW). Air monitoring and particle disbursement should be monitored.

2e) Page 30 (A)(2)(iii) How should environmental impacts be balanced?

Protection of human health and the environment must be the top priority. Waste minimization and conservation of natural resources are also beneficial to health and the environment and as such must be considered. Economic concerns should be of a lower priority but cannot be ignored. Impacts should be identified pursuant to the National Environmental Policy Act (NEPA). A formal scoping process should be initiated if the NRC decides to undertake the rulemaking. It is premature to seek public comment on these issues now (2 i-iii).

2f) Page 31 (A)(3) What are the potential exposures, and how should these be consider in setting an acceptable dose level?

This question is difficult to answer since it will depend on the scope of the rulemaking, i.e., the range of materials to be released and the release concentrations to be set.

However if the 0.01 mSv/yr (1 mrem/yr) limit is used, it will be sufficiently conservative to protect public health even if all potential exposures are not known.

2g) Page 31 (A)(4) What societal impacts should be considered?

The public will have legitimate concerns. Common concerns expressed independently from many citizens should influence decisions. All concerns should be addressed. Clearly this question points to the need for public education of risk. The public could very well protest or reject products that contain government "mandated" unrestricted use material. There may also be a negative impact on the recycling economy if the public rejects items that may have some residual radioactive material

2h) Page 31 (A)(5) How should industry concerns be considered?

Specialty businesses should be considered in the context of causing failures of recycling economies for respective materials. Pre-Fermian materials are already at a premium for certain applications. This ruling would not compound problems that already exist. Indeed, a volumetric ruling could improve the quality of recycled materials. Also, if a market should appear for virgin materials free of volumetric contamination, it is likely that suppliers will take advantage of this market niche by the sale of these materials.

2i) Page 31 (B)(1)(i) How should economic factors be incorporated into rulemaking?

As noted, Executive Order 12291 requires all federal agencies to consider cost-benefit for rule making. EPA in general uses a 1x10-6 excess risk to cancer as its point of departure to determine cleanups as unrestricted use. NRC should take a similar approach. Recognition of monitoring costs should be looked at as a cost of doing business. The ALARA (As Low as Reasonably Achievable) process is a very subjective assessment and leaves much of the economic considerations to the regulated party. This approach is not always a protective mechanism but rather can be used to justify a lesser cleanup. Businesses can always (and already do) make economic decisions regarding whether to clear materials for recycle or dispose of them as Low Level Waste (LLW).

2j) Page 32 (B)(1)(ii) How should economic impacts be balanced against environmental impacts?

Environmental impacts should take a much higher priority.

2k) Page 31 (B)(3) Should unrestricted waste go to a landfill, and what are the associated costs?

This is not a question of should, but of when. If it is unrestricted some will certainly go to landfills. The major economic costs associated with landfill disposal are the cost of monitoring (monitor purchase and calibration, worker training), managing solid waste that sets off radiation alarms, and the cost of monitoring and managing landfill leachate that may contain radionuclides. The clearance levels should be designed to minimize these costs.

2l) Page 31 (B)(4) What are the economic risks and how can they be minimized?

The metal industry already monitors to protect itself from large-scale contamination from the melting of sources. Metal or other materials cleared at low dose rates would have minimal detrimental effects on operations. The risk that released materials would be rejected at recycling facilities is a minor economic risk. Products that contain residual radionuclides may be more of an economic risk. Obtaining public acceptance is the best way to reduce the economic risk.

2m) Page 31 (B)(5) What is the potential for buildup of radioactivity in commerce over time?

Build-up of short half-life radionuclides will not occur. Uranium and transuranic radionuclides, for example, would have a higher potential. Mixing a small amount of high activity material with a large volume of clean material to achieve a concentration limit should be discouraged. This consideration makes the case to allow for more weight to be given to environmental consideration and public concern when establishing release criteria. These issues need to be analyzed in detail, as part of an environmental impact statement.

2n) Page 33 (C)(1) What are the survey capabilities at the dose levels being considered?

The difficulties of surveying to a volumetric standard are no worse than those for a surface contamination standard such as Regulatory Guide 1.86. The main difference is that Regulatory Guide 1.86 is usually applied without regard to surface porosity when calibrating instruments and formulating correction factors. Usually, efficiencies used for fieldwork are the ones formulated from calibration against, typically, a polished stainless steel source. Efficiencies on surfaces such as rusty steel and concrete are much less than for the source. Indeed, much surface contamination is actually volumetric to a degree, being absorbed to some distance into the material matrix.

Yet, this is typically ignored by industry and regulators in the free release of materials by Regulatory Guide 1.86 and by DOE under Order 5400.5. Refinement of free release

standards, volumetric or otherwise should include typical multiplication factors for specific materials such as concrete or rusty steel for commonly available nuclear instruments. These multiplication factors should be used in addition to common calibration factors derived from traceable sources to derive empirical efficiencies.

For volumetrically contaminated materials, these additional factors or more complex algorithms, if necessary, should be derived from statistical correlations between instrument readings and specific activity. Large area (greater than 100cm2) detectors may be necessary. Newer digital instruments could have algorithms programmed in during the calibration process, and could even be switchable for different materials and surface qualities.

This is one case where the nuclear instrumentation industry is sophisticated enough to adapt to a new market. Indeed, there has been no regulatory driver to cause improvements in basic handheld radiation equipment. It is about the same, configuration wise, as 25 years ago when Regulatory Guide 1.86 came out. Gamma spectroscopy equipment is readily available which is suitable for non-destructive or in-situ analysis of volumetrically contaminated materials and wastes.

2o) Page 33 (C)(2) What surveying method should be used?

A tiered approach such as that used in the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) should be used. Experience with material associated with DOE facilities has shown that knowledge of facility history and/or process knowledge is not reliable enough to be used as the sole determination of contamination. Confirmatory surveys are still required. As an alternative to full sampling, a percentage of the volume should be sampled to insure that the history and process knowledge is accurate.

2p) Page 33 (C)(3) How should the release criteria be expressed in the rule?

The incorporation of release criteria in a table as concentration values in different media, based on specified dose objectives, is suggested.

2q) Page 34 (D)(1)(a) How should international and other guidance be considered?

Consistency is an important aspect of any rulemaking. It is believed that all the standards mentioned in the issues paper should be considered in NRC's analysis. Consistency with the international community is important, but the consistency issue must be more focused within the United States and among the federal agencies (especially EPA). States should also have a major role since they have the best knowledge of environmental concerns in

their respective area as well as a sense of the public's view about release of radioactive material.

2r) Page 34 (D)(1)(b) How should other federal guidelines be considered?

The need for consistency among federal agencies is stressed. It would be prudent for all federal agencies and States to adapt to EPA's risk ranges since EPA seems to have final authority for closure on most sites, and that use of EPA's 1x10-6 excess risk of contracting cancer should be the benchmark for unrestricted release. A limit of 0.01 mSv/yr (1.0 mrem/yr) will surely satisfy EPA. It should be noted both on page 16 and here that, in addition to those States that use Regulatory Guide 1.86, several States have developed their own guidance. NRC should also consider State guidance in developing this rule.

2s) Page 34 (D)(1)(c) How should NCRP guidance be considered?

The National Council on Radiation Protection and Measurements (NCRP) criteria are less conservative than EPA standards and thus would not be acceptable for clearance or clean closures. NCRP, however, has developed considerable technical material that could contribute to the technical basis for a new rule.

2t) Page 34 (D)(1)(d) How should industry standards be considered?

U.S. industry groups set specifications for things like machine parts and nuclear fuel and have a good technical basis and universal acceptance. If these groups, such as the American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM), develop criteria and a technical basis with a fair peer review, they should be considered.

2u) Page 35 (D)(1)(e) Should NRC simply adopt one of these other standards rather than perform their own analysis?

Assuming proper peer review and public acceptance, criteria from other groups could be accepted as NRC standards. This would minimize the costs of rulemaking.

2v) Page 35 (D)(1)(f) What are the impacts of having NRC standards that differ from other standards?

The impact is confusion on the part of the regulated community and greater resources and expense to deal with multiple regulation. Federal and international standards should be unified, if possible. This means that the parties may have to accept a very conservative standard.

2w) Page 35 (D)(1)(g) Agreement States compatibility.

The clearance levels set in this rule should have the same compatibility category as the concentrations presented in 10 CFR 20, Appendix B. That is, States should adopt the same levels.

2x) Page 35 (D)(2) Should existing NRC standards, including 25 mrem/yr for release of decommissioned lands, be considered?

The existing 25 mrem/yr standards should not be used. The existing standards and limits were set for different purposes, and should not be considered as possible dose guides in this rulemaking. Using this standard will only generate contention with EPA and bog down the whole rulemaking process. The International Atomic Energy Agency (IAEA) limit of 1 mrem would be better and would facilitate international trade. It is suggested that nothing greater than 15 mrem/yr be used. It would be better to use something lower than 15 mrem/yr as previously discussed. The 25mrem/yr also does not meet EPA's calculated 10-6 risk level.

Page 36, Issue No. 3 - If NRC decides to develop a proposed rule containing criteria for release of solid materials, could some form of restrictions on future use of solid materials be considered as an alternative?

The following comments, designated 3x, apply to sections in the issues paper pertaining to Issue No. 3. As mentioned previously, the rule should set release limits for unrestricted use only. The rule could allow for a case-by-case analysis for restricted use scenarios.

3a) Page 36 (1) Use restrictions.

Clearance for restricted use is not recommended, due to the difficulty in tracking this material over time to insure compliance with the restrictions.

If restricted use is allowed, the material must be licensed to ensure control. Financial assurance requirements might also be necessary, although the magnitude of a potential contamination error would be hard to calculate. However, licensing and/or financial assurance might be enough of a barrier to make restricted use a seldom-used option.

3b) Page 37 (2) Restriction of all released materials to solid waste disposal.

Municipal landfills already are having radiation put into them whether it is recognized or not. Formalization of a Waste Acceptance and Risk Analysis method would be beneficial. This option should be in addition to and not in place of unrestricted use guidance. Two standards should be set: unrestricted use, and release for disposal.

3c) Page 37 (2) What types of restricted use should be considered?

A restricted use that could be considered is in construction materials for the nuclear industry. Examples would be shielding blocks for a reactor or an accelerator, or containers for radioactive waste storage/disposal. In these cases, appropriate controls could be taken by the nuclear industry (along with regulatory oversight). In most cases, these materials would become contaminated in normal use, and it is therefore logical to start with contaminated material rather than uncontaminated material, from a resource conservation perspective.

3d) Page 38 (3)What types of controls should restrict future release of restricted materials?

One type of control for restricted use materials could be an NRC or Agreement State license. However, the administrative, inspection, and other license requirements might make this mechanism cumbersome. An alternative would be some type of variance or exemption granted by NRC and States via a letter format. In addition, controls should be consistent with accepted practices of "storage for decay."

3e) Page 38 (4) How long should use be restricted?

The use should be restricted and under the authority of a license until the radioactivity has decayed. This could be determined by a sufficient amount of time such as ten half-lives or calculated by decay constant to a certain clearance activity.

3f) Page 38 (5) Is there a need for continued NRC or State involvement in regulation and tracking of restricted use material?

Restricted use, even if by the government, should be through an appropriate license issued by NRC or an Agreement State, or a variance granted by these entities.

3g) Page 39 (6) What public involvement should there be in restricted use decisions?

As previously noted, public perception of these issues is a potentially serious concern, both in terms of perceived risk, and the possible economic impacts of that perception. Therefore, all efforts should be made to adequately educate the public, whether the rule deals with restricted or unrestricted use. If restricted releases follow our recommendation of a case-by-case analysis, public involvement could vary with the "size" of the project. On large public projects, a NEPA, or equivalent public involvement process should be used. On smaller private operations, public involvement should be consistent with permit requirements.

3h) Page 39 (7) How should future use be considered in restricted use decisions?

Scenarios for dose assessment, should include the eventual loss of control over these materials.

3i) Page 39 (8) What should the dose limit be for restricted use?

This may be irrelevant, because (metal) foundry and remelting slag workers could be the limiting factor during the first processing of the material. Subsequent processing and pathways including consumer products probably will not produce a significant dose. This can be illustrated using ResRads Recycle. Other materials probably act the same way. The dose standard should remain the same as for unrestricted use, with material use dictating active pathways in the dose assessment.

3j) Page 40 (9) What specific problems are associated with restricting materials to landfill disposal?

The degree to which States have the capacity to handle or dispose of radioactive wastes varies widely and makes it difficult to categorize the problems that might result from restricting these materials to landfill disposal as the only option. From a technical viewpoint, disposal of solid materials that have been released for unrestricted use should be acceptable at municipal solid waste landfills meeting 40 CFR 258 criteria, although some States and localities have prohibitions against such disposal. However, if the materials proposed for landfilling have passed the release standard that is adopted by NRC following the public participatory process being undertaken, there should be no reason for objection by any party. Certainly, if a material passing the same standard is acceptable for handling in a recycling process, it should be even safer isolated in a municipal solid waste landfill meeting 40 CFR 258 criteria.

Care should be taken in proposing blanket approval for disposal in industrial solid waste facilities as is being considered in Alternative (2), since not all industrial solid waste facilities meet 40 CFR 258 standards. Even those qualifying to accept conditionally exempt small quantity generator waste (hazardous) under 40 CFR 257 Subpart B for non-municipal, non-hazardous waste landfills (for industrial non-hazardous waste and construction-demolition waste) do not have to meet any minimum standards for design or groundwater protection as in 40 CFR 258, although they have stringent groundwater monitoring and corrective action requirements. EPA is proposing guidelines for industrial non-hazardous waste management, but they will not be mandatory.

Further, the term "sanitary waste landfill" should be excluded from consideration because it would have the connotation of being a landfill for sanitary waste, which term is often used synonymously with domestic sewage. Also, the term "sanitary landfill" should not be substituted because although it was once considered as the state-of-the-art landfill, it does not necessarily meet the 40 CFR 258 standards.

Page 40 Issue No. 4. If NRC decides to develop a proposed rule, what materials should be covered?

The following comments, designated 4x, apply to sections in the issues paper pertaining to Issue No. 4.

4a) Page 42 (1) Should the rule cover all materials?

The rule should begin by focusing on specific high priority materials, with the ability to expand the list of materials covered in the future. Materials that have an established method of analysis to determine release/disposal management criteria should be included in the initial rule. In addition, metals, wood, concrete, soil, sludge, and HF from UF6 were listed as materials for which a release criteria was immediately needed.

4b) Page 42 (1)(i) Should NRC proceed with a rule for select materials?

As stated above, release criteria should be set for select materials for which an immediate need exists, and then using that framework and experience add other materials at a later date. In addition to the materials listed in the document, nickel, sanitary wastes, and demolition wastes (specifically, hydrogen fluoride from 700,000 tons of DOE UF6 needs to have a ruling before 2004) were seen as immediate needs.

4c) Page 42 (1) (iii) Should NRC investigate other materials, even if it impacts the rulemaking schedule for priority materials?

The NRC should follow the greatest need and create standards for materials that have the greatest potential for environmental impact. The materials should be prioritized. ANSI and other industry groups should be invited to contribute technical basis information. However, if additional analysis would help to ascertain any synergistic effects of other materials, then this possibility should be investigated.

4d) Page 43 (5) Should the rulemaking be extend to cover materials released from DOE facilities?

DOE will likely be the largest source of solid material, and as this material will be used in the private sector, it is logical that this proposed rule should be applicable to DOE released material. In no other way can public health and safety be assured. Currently, DOE is free to use it's own old style surface activity releases, which are not consistent with dose based releases required from licensees, nor with the proposed rule. Under the current scenario, as the DOE complex is being decommissioned, hundreds of thousands of tons of materials could be released to the free market without external controls.

For example, in Oak Ridge, DOE is free releasing Aclean materials directly to the open market. DOE is also decontaminating property to various degrees with unlicensed prime contractors under AEA exemption. It is not only essential that DOE materials be included in this rulemaking, but that NRC and Agreement States obtain the authority for external regulation and oversight of DOE release activities.