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Nuclear Information and Resource Service
attached are
Comments on NUREG 1761: Radiological Surveys for Controlling Release of
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Comments on
Draft NUREG-1761
Radiological Surveys for Controlling Release of Solid Materials
November 21, 2002

The Nuclear Information and Resource Service (NIRS) appreciates the Nuclear Regulatory Commission's (NRC) effort to share with the public the development of methods for surveying radioactive materials and sites. NIRS is critical, however, of the many assumptions that are being made.

1) The "Science" of Radiation Detection and Measurement

There is an inherent problem that the science and technology of radiation detection are evolving right now and those who are designing equipment and technologies are, in many cases, the generators of radioactive wastes and their (largely) sympathetic regulators.

This makes it difficult for objective observers and critics to have access to the "science."

There is a problem with requirement that a decision must be made to allow some "release" of radioactive material before implementing the Data Quality Objectives Process

To save a lot of time and effort, the NRC should simply require that any material from a licensed site be considered radioactive waste unless it can be shown to have no radioactive contamination – that is no radioactivity that is different than or above naturally occurring existing background levels in that area

The burden of proof must be on the generator of the waste or material to prove it is clean, to the lowest levels of detection using the best, appropriate measurement and detection systems and technology, monitoring the entire material (so as to detect any hot spots). This needs to be done under the proper conditions, for the necessary detection times by competently trained personnel whose objective and occupational incentive is to detect contamination, not dismiss it.

NRC needs to be developing a methodology for guaranteeing the absence of contamination from the licensed processes if any materials are to be released as "clean."

Allowing the generators to do their own detection and use their own process knowledge and history has obvious inherent flaws for an industry that is already plagued with deception and mistrust.

2) Conflict of Interest potential

Acknowledgements for the report credit Department of Energy and Nuclear Regulatory Commission staff and "many individuals from the radiation measurement instrumentation community."

It would be helpful for the public to know who comprises this community and who funds those individuals and organizations. This is especially important since another NRC document (NUREG 1640) that is being used to justify the same rulemaking was authored by a contractor with an acknowledged conflict of interest, Science Applications International Inc. (SAIC). It would be a mistake for NRC to repeat that error with this

document.

The fact is that the Department of Energy has a policy (DOE Order 5400.5) of releasing radioactive materials into daily commerce and is proceeding with its own environmental impact statement to deal with the radioactive metals that are now banned from release for "recycling." One must take this into consideration when reviewing the assumptions in this document.

When a report on surveying is done by entities routinely release radioactive waste into unregulated commerce, there is the merit of experience but the much larger pitfall of continuing with this routine despite public, environmental and industry opposition. Since the NRC *claims to be considering prohibiting of release of radioactive materials into commerce*, inviting an agency that routinely does so to coauthor the report makes it evident that that claim is disingenuous.

It is in the best public interest to be completely transparent about who is actually responsible for this document and their roles in the "radiation measurement instrumentation community."

In addition, it is our understanding that ORISE, Oak Ridge Institute for Science and Education, one of this authoring organizations, often contracts to oversee releases of radioactive materials and is involved in the massive, controversial BNFL contract at Oak Ridge

Oak Ridge National Laboratory is the funder and home for the DOE's Center for Excellence in Radioactive Recycling, a major promoter and facilitator releasing radioactive materials. ORNL is the site responsible for the largest "radioactive recycling" contract in the country (the DOE/BNFL/SAIC K-25 contract to process and release over 127,000 tons of radioactively contaminated nickel, aluminum, copper and steel.

The whole concept of "clearing" radioactive waste and contaminated materials is steeped in conflicts of interest since those that make and waste have huge economic and legal incentives to release it and they are the same entities that are making the rules and the technology to implement the rules to release it.

We object to this inherent conflict and to the NRC's ignorance and insensitivity to it.

3) Failure to apply methodology to the option of prohibiting clearance of industry-generated contamination

To its credit the report does not assume a "clearance" level.

Highly problematic, however, is that it does assume that there will be a "clearance" level and it will not be one that simply prohibits clearance of manmade radioactive contamination above previously existing background.

We also argue that it is possible to distinguish between naturally occurring background and the radioactivity generated by various licensed activities.

Does the fact that some parts of the planet have higher background levels than others justify contaminating the ones with lower levels up to those of other areas? We would say no.

4) Too much reliance on institutional knowledge:

What incentives are there for the radioactive waste generators to "remember" correctly?

We contend there are none and that it is in the economic interest of the generators to "forget" or simply not know about previous contamination

It is also known that very poor or no records were kept for many facilities.

There are specific examples of materials from supposedly non-radioactive areas having been found later to be contaminated. A case in point is detailed in the testimony from PACE to DOE in its scoping for the PEIS on radioactive metal recycling. Parts of laboratory were "cleared" based on process knowledge only to show up contaminated with plutonium. It was later determined that a flood had contaminated that area and receded but this knowledge did not make to the clearance flow chart.

It appears that enormous amounts of resources will be spent to determine varying levels of contamination when simply designating the whole lot to be waste, needing long term isolation, would be cheaper and safer.