October 25, 2002

COMMISSION VOTING RECORD

DECISION ITEM: SECY-02-0133

TITLE: CONTROL OF SOLID MATERIALS: OPTIONS AND RECOMMENDATIONS FOR PROCEEDING

The Commission (with Chairman Meserve and Commissioners Diaz, McGaffigan, and Merrifield agreeing) approved the subject paper as recorded in the Staff Requirements Memorandum (SRM) of October 25, 2002. Commissioner Dicus disapproved the paper.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

Annette L. Vietti-Cook
Secretary of the Commission

Attachments:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Meserve
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
Commissioner Merrifield
OGC
EDO
PDR

VOTING SUMMARY - SECY-02-0133

RECORDED VOTES

	APRVD	DISAPRVD	ABSTAIN	NOT PARTICIP	COMMENTS	DATE
CHRM. MESERVE	X				X	8/14/02
COMR. DICUS		X			X	9/16/02
COMR. DIAZ	X				X	8/21/02
COMR. McGAFFIGAN	X				X	10/1/02
COMR. MERRIFIELD	X				X	9/5/02

COMMENT RESOLUTION

In their vote sheets, Chairman Meserve and Commissioners Diaz, McGaffigan, and Merrifield approved the staff's recommendation and provided some additional comments. Commissioner Dicus disapproved the paper. Subsequently, the comments of the Commission were incorporated into the guidance to staff as reflected in the SRM issued on October 25, 2002.

Commissioner Comments on SECY-02-0133

Chairman Meserve

In SECY-02-0133, the staff requests Commission approval to proceed with an enhanced participatory rulemaking concerning the control of solid materials (Option 3b). The staff makes this recommendation after reviewing the report issued by the National Academy of Sciences (NAS) on the release of materials by NRC licensees. National Academy of Sciences, Board on Energy and Environmental Systems, The Disposition Dilemma: Controlling the Release of Solid Materials from Nuclear Regulatory Commission-Licensed Facilities (Mar. 21, 2002). I approve the staff's recommendation because I believe it is important to maintain momentum on this issue, to provide a consistent, risk-informed basis for the release of solid material in the near term, and to prepare the underpinnings for the future decommissioning of the current population of U.S. power reactors.

The NAS report describes some of the functional weaknesses in NRC's existing practice of releasing solid material on a case-by-case basis. Perhaps the chief flaw is that the NRC's current approach is not based on potential health risk. Rather, the existing process is largely measurement-based, allowing materials from civilian reactors to be released if no radioactivity beyond background levels can be detected.[1] As the NAS report notes, this measurement-based approach does not relate regulatory requirements to the potential health risk that might be associated with release. Id. at 2-15. Other weaknesses include inconsistent application of the approach, a lack of transparency in the approval process, and concern as to whether the existing approach is sufficiently flexible to meet the demands arising from multiple requests for the release of large volumes of solid material that would come about with the eventual decommissioning of the current population of civilian nuclear reactors. Like the NAS and staff, I conclude that the weaknesses of the current approach warrant consideration of alternative approaches to the control of solid material, even though the current efforts are protective of public health and safety. The NAS recommends that, in considering release or conditional release, a standardized dose-based approach be applied. Id. at 10-7. Such an approach could bring needed consistency, transparency, and predictability to the decision process -- factors that are in the best interests of both the NRC and its stakeholders. Consequently, I approve moving forward with an enhanced participatory rulemaking that is fair and open, allows consideration of the range of alternatives, and does not duplicate the information-collection efforts already undertaken by the NAS and the staff.

The NAS report observes that there is considerable institutional distrust of the NRC among some stakeholder groups. The NAS recommends that the NRC seek to overcome this distrust by encouraging stakeholder participation and involvement in consideration of alternative approaches (including the current case-by-case approach, clearance, a conditional clearance approach, and a policy of no-release). Id. at ES-9 . This recommendation should be followed. But, in approaching stakeholders on this issue, it would not be appropriate to mask the Commission's continuing support for the release of solid material when there are no significant health consequences. Any other approach would only further ingrain distrust in some stakeholders. Nonetheless, all

---

[1] As noted in the NAS report, reactor licensees can apply to the NRC for approval to release solid materials with small but detectable levels of radioactivity pursuant to Section 2002 of 10 C.F.R. Part 20.

alternatives should be given fair consideration in developing a proposed rule so that a broad range of alternatives is identified and can be weighed by the Commission.

In carrying out the rulemaking, the staff should seek to use information arising from its past efforts and those of the NAS so as to be cost-effective. Substantial information currently exists on many of the issues. As a result, I believe that the staff's resource estimates for the rulemaking are excessive. See SECY-02-0133 at 11. For example, the NRC has had workshops on this topic in the past. Workshops are resource-intensive and expensive for both the NRC and its stakeholders and additional workshops should be limited to areas where substantial new input is needed. For issues which may not warrant a workshop, the staff should explore increased use of web-based methods for interacting with stakeholders.

Finally, the NAS report, although not prescribing a particular outcome for the rulemaking process, goes to considerable lengths to document the benefits of conditional clearance. Id. at 9-7. Staff should specifically explore and document the feasibility of conditional clearance.

Commissioner Dicus

In SECY-02-0133, the staff proposes several options for proceeding with a path forward for controlling the release of slightly-contaminated radioactive solid materials. While I agree with the staff that the acceptability of any standards-setting action depends on a variety of factors, including both the process to move discussions forward, as well as the technical basis to support any criteria that might be established, I do not agree with proceeding with an enhanced participatory rulemaking (EPR) (Option 3b) at this time.

One important factor affecting any decision as to how best to proceed with a proposed rulemaking is the safety significance of the matter under consideration. As noted in the March 2002 National Academy of Sciences (NAS) report, "The Disposition Dilemma: Controlling the Release of Solid Materials from Nuclear Regulatory Commission-Licensed Facilities," the current approach for releasing this type of material is considered to provide a sufficient level of safety. The NAS report also notes that one of the potential criteria of 10 μSv/yr (1 mrem/yr) discussed in the NRC Issues Paper (as well as proposed by the ANSI/HPS N13.12 standard) is a "reasonable starting point" regarding levels of risk when considering alternatives for controlling solid material. Both of these statements call into question whether significant resources should be devoted to a rulemaking or other processes that might have minimal impact on maintaining health and safety. In addition, because the levels associated with the potential release of solid materials will be extremely low, it does not appear to be the best expenditure of staff resources. This is a time in which the NRC, as well as many other Federal agencies in this country have increased its resources by moving quickly to enhance the accessibility, controls, and restrictions already associated with the safe use of radioactive materials, in order to ensure that radioactive material will not be obtained by terrorists.

More than 800 "extensive and wide-ranging" public comment letters were received from various stakeholders (including the metals and concrete industries, citizen groups and individuals, licensees and licensee representatives, and other organizations) in public meetings over the past few years. Despite NRC efforts to engage stakeholders on the Clearance Issues Paper and in public workshops on the subject, the staff correctly states in SECY-02-0133 that there is "significant distrust and lack of confidence in NRC and obtaining it [in future rulemaking efforts on

this subject] will be a difficult process."

This is a very difficult policy decision, and although I agree with the staff that this rulemaking is needed, it just does not appear to be the right time to initiate such an intensive EPR effort. I do believe, however, that there is merit in continuing our work with stakeholders and licensees. In addition, it is prudent to continue our dialogue with national and international agencies to develop a more solid consensus before embarking on a separate independent rulemaking. There are several reasons why I believe we must obtain greater stakeholder involvement before proceeding. These are:

1. I am involved with discussions with the National Council on Radiation Protection and Measurements (NCRP) regarding a proposed symposium on this topic which is currently planned for May 2003. Although still in the initial planning stages, this symposium will be open to the public and will include interested members of the public and public interest groups, Federal agencies, State governments, professional associations, industrial groups, scientists, and representatives from national and international organizations. One goal of the symposium will be to develop an encompassing statement on this important issue. I believe that the NRC will benefit from such a product. I will continue to keep the Commission informed about the symposium as it is being finalized.

2. EPA has responsibility for setting generally-applicable environmental standards under the Atomic Energy Act and currently does not plan to have a program to set standards on control of solids materials in the U.S. Instead, EPA has decided to focus its efforts on control of sources and radioactive materials, not its release. It would be beneficial to all our stakeholders if NRC were to work with EPA, as well as other Federal and State Agencies on developing a standard before initiating our own separate rulemaking effort. Failure to do so, would be reminiscent of NRC's failure of the earlier BRC Policy in the 1990s.

3. The NCRP report and ANS statement on clearance will be out next year with each of these organizations perspectives. Because these additional reports will only serve to provide more valuable information from another set of stakeholders, I believe that it would be beneficial for staff to explore the recommendations provided by these organizations before moving forward.

4. ANSI N13.12 selected 10 µSv/yr (1 mrem/yr) as the primary dose standard for clearance, which is consistent with international values and contains useful information, including an implementation protocol. Under the Public Law 104-113, "National Technology and Transfer Act of 1995", and OMB Circular A-119, "Federal Participation in the Development and Use of Voluntary Consensus Standards, "Federal agencies are required to use this type of technical standard unless its use is inconsistent with applicable law, or otherwise impractical. The NRC has yet to issue a rule in this area, so before going forward, the staff should weigh the pros and cons of either implementing or endorsing this standard per Public Law 104-113.

5. The NAS report states that relatively little solid materials will arise from nuclear power plant decommissioning during the 2006-2020 period, so it would be prudent to wait and obtain a consensus from the international and national community before moving ahead with a resource-intensive EPR process.

6. The proposed EPR effort for Option 3b is estimated to be a large expenditure of resources (10-15 FTE and over $1 million in contract support) for at least a 3-4 year period. Are these resources warranted for an initiative with low associated risk?

7. Lastly, I note that several international organizations (IAEA and the EC) have selected 10 µSv/yr (1 mrem/yr) as a starting point for release of cleared materials. And, since 1993, both NRC and EPA staff have participated with the IAEA Member States on the development of assumptions and parameters used to derive these clearance levels. Although there are still concerns amongst both national (NRC, EPA and DOE) and international organizations (i.e., IAEA, EC, ILO, NEA, WHO and FAO) regarding the accuracy of the parameters and modeling associated with the criterion for commodities (and thus the release of solid materials), NRC's limited resources would be better spent in continuing this coordination process in order to be able to try to ensure a sound technical basis and approach in resolving this global issue.

Commissioner Diaz

I approve staff's recommended Option 3b, i.e., to proceed with a rulemaking process for developing national standards for the control of solid materials from nuclear facilities. Staff should use the normal rulemaking process, rather than spend additional resources on a participatory rulemaking. As noted in my earlier vote on this issue, a decision to initiate rulemaking does not mean that the Commission has made a decision on the scope or details of the regulation and in no way predetermines the outcome. In fact, it ensures just the opposite. The rulemaking process not only allows, but requires, solicitation and consideration of the public's views, concerns, and recommendations. It also calls for open evaluation of all risks, including actual and perceived risks, as well as impacts on health, safety, and the environment.

The issues related to the release of slightly radioactive solid materials have been extensively debated in the United States for over 15 years. There is a very significant body of information from the debates, covering every possible aspect of the issue. The agency has already expended significant resources on public workshops to obtain a range of stakeholders' views. In addition, we also contracted with the National Academies' National Research Council to provide a report on alternatives for control of solids, and with several other contractors to develop the required technical information base to support decision-making. Staff should use the information and data from all of these efforts, as well as information from related national (e.g., ANSI and DOE) and international (e.g., IAEA and EC) efforts.

There has been significant progress made in the development of the technical information base necessary to support a policy decision on how to continue to ensure adequate protection of public health and safety in regulating the control of solid materials, including estimating potential exposures if soil is cleared from NRC-licensed facilities; estimating the inventory of materials at NRC-licensed facilities which are potentially available for release; performing an analysis of potential exposures of individuals to multiple sources from recycled materials; and examining alternative methods for performing radiation surveys to control solid materials. We have a formidable data base from which rulemaking can be conducted, with all the appropriate checks and balances.

Let's remember that the NRC began this process with the publication in 1982 of rulemaking "Licensing Requirements for Land Disposal of Radioactive Waste." We continued with the "clearance" work by having numerous meetings and, in 1988, hosting an international workshop at the Pan American Health Organization. Nearly 10 years after first addressing the issue, the agency issued a policy statement for Below Regulatory Concern (i.e., "clearance") that established a consistent risk framework for regulatory exemption decisions and that ensured an adequate and consistent level of protection of the public. (In hindsight the term BRC was an unfortunate choice of words because the agency was very concerned, but these materials had no discernable public health and safety consequences.) Discussions continued and a year later the Commission unanimously approved an implementation plan for the policy statement. Not satisfied with the numerous discussions the staff had nationally and internationally, the Commission agreed in mid-1991 to an enhanced participatory rulemaking with the expectation of a "fairly quick" agreed-upon rule. In 1995, with no agreed-upon participatory rulemaking in sight, the Commission was told of the increased costs of such a rulemaking. The Commission then began to rethink the participatory rulemaking approach. Discussions continued and a paper came to the Commission in 1998 on regulatory options for setting standards on "clearance" of materials and equipment having residual radioactivity.

Many papers and discussions later, the Commission, once again, is being asked , among other options, whether it supports an enhanced participatory or a normal rulemaking. The history of this endeavor shows that all due care and consideration has been given to this issue and the time to act is now. Inconsistent application of de facto standards should not continue to be part of our regulatory framework. The American people deserve better.

Commissioner McGaffigan

I approve the staff's recommended Option 3b to proceed with a rulemaking concerning the control of solid materials, subject to the following comments.

I have long supported this rulemaking, as is demonstrated by my voting record on papers such as SECY-00-0070, COMRAM-00-0001, SECY-99-0214, and SECY-98-0028. I have also long recognized that this will be a difficult rulemaking because of the general public fear of radioactivity, the willingness of some interest groups to fan that fear through grossly exaggerated claims of health effects due to potential exposure to minimally radioactive solid materials, and some in the media's gullibility in giving credence to the interest groups' exaggerations. As soon as this paper and its voting record are made public, we can expect that there will be attempts to get the media to publish sensationalist stories about radioactive automobiles, forks, dental braces and hip replacements. I can only beg the media to check facts before publishing such drivel.

The onus on the staff and the Commission as we go forward will be to accurately and forthrightly communicate what we are proposing, why we are proposing it, what alternative options we have considered, and why on balance we have chosen not to pursue those alternatives.

The National Academy of Sciences (NAS) Report has told us that an individual dose standard of 1 mrem/year is a "reasonable starting point" for a dose-based standard. We already knew this, of course, and indeed the law requires that we consider the ANSI standard. Nevertheless, that was a useful recommendation. The NAS Report has told us that the overall conceptual plan of draft NUREG-1640 is "the best of all the studies that it reviewed" and that the estimates in draft

NUREG-1640 are “traceable and a formal uncertainty analysis has been performed for each dose factor.” These again are useful comments because they show how strong the technical basis for moving forward really is. The NAS Report has emphasized the need to consider a conditional release option, something the Commission was clearly willing to do before the NAS Report was commissioned (see, for example, my comments on SECY-00-0070). The NAS Report, however, is weak when it makes process recommendations and I agree with the staff’s analysis on why we should not pursue NAS’s recommended Option 3a.

With regard to the details of Option 3b, I do not support an Advance Notice of Proposed Rulemaking (ANPR). I think that there is little that we would learn that we don’t already know as a result of ANPR responses. Instead, I would advocate a transparent process for developing a rulemaking plan and a proposed rule. By transparent I mean that we should continue to share all of our technical basis documents with the public, including seeking comments on those documents. We should flesh out the feasibility of a conditional release option for metals, as the Chairman recommends, possibly using a public workshop to discuss such an option. I agree with the Chairman that the staff’s resource estimates for the Option 3b rulemaking are excessive, but those estimates probably reflect a conservative judgment on the staff’s part as to what Option 3b might cost, including an ANPR and numerous workshops. Disposing of the ANPR step, limiting workshops to where they are really needed, and making use of web-based methods for interacting with stakeholders should all help to keep costs under control. I believe that we should aim to complete this rulemaking within three years, with a rulemaking plan to be submitted in about one year and a proposed rule six months after the rulemaking plan. The rulemaking process which I describe would still be an “enhanced participatory” rather than a “normal” rulemaking because clearly we will be making an extra effort throughout the process to engage stakeholders. On this matter, I believe that the Commission and the staff have no choice but to be fully engaged throughout the process or our efforts will unfortunately most certainly be distorted.

Commissioner Merrifield

I approve, as modified in the following paragraphs, staff recommendation 3b (proceed with an enhanced participatory rulemaking process) in SECY-02-0133, “Control of Solid Materials: Options and Recommendations for Proceeding”. However, before I provide my comments on the option to be followed by the staff, I want to emphasize two points.

First, as stated in the paper, all three options provided by the staff, if properly carried out, would maintain health and safety. I agree that continuing the current process with some slight modifications (option 1) is practical and convenient in the short term but is not a long term solution. The current practice requires decisions on a case-by-case basis and often involves determining minimum levels of detectability of radiation by existing equipment, which would change as new, more sensitive detection equipment becomes available. However, the current approach is inconsistently applied, is not explicitly risk-based, has no guidelines for volume-contaminated material, and is subject to second-guessing once more sensitive radiation detection equipment becomes available. Therefore, there is a need to develop and implement a longer term solution through rulemaking.

Second, the report on release of solid materials provided by the National Academy of Sciences was not responsive to the contractual arrangements or the needs of the Commission. The Commission was and is clearly aware that proposed rulemaking in this area is both complex and

controversial. The Commission requested the scientific recommendation of the National Academy of Sciences for an appropriate and reasonable standard to apply for the potential release of solid materials with minimal levels of detectable radioactive contamination. The Commission was well aware that it would need to make significant policy decisions to address the controversial aspects of this issue; and the Commission wanted, but did not receive, the appropriate scientific input from the Academy as a technical foundation for future decisions. Instead, the National Academy limited the scope of their recommendations mainly to procedures for conducting a rulemaking process for a controversial issue. The end product is not beneficial to the Commission in addressing the specific technical aspects of this issue. This lack of performance by the National Academy will influence future decisions on my part on whither or not the advice of the National Academy should be solicited.

This comment is not meant to imply that the observations of the National Academy are totally without merit. For example, the observation that documents used to support public meetings inappropriately focused on one solution and thus gave a false impression that a final position had already been established. Staff should use the National Academy's observations as lessons learned for future meetings involving any controversial issue. However, future staff efforts to establish standards for control of solid materials should not focus on the National Academy of Science's specific recommendations but should focus on what is needed to complete the task.

As indicated in the first paragraph, I support an enhanced participatory rulemaking effort for this particular task. However, there are several issues associated with this tasking which should be addressed before the rulemaking begins: specifically, timing of the initiation of this rulemaking and the focus of the enhanced effort.

The first issue is timing of the actual commencement of the rulemaking. The rulemaking effort should not begin until late 2003 or 2004 and we should continue our current practice until the rulemaking is completed. First, the Commission is heavily involved in a resource intensive effort to increase security over appropriate radioactive material. This rulemaking would open the issue of potentially releasing radioactive material (admittedly with low levels of radioactivity) for unrestricted use when both the Commission and the public are concerned about potential terrorist use of any hazardous material. We need time for the security concern to be fully addressed, which should include clearly defining the scope of radioactive materials of concern from a terrorist perspective, before initiating this unrelated rulemaking on material which <u>should be</u> outside the scope of the security concern. Also, as indicated in the paper, the staff expects to complete in the 2003 - 2004 time frame several important technical reviews directly associated with this rulemaking; and there are some international efforts which should be completed or nearly completed by then as well. It would be appropriate to wait until this work is complete or nearly complete before publically announcing initiation of this rulemaking effort. Finally, before proceeding with rulemaking, the staff should further develop the concept of conditional or restricted release to support the rulemaking. I will provide further comments on restricted release in the last paragraph of this vote. While I do favor delaying the public initiation of the rulemaking effort until at least 2003, I do not support an undefined date for initiating the rulemaking. Staff should submit for Commission approval a proposed schedule for the rulemaking effort.

The second issue is defining the focus or scope of the rulemaking effort. The term "enhanced participatory rulemaking" means different things to different people and I want to clarify specifically what I mean for this rulemaking effort. My clarification may already be the intent of the staff for this effort, but the paper was not clear in this area. As discussed in Commissioner Diaz's vote, the

staff has spent years investigating different technical and regulatory issues associated with the potential unrestricted release of solid material with either no detectable radioactivity or only trace amounts of radioactive contamination. In 1999, my first full year on the Commission, the staff held four major stakeholder meetings on control of solid materials. I personally read the transcripts and meeting summaries from all four meetings and invited selected participants to discuss the issues directly with me. My personal observation is that after the second public meeting, the staff already had a clear understanding of all the technical and policy issues that need to be addressed. At this point, the problems have been defined and the staff should focus on potential solutions. The enhanced participatory rulemaking should utilize this important background information as a starting point and public workshops, if necessary, should focus on specific issues where more detailed discussions are necessary to develop reasonable solutions.

One additional observation is that the staff efforts appear to focus on either no release or unrestricted release. I fully understand that from a technical perspective it would be ideal to define a level of radioactivity below which regulatory controls are not necessary to provide adequate protection of the public health and safety. I believe technically that we could define such a standard. In fact, the Commission has already established similar criteria for the release of gaseous and liquid material with small amounts of radioactivity. Gaseous and liquid releases are somewhat unique in that once the release occurs, generally the material becomes even more diluted by the environment. There are a few exceptions to this generalization about liquid releases, particularly when dealing with water treatment facilities, but the exceptions are addressed on a case specific basis. Recycled solid material is different in that there is a potential that the radioactive component may be concentrated in the recycling process or that the material will be recycled in a form resulting in more actual contact with the general public. There is a general lack of public understanding or acceptance of our technical basis for developing a standard for the release of solid material. This general lack of public acceptance can have a tangible effect on other industries, such as the steel industry's use of recycled material, and could easily have considerable political implications. As clearly seen in our past history for this complex and controversial issue, public reactions to the potential release of such material are very strong and vocal. To address public concerns, we need a reasonable alternative to unrestricted release.

Therefore, the staff should investigate the concept of conditional or restricted release in more detail and determine if such a concept is implementable. For example, restricted release could involve continued regulatory control by the NRC, another federal agency, or a State agency. Another alternative could be a graduated level of regulatory control over the "released" material depending on the level of radioactivity in the material. It would be nice to have a separate industry devoted to the recycling of radioactive material; but the development of such facilities must be an initiative either by private industry or the Department of Energy. The purpose of these examples is not to restrict the staff, but to allow the staff sufficient latitude to address multiple scenarios in discussions with the stakeholders in order to develop a form of restricted release that (1) is effective, (2) is reasonably possible to implement, and (3) would increase public confidence in the process. This effort could be the focus of one or more of the workshops for the rulemaking.