

## **POLICY ISSUE NOTATION VOTE**

December 24, 2003

SECY-03-0223

FOR: The Commissioners

FROM: William D. Travers  
Executive Director for Operations

SUBJECT: RULEMAKING PLAN: ASSURED ISOLATION FACILITIES

### PURPOSE:

To request Commission approval of the attached Rulemaking Plan for Assured Isolation Facilities (AIFs) and of the staff's proposal to defer further rulemaking action at this time, and to annually assess the need for, and interest in, AIFs to determine whether to pursue further rulemaking.

### SUMMARY:

This paper discusses the staff's development of a rulemaking plan for long-term storage facilities for low-level waste (LLW). A number of States have considered AIF rules and Ohio has a final rule that is now in effect. The staff established a working group to prepare a rulemaking plan on AIFs, and the working group surveyed potential stakeholders to determine the need for and interest in AIFs. This paper summarizes the survey results and provides the staff analysis of the options. In addition, the paper addresses two recent developments that have occurred that impact the regulatory environment for AIFs: (1) Texas enacted legislation to permit the siting and operation of a commercial LLW disposal facility for the Texas Compact, and (2) South Carolina announced that there is very limited capacity available at Barnwell for generators outside the Atlantic Compact. The staff provides a rulemaking plan for AIFs, offers several alternatives for AIF rulemaking, and recommends against further rulemaking at this time.

CONTACT: Paul Goldberg, NMSS/IMNS  
(301) 415-7842

**BACKGROUND:**

In a Staff Requirements Memorandum (SECY-02-017) of September 5, 2002, the Commission approved, with changes, the staff's reply to the State of Ohio's request for comments on its draft rule to license AIFs. The staff sent comments to Ohio in a letter of September 12, 2002, from Paul Lohaus to Robert Owen. The staff noted the Commission's strong support for State and Compact efforts to develop LLW disposal capacity and its willingness to consider, and assist the States in, feasible and safe proposals for management of LLW. The staff offered specific comments on the draft rule and noted that if the U.S. Nuclear Regulatory Commission (NRC) develops a regulation for AIFs, Ohio may be required to amend its regulation to be compatible with the NRC regulation.

The SRM directed staff, in part, to: (1) not initiate rulemaking on AIFs, but to proceed with a rulemaking plan that would explore interest in the assured isolation concept and provide a foundation for a Commission decision on whether to develop a rule; and (2) include Agreement State interaction and participation. The SRM also noted that, if there is a rulemaking, it would be an excellent subject for a pilot program under the Alliance option of the National Materials Program.

A copy of the draft rulemaking plan was provided to Agreement and non-Agreement States on September 8, 2003, for a 45-day period of review and comment. The comment period closed on October 23, 2003. One comment letter was received from the State of Illinois.

**DISCUSSION:**

The assured isolation concept, sometimes referred to as assured storage, was originated by William Newberry and Thomas Kerr, staff members of the U.S. Department of Energy's National Low-Level Waste Management Program, and David Leroy, a consultant on public policy issues. In articles in *Radwaste Magazine* in 1995 and 1996, they identified the principal obstacles to siting and developing LLW facilities as cost, the regulatory environment, and especially, public and political acceptance. The authors considered an engineered facility for indefinite storage a more publicly acceptable means of managing waste than disposal because such a facility permits waste to be actively managed as long as necessary. It permits retrieval if there is any problem with waste isolation or if a better means of managing the waste (e.g., processing or disposal at another site) becomes available, allaying public concern about leaving waste unmonitored.

At least six States have taken varying steps toward development or regulation of an AIF. NRC's involvement, until recently, has been limited to following the discussion and commenting on proposals, when asked. This rulemaking plan was prompted by the State of Ohio's development of a rule on AIFs and the State's request for NRC to review and comment on the rule. The Ohio rule, which is now final and in effect, includes a number of provisions that differ from most previous AIF concepts, including strictly limiting such facilities to storage, with no option for disposal onsite, and requiring individual generators to obtain AIF licenses if they store for more than 5 years.

The range of possible types of AIFs and the State activity raise the issue of a need for consistency in the regulatory approach to AIFs. Currently, NRC has no rule on the criteria for

design and operation of an AIF and any State rule (e.g., Ohio's rule) may have to be amended to be compatible with any eventual NRC rule. This may also have consequences for any license issued under the State rule.

The staff established a Working Group consisting of representatives from the Offices of Nuclear Material Safety and Safeguards, General Counsel, State and Tribal Programs, Administration, and Enforcement, and State representatives from the Organization of Agreement States, and the Conference of Radiation Control Program Directors (CRCPD) to prepare a rulemaking plan on AIFs in response to the SRM of September 5, 2002. Before proceeding with development of a rulemaking plan, the group surveyed possible stakeholders to determine the extent of their interest and identified and analyzed issues that would be important in developing an AIF rule.

On September 8, 2003, the group sent surveys (Attachment 2) to 50 States and 10 Compacts asking them about their needs for the next 10 years. The staff's survey of States and Compacts resulted in 12 responses. Nine States said they had no interest in an AIF, that disposal would be available for Class A waste, and that Classes B and C waste could be stored onsite, if necessary. Two States suggested the possibility of some limited industry interest.

The staff asked nine waste disposal, storage and broker companies whether they were interested in participating in development of an AIF and whether they envisioned a market for an AIF in the next 10 years. Of the six responses, one disposal company expressed an interest in developing AIFs as a way of managing public concern about waste. Another disposal company expressed interest if there were a commercially viable market, but expressed doubt that there would be one within the next 10 years. A storage company said it would only be interested to the extent that it is a State or compact requirement for acceptance of certain types of LLW. The three other companies had no interest in participating in development of an AIF.

Of the five generators surveyed (two power plants, two universities, and a medical clinic), none expressed concern about management of waste in the next 10 years. All consider their current options for disposal, processing and storage to be adequate.

Two recent developments have occurred that impact the regulatory environment for AIFs. The State of South Carolina announced on September 25, 2003, that its effort since 2001 to encourage large waste generators to enter into multiyear commitments for access to the Barnwell LLW disposal facility has been so successful that there is a very limited amount of disposal capacity available for generators outside the Atlantic Compact through 2008, when Barnwell is scheduled to close to out-of-compact waste. The State had also requested volume projections from customers who have not made commitments and found that there is considerably more need for disposal volume than the State can accommodate under its law. Because of the high demand for disposal volume, the State may not accept additional waste from outside the Atlantic Compact for the current and the next fiscal year. While the State determines policy to maximize the use of remaining uncommitted space in the interest of South Carolina, it will make decisions on acceptance of waste on a case-by-case basis, depending on the nature of the shipment and the revenues for the State. In a letter of September 25, 2003, the State notified customers of the situation and advised them how to have shipments placed on a waiting list. The uncertainty that Barnwell can handle expected waste volumes now and in

the near future, well before the 2008 date for eliminating shipments from outside the Compact, makes the need for alternatives to disposal more urgent and acute.

In June 2003, Texas enacted legislation to permit the siting and operation of a commercial LLW disposal facility for the Texas Compact (from which Maine is withdrawing, leaving only Texas and Vermont). Texas is developing regulations for LLW disposal under the new legislation, and expects to adopt the final rule by December 2003. According to the new law, the State will take bids for development of the facility in June 2004, and will issue or deny a license by December 2007. A facility may be developed relatively quickly, but it would still not be constructed and operational until after the Barnwell site closes to waste from outside the Atlantic Compact in 2008. The Texas Compact facility may accept additional amounts of waste from outside its Compact by entering into contracts with entities approved by the Texas Compact Commission. There is no indication at this time of what Compacts or unaffiliated States the Texas Compact Commission will contract with or how much waste from outside the Compact the Commission will accept.

Since there are no AIFs and there is little precedent for an AIF rule, the Working Group analyzed a wide range of basic issues, including the definition of an AIF, characteristics of an AIF, financial and legal issues, and contingencies. As discussed more fully in the Rulemaking Plan (Attachment 3), these issues cannot be resolved at this stage of the rulemaking. The Rulemaking Plan identifies issues and presents possible options for resolution in the course of a rulemaking.

### REGULATORY OPTIONS

The options discussed below emerged from the results of the surveys and the group's analysis of issues. Pros and cons for the options are presented in Attachment 1. The issues are discussed in the attached Rulemaking Plan.

The CRCPD has formed a Committee to develop a Suggested State Regulation for Control of Radiation (SSRCR) on AIFs. The Chairman of the Committee participated on the joint NRC/State Working Group to develop this rulemaking plan. At this time, CRCPD intends to pursue development of a Suggested State Regulation, whether or not NRC proceeds with rulemaking. The CRCPD Committee would consider this Rulemaking Plan produced by the joint NRC/State Working Group. If NRC does not proceed with development of a rule and the CRCPD does proceed, NRC would provide a liaison to the CRCPD Committee and would participate in the peer review of a draft SSRCR under Options 1 and 3 below. If, in the future, NRC considers a rule for AIF licensing necessary, the agency could adopt the CRCPD SSRCR or use it as the basis for an NRC rule but, in any case, NRC would be required to use the normal notice and comment process for proposed and final rules. This would include preparation of a generic environmental impact statement.

1. Maintain the status quo - no action. Take no further rulemaking action on the basis that few of the stakeholders involved expressed enough interest in an AIF to warrant rulemaking and that the issues of LLW management are not acute enough to require rulemaking action. Licensees would continue to reduce volumes of waste and to dispose of waste to the extent possible. Licensees that lose access to disposal would store onsite indefinitely. If the CRCPD

proceeds with development of its SSRCR, NRC would provide a liaison to the CRCPD and would participate in peer review of the CRCPD suggested rule.

2. Proceed with rulemaking.

- a. NRC would take the lead in developing a rule and would collaborate with States.
- b. The States, through CRCPD, would take the lead and NRC would participate.

3. Defer further rulemaking and annually review the future need for disposal or storage of LLW, State and Compact positions, and industry interest for both generators and prospective operators. If the need and interest warrant consideration of rulemaking, propose options to the Commission. If the CRCPD proceeds with development of its SSRCR, NRC would provide a liaison to the CRCPD and participate in peer review of the CRCPD suggested rule.

4. Within available resources, review, and revise or supplement, as necessary, NRC guidance for extended onsite storage and other alternatives to disposal, including security considerations, if, in the future, it appears likely that generators will lose access to disposal soon.

Note that Option 4 could also be done in conjunction with Options 1, 2, or 3.

AGREEMENT STATE COMMENTS ON DRAFT RULEMAKING PLAN:

The only Agreement State to provide comments was the State of Illinois (Attachment 4). The State provided the following overall comment, "The Agency commends the NRC for the thorough analysis of the issues surrounding an AIF rulemaking. The Agency also concurs with the NRC's decision that an AIF rulemaking is not warranted at this time. Given the lack of interest in developing an AIF and the small probability that an AIF will be proposed or developed within the next decade, it makes sense to not spend the limited NRC resources in developing a rule that is not needed." In response to the State's specific comments, the staff added discussion of the Envirocare facility; 10 CFR, Part 62; Environmental Protection Agency's conditional exemption for storage of mixed waste; the possible difference in waste form and container requirements between a disposal site and a storage-only AIF; maintenance and monitoring of an AIF; the alternatives of licensing extended onsite storage under an AIF rule or under an existing rule; and, the use of Part 61 requirements as a basis for requirements for an AIF.

COORDINATION:

The Office of the General Counsel has no legal objection to the rulemaking plan. The Office of the Chief Financial Officer has reviewed this Commission Paper for resource implications and has no objection. The plan suggests changes in information collection requirements that must be submitted to the Office of Management and Budget before publication of the proposed rule. This paper was coordinated with the Office of Nuclear Security and Incident Response.

RESOURCES:

For the recommended Option 3, staff would use existing resources to assess the need for, and interest in, AIFs. This does not include any State or industry resources. To complete and implement a rulemaking (Option 2), exclusive of guidance, assuming that it will be a complex rulemaking, about nine full-time equivalents (FTEs) would be required, including preparation of an Environmental Impact Statement (EIS). Note that some of these resources would come from States. Contract support would be used to develop the technical basis for the rule (approximately \$100,000). Under Options 1 and Option 3, NRC would need approximately 0.5 FTE to provide a liaison to the CRCPD Committee developing a suggested regulation and perform a peer review of the CRCPD suggested regulation. If NRC subsequently develops an AIF rule and an EIS based on the CRCPD suggested regulation, NRC would need approximately 5-7 FTEs, depending on whether NRC made substantial changes to the CRCPD suggested regulation. To review and revise guidance (Option 4) would require approximately 0.5 FTE. No resources for any of the options are included in the current budget. The Policy, Budget, and Planning Management process will be used to reprioritize and identify the resources needed for the option selected by the Commission.

RECOMMENDATION:

The staff's preferred alternative is Option 3. Option 3 would allow continued monitoring of the status of LLW disposal and storage to ensure that NRC is in a position to develop a rule when needed. Developing a rule, if and when States and industry express more interest, would ensure that an additional alternative for long-term management of LLW is available. This would assure the efficient and effective use of NRC resources and allow the staff to respond to changes in circumstances. If the staff's annual review finds significant changes to the situation, the staff will report to the Commission with options for rulemaking. If development of an AIF appears likely, the rulemaking, under Option 3, might have to be done on a high-priority, expedited basis or else a facility would have to be licensed on the basis of criteria developed as part of the licensing procedures. If a rule is necessary, it would maintain safety by providing a safe means of dealing with waste.

*/RA/*

William D. Travers  
Executive Director  
for Operations

Attachments: 1. Regulatory Options  
2. Survey  
3. Rulemaking Plan  
4. Letter from Illinois Emergency Management Agency dated 10/21/03 w/attach.

RESOURCES:

For the recommended Option 3, staff would use existing resources to assess the need for, and interest in, AIFs. This does not include any State or industry resources. To complete and implement a rulemaking (Option 2), exclusive of guidance, assuming that it will be a complex rulemaking, about nine full-time equivalents (FTEs) would be required, including preparation of an Environmental Impact Statement (EIS). Note that some of these resources would come from States. Contract support would be used to develop the technical basis for the rule (approximately \$100,000). Under Options 1 and Option 3, NRC would need approximately 0.5 FTE to provide a liaison to the CRCPD Committee developing a suggested regulation and perform a peer review of the CRCPD suggested regulation. If NRC subsequently develops an AIF rule and an EIS based on the CRCPD suggested regulation, NRC would need approximately 5-7 FTEs, depending on whether NRC made substantial changes to the CRCPD suggested regulation. To review and revise guidance (Option 4) would require approximately 0.5 FTE. No resources for any of the options are included in the current budget. The Policy, Budget, and Planning Management process will be used to reprioritize and identify the resources needed for the option selected by the Commission.

RECOMMENDATION:

The staff's preferred alternative is Option 3. Option 3 would allow continued monitoring of the status of LLW disposal and storage to ensure that NRC is in a position to develop a rule when needed. Developing a rule, if and when States and industry express more interest, would ensure that an additional alternative for long-term management of LLW is available. This would assure the efficient and effective use of NRC resources and allow the staff to respond to changes in circumstances. If the staff's annual review finds significant changes to the situation, the staff will report to the Commission with options for rulemaking. If development of an AIF appears likely, the rulemaking, under Option 3, might have to be done on a high-priority, expedited basis or else a facility would have to be licensed on the basis of criteria developed as part of the licensing procedures. If a rule is necessary, it would maintain safety by providing a safe means of dealing with waste.

/RA/

William D. Travers  
Executive Director  
for Operations

- Attachments: 1. Regulatory Options  
2. Survey  
3. Rulemaking Plan  
4. Letter from Illinois Emergency Management Agency dated 10/21/03 w/attach.

File Name: C:\ORPCheckout\FileNET\ML033430241.wpd \*See previous concurrence  
ADAMS Accession Number: ML033430233

|        |             |                    |                 |                            |                |
|--------|-------------|--------------------|-----------------|----------------------------|----------------|
| OFFICE | RGB:IMNS    | RGB:IMNS           | RGB:IMNS        | TECH ED                    | D:DWM:NMSS     |
| NAME:  | PGoldberg   | CAbrams            | SMoore          | EKraus by fax*             | JGreeves*      |
| DATE:  | 12/2/03     | 12/3/03            | 12/4 /03        | 9/ 4 /03                   | 12 / 4 /03     |
| OFFICE | D:IMNS:NMSS | CFO                | CIO             | OGC                        | OE             |
| NAME:  | CMiller*    | JFunches*          | BShelton*       | STreby*                    | FCongel:sm*    |
| DATE:  | 12 / 5 /03  | 8/ 21/03 e-mail    | 8/13/03 by memo | 12 / 8 /03                 | 8/14/03 e-mail |
| OFFICE | OSTP        | ADM P.             | D/NMSS          | DEDMRS                     | EDO            |
| NAME:  | PLohaus*    | MLesarHarrison for | MVirgilio       | PLohaus for<br>CPaperiello | WTravers       |
| DATE:  | 12 / 8 /03  | 11/03/03           | 12/12 /03       | 12/24/03                   | 12/24/03       |

OFFICIAL RECORD COPY