

September 12, 2002

Mr. Robert E. Owen  
Manager of Technical Services  
Bureau of Radiation Protection  
Ohio Department of Health  
246 North High Street  
P. O. Box 118  
Columbus, OH 43216-0118

Dear Mr. Owen:

I am responding to your letter of February 20, 2002, in which you requested our views on the proposed Ohio regulations for licensing of an assured isolation facility.<sup>1</sup> I want to stress that the Commission's policy has been, and continues to be, that low-level radioactive waste (LLW) should be disposed of safely in a permanent disposal facility as soon as possible after it is generated. Thus, the Commission strongly supports State and Compact efforts to develop new LLW disposal capacity in accordance with the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA). The Commission is also aware, however, that there are a variety of complex waste disposal issues, many of which are within the purview of the Atomic Energy Act, that continue to face the States and the Nation.

There are many challenges in the area of site decommissioning that depend on the availability of safe and economic means for managing LLW. The Commission is open to serious consideration of feasible and safe management proposals and recognizes the need to assist the States in efforts that could include assured isolation facilities. In this connection, concerns about ultimate disposal must be reviewed, because storage for a period of 100 years raises additional complex issues, such as financial assurance during the storage period and at ultimate disposal, identification of responsible parties and/or their successors, waste stability, and the LLRWPA requirement to establish additional permanent disposal capacity for LLW. In addition, consideration must be given as to how current State and U.S. Nuclear Regulatory Commission (NRC) regulatory limits on the possession of special nuclear material apply to an assured isolation facility.

In the next decade, adequate LLW disposal capacity may not be available, therefore, it is timely to consider your proposal, as it could be a helpful foundation which other Agreement States could use in their development of similar regulations. We thus, are providing the enclosed general comments for your consideration. Although not all-encompassing, these comments are being provided for your assistance should you continue to develop regulations separately for the assured isolation concept. Please note that if the NRC should proceed at a later date to develop assured isolation regulations, and pending NRC compatibility requirements, Ohio may be required to amend its regulations.

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<sup>1</sup>Assured isolation is a low-level radioactive waste (LLW) management concept, and the associated facility is not permanent nor near-surface disposal, as defined in 10 CFR Part 61.

Robert E. Owen

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We would be pleased to discuss these issues and comments. Please contact me or Dr. Stephen Salomon of my staff at 301-415-3340.

Sincerely,

*/RA/*

Paul H. Lohaus, Director  
Office of State and Tribal Programs

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## GENERAL COMMENTS ON THE OHIO DRAFT RULES FOR ASSURED ISOLATION

These comments are not all-encompassing, and are provided for general assistance if Ohio develops regulations for assured isolation. It should be noted that the NRC has authority and jurisdiction over an Assured Isolation Facility (AIF) on a reactor site, at least until such time as the reactor is decommissioned and the reactor license is terminated. Thus, the comments that follow are directed to AIFs that are not on reactor sites.

### Draft Rule 3701:1-54-03 through 05; Assured Isolation Facility; Quality Assurance; and Radioactive Waste Processing

1. The definitions should be reviewed by other Federal agencies, to include the U.S. Environmental Protection Agency and the U.S. Department of Transportation. Some definitions should be revised [e.g., the definition for assured isolation should be limiting (not beyond 100 years) so as not to suggest this could be permanent disposal]. The 100-year provision in 1-54-03 (M)(3) is not direct enough to address this concern. Further, since the proposed regulation is intended to be specific to storage, the interim storage definition should not specifically include disposal. Consequently, the statement "... due to the absence of an accessible licensed disposal facility" should be revised or deleted from the interim storage definition. The definition of temporary storage states, "...for a reasonable time" and would be more useful if specific criteria were included to define what is considered reasonable. A definition for the term "institutional control," as it appears in Chapter 3701:1-54-03(K)(1), should be provided, relevant to assured isolation, and to distinguish use of the term as it is commonly applied to closed disposal sites.
2. In follow up to Comment 1, the definition for "waste management" includes disposal. Since, this definition provides interpretation for any other use of the term "management" as it applies to waste in these proposed requirements, clear distinction should be made that disposal is not included when the term "management" is used elsewhere, in the regulation, in reference to waste at an AIF. As a specific example, the definition of "assured isolation" states, "...means an integrated management system for isolating radioactive waste..." and can be interpreted as including disposal as part of the management system for this AIF waste.
3. Add clarification to (A) that the proposed regulations should be specific on when the 100-year period begins. The regulations should clearly state this is for an AIF, not for a permanent disposal facility.
4. Add (B) to (A)(2), since performance objectives should apply to all generators requiring an AIF license.
5. The regulation requires all generators to apply and operate an AIF if they will store waste longer than 5 years, in (A)(2). This could create thousands of AIFs with a significant potential for inadequate financial assurance and no incentive for disposal. Numerous bankruptcies may result. Consequently, this regulatory approach may not be consistent with the LLRWPA. Further, it is not clear how this would apply; as currently written, the regulation might be read to apply to both Ohio licensees and to NRC licensees at reactor sites. The regulation should be modified to make it clear that it applies only to Ohio licensees.

ENCLOSURE

6. Views of the Midwest Compact on the proposal should be sought to determine any legal restrictions on development of this rulemaking. Assured isolation is not permanent disposal and does not satisfy requirements of the LLRWPA. Consequently, any future National program definition and regulatory interpretation associated with assured isolation facilities may necessitate significant restructuring of existing State regulatory programs for State, commercial, and/or privately owned facilities.

7. It seems likely that these new regulations will be coordinated with State requirements for environmental impact review and assessment for both assured isolation and disposal facilities. We expect that there will be resulting changes to the proposed definitions and regulations. Specifically, submittal of environmental information for review is typically required for new licenses, renewals, certain amendments, decommissioning, and other significant safety or facility changes. Further, an environmental review would also assure that such timely issues as site surveillance and security are reviewed for increased public confidence, with regard to potential and/or perceived threats. Additionally, NRC's future decisions will likely address Federal requirements for implementing the National Environmental Policy Act (NEPA) and prevention of segmentation (i.e., the dividing of a single overall plan into separate segments without a significant environmental impact, for the purpose of evading NEPA requirements) for initial environmental reviews related to storage of waste (i.e., assured isolation) versus subsequent potential impacts resulting from disposal of the same waste.

8. Since the potential exists to exceed special nuclear material amounts that Ohio can license under the Atomic Energy Act, NRC regulations and its Agreement with NRC (August 31, 1999), the regulation should limit such material, by reference to the amounts authorized under Ohio authority, and then refer an applicant to 10 CFR. Other provisions on segregating classes of waste and controls should be more specific.

9. The provision for returning waste to the generator in Chapter 3701:1-54-03(L)(2) raises questions on who maintains ownership-level responsibility for the waste until the waste reaches a permanent disposal site -- and how a generator or its successors would ensure financial assurance for its disposal, up through the 100 years permitted for assured isolation. The financial assurance provisions in (L) are limited and should be more specific, including: (1) provisions for specifying a 3-year time period for review of the mechanisms and costs (3 years are planned for the revised NRC financial assurance requirements that are scheduled to be published in October 2002); (2) provisions specifying that when an AIF cannot provide adequate assurance, then within 90 days, the original generator or generator's designee should retrieve the waste and provide for final disposal; and (3) the addition of backup financial assurance provisions to address the potential for orphan waste where, for example, the original generator of waste stored in the AIF files in bankruptcy or terminates its business before the end of the AIF storage term. Also revise Chapter 3701:1-54-05 (K).

10. Review of the provision for emergency response was limited to the wording provided in 3701:1-54-01(C)(8). Depending on the AIF inventory, an emergency response plan may not be sufficient or may not be needed, since the plan requirements are detailed in the referenced Chapter 3701:1-40. Further, the requirements of the plan may not be sufficient if the requirements do not address radioactive material or packaging at the end of the typical life cycles. (E.g., will consequences be worse through 100 years?) These requirements should specifically address recoverability.

11. Security, as identified in Chapters 3701:1-54-03(E)(4) and 3701:1-54-03(F)(1), should not be limited to unauthorized access and removal, using the traditional interpretation of this terminology as it applies to radioactive materials storage.

12. The regulation needs to also address possible new requirements for security and protection of the AIF from sabotage and terrorist attacks after 9/11.

13. Chapter 3701:1-54-03(F)(2) states, "All radioactive waste ultimately subject to transportation must be stored in containers made for transportation." If waste is being stored until retrieved and relocated to a permanent disposal site, all the waste will be subject to transportation for disposal and may be stored in transportation containers. We question if this is the best storage mechanism. Further, at the end of the expected 100-year maximum storage period, transportation requirements and containers may be significantly different from current requirements.

14. The description for waste processing facilities provided in Chapter 3701:1-54-05(E) states, "The facility design, location, and site geology shall provide reasonable assurance that radioactive materials will remain isolated from the environment as intended." Specific design considerations are also listed. However, climate characteristics of an area should also be considered during design (e.g., tornadoes, ambient temperature ranges, and wearing/cracking from winter-ice formation). The same comment applies to the AIF design considerations specified in Chapter 3701:1-54-03(D). Other hazards should also be addressed (e.g., chemical and formation of explosive gases may need evaluation).

15. The regulation states robust engineering designs; however, it is not clear that they are incorporated into the regulation and more specification may be needed. In addition, it is not clear how the rulemaking will be implemented. There is a need for guidance on reviews of applications to ensure consistency of approach at different facilities, and to ensure consideration of a risk-informed approach.

16. Similarly, additional considerations of the above comments are needed for the Quality Assurance and Radioactive Waste Processing regulations.

17. Guidance documents that may accompany the proposed requirements were not available to include with our review. We recommend the development of specific guidance for the implementation of AIF related requirements that will address, for example, specific areas, expected practices, and acceptable criteria (e.g., acceptable leak detection systems; guidelines assuring that stored waste can be inspected; etc.).