

March 30, 2001

Mr. Richard A. Ratliff, Chief  
Bureau of Radiation Control  
Texas Department of Health  
1100 West 49<sup>th</sup> Street  
Austin, TX 78756-3189

Dear Mr. Ratliff:

I am responding to your letter of February 27, 2001, in which you request views on the licensing of an assured isolation facility. You forwarded a letter from Honorable Warren Chisum of Texas, in which he asks, "What requirements would be necessary, in addition to Part 61, to establish an assured isolation facility in Texas?" The Commission's policy, as described in the enclosed correspondence, has been, and continues to be, that low-level radioactive waste (LLW) should be disposed of safely 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. However, in view of the many complex waste disposal issues currently facing this Nation, the Commission is open to serious consideration of any feasible and safe proposals.

An assured isolation facility, as originally described by its authors,<sup>1</sup> is intended initially to be a storage facility. Later, based on its performance, it could be converted to a disposal facility, subject to the requirements in effect at that time. Its authors describe it as a LLW management concept different from Part 61 near-surface disposal facilities. Instead of relying on site features to help in isolating waste like Part 61, an assured isolation facility relies more heavily on engineered barriers and "institutional controls," or the monitoring and maintenance of the facility, far into the future. Reliance on such controls is limited by Part 61 requirements to 100 years after facility closure. The assured isolation concept also preserves future options (such as the ability to remove waste and dispose of it elsewhere). Disposal of waste in 10 CFR Part 61 facilities is intended to be permanent and there are no requirements for retrievability. These important differences notwithstanding, an assured isolation facility has many of the characteristics and features of modern disposal facilities--concrete buildings and overpacks for wastes, an above-ground design, an extensive monitoring and maintenance program to ensure continued performance of the facility, and so forth. Although similar to or nearly identical to a disposal facility in its design, suitable licensing criteria for such a facility that protect public health and safety and the environment have not been defined. In the following response, we offer three different approaches for licensing an assured isolation facility for your consideration.

Approach 1-- Storage under 10 CFR Parts 30, 40 & 70. The Commission believes that Texas has the authority to license an assured isolation facility for storage of LLW in renewable terms and to defer a decision on its ultimate disposition to the future. We note that the Texas Natural Resources Conservation Commission (TNRCC) had a report prepared for it last summer that includes licensing approaches for assured isolation.<sup>2</sup> Although NRC has not reviewed this

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<sup>1</sup> "Assured Storage Facilities: A New Perspective on LLW Management" by W. Newberry, T. Kerr, D. Leroy, Radwaste Magazine, v.2, no.5, pp.13-22, September 1995.

<sup>2</sup> "Texas Compact Low-Level Radioactive Waste Generation Trends and Management Alternatives Study," Rogers and Associates Engineering Branch of URS. RAE-42774-019-5407-2. August 2000.

report, the initial licensing of such a facility for the possession and storage of LLW (under your equivalent to 10 CFR Parts 30, 40 and 70) is relatively straightforward from a public health and safety point of view, with the exception of issues associated with financial assurance for ultimate disposal and whether (and when) the facility would be considered permanent disposal. Converting the facility to a disposal facility at some time in the distant future is one of the options addressed in the TNRCC report. Issues would need to be addressed by Texas in the initial licensing, such as funding for removal and ultimate disposal of the waste if the facility was not or could not be licensed for disposal in the future. Texas would also need to determine whether such a facility meets the terms and obligations of the Texas Compact law. Finally, Texas would also need to examine how current regulatory limits on the possession of special nuclear material (SNM) might apply to an assured isolation facility. It is possible that an NRC license would also be required to possess SNM in a facility licensed by Texas, since the amounts of SNM might exceed those which Texas can license under its agreement with NRC. While obtaining a second license for possession of these materials is possible, it would be an added complication. If the State were to choose this approach, we would encourage you to coordinate resolution of issues with NRC.

Approaches 2 & 3- Disposal under 10 CFR Part 61: It would also be possible to license an assured isolation facility under Texas rules equivalent to NRC's disposal regulations in 10 CFR Part 61, while still preserving many of the desirable features of assured isolation. Such a facility, while licensed for disposal, could still incorporate the following:

- a robust engineered facility with concrete buildings and overpacks for waste;
- recoverability or retrievability of the waste for disposal elsewhere at some future time;
- institutional controls for the indefinite future, although reliance on such controls in our regulations is limited to 100 years; and
- funding sufficient for the long-term care program (such funding could potentially cover the removal of the waste and disposal elsewhere).

The engineered barriers would be relied on, at least in part, to meet our regulations, while other features, such as retrievability and funding for disposal in another facility, could be added at the discretion of the State. There are two basic alternatives for licensing under Texas disposal regulations equivalent to those in 10 CFR Part 61. The approach depends upon the design chosen for assured isolation.

Approach 2 -- 10 CFR Part 61 near-surface disposal. If an assured isolation facility were to be eventually covered with earth, it would be considered a near-surface disposal facility. This facility would be subject to the general performance objectives in 10 CFR Part 61, Subpart C, and to the detailed technical requirements that are contained in 10 CFR Part 61, Subpart D for near-surface disposal. The Commonwealth of Pennsylvania had planned such a facility at one

time, and had put into place regulations compatible with 10 CFR Part 61. The proposed facility included recoverability of the waste and an institutional control program lasting more than 100 years. The facility was to remain uncovered for a long period of time for monitoring and then would have been covered with earth after it was closed. Because of the earthen cover, a facility such as this could be licensed under your detailed technical requirements for near-surface disposal equivalent to those in 10 CFR Part 61, Subpart D. We do not believe that any additional requirements from a safety perspective would be needed for such a facility. If Texas wanted to preserve certain features of assured isolation that are not mandated by 10 CFR Part 61, it could, at its discretion, specify an institutional control period longer than 100 years and contingency funds to remove the waste and dispose of it elsewhere at some future time.

Approach 3 -- 10 CFR Part 61 above-ground disposal. This approach for licensing would be for a facility that would not be covered with earth at any time in the future. Such a facility is considered to be an "above-ground" disposal facility, and while covered by 10 CFR Part 61, there are no detailed requirements for such a design in our regulations. It is not considered to be "near-surface disposal" and would not be subject to the well-developed requirements in 10 CFR Part 61 for near-surface disposal. The above-ground disposal concept is similar in some respects to entombment of low-level radioactive waste from nuclear power reactors in the containment building after cessation of operations. NRC is currently investigating whether a rulemaking is needed or desirable for entombment, and that effort may be useful if Texas pursues above-ground disposal. (See All Agreement States Letter STP-01-017, Request for Comments on an Advance Notice of Proposed Rulemaking and a Draft Rulemaking Plan Concerning an Entombment Options for Power Reactors, dated March 7, 2001.) When NRC amended 10 CFR Part 61 in 1993 to cover above-ground facilities, we noted that detailed technical criteria would need to be developed if such a facility were to be proposed. NRC has no plans to promulgate regulations for only one possible above-ground facility. If either Texas or some other organization were to develop the requirements that would be needed to ensure long-term isolation of waste with this type of facility, NRC would be willing to provide assistance with this effort. We have enclosed our 1993 final rule on above-ground facilities for your information. The lack of specificity in our regulations would provide some flexibility for the State in terms of what the criteria might be.

Finally, we note that there may be SNM implications for Approaches 2 and 3 depending on the amount of SNM stored at any one time prior to disposal.

We would be pleased to discuss these issues further. Please contact me or Spiros Droggitis of my staff at 301-415-3340 for further information.

Sincerely,

**/RA/**

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

Enclosures:  
As stated



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

March 19, 1999

The Honorable Gary L. Walker  
Texas House of Representatives  
District 80  
P.O. Box 2910  
Austin, Texas 78768-2910

Dear Mr. Walker:

I am responding to your March 4, 1999, letter requesting the views of the Nuclear Regulatory Commission (NRC) on assured storage (or assured isolation) as an alternative to disposal of low-level radioactive waste (LLW). Our views on assured storage remain the same as those expressed in my May 9, 1996 letter to David Leroy of Idaho. The Commission policy has been, and continues to be, that LLW should be disposed of safely 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. The Commission also is aware that there are a variety of complex waste disposal issues currently facing this Nation, many of which are within the purview of the Atomic Energy Act. In particular, in view of the many challenges in the area of site decommissioning that are tied closely to the availability of safe and economic means of managing LLW, the Commission is open to serious consideration of any feasible and safe proposals.

We also recognize that a few States have expressed interest in the assured storage concept. If a State came to the Commission directly seeking our views on the feasibility of assured storage, we would evaluate the request in accordance with our regulatory responsibilities. This evaluation would have to address several complex issues associated with assured storage, such as when does assured storage constitute disposal, what financial assurance would be required during the storage period, and how would current regulatory limits on the possession of special nuclear material apply to an assured storage facility.

Because no one has applied to the NRC for a license to construct and operate an assured storage facility, *per se*, the NRC has not licensed an assured storage facility. However, the NRC has licensed numerous commercial nuclear facilities that included LLW storage as an integral component of other nuclear activities. We do not consider assured storage to be the equivalent of permanent disposal of LLW. By its very nature, assured storage is considered a temporary facility. If it were intended to be permanent, we would review an application for such a facility under our requirements for LLW disposal in 10 CFR Part 61. As I stated in my letter to Mr. Leroy, the NRC would need to determine which regulations to apply in reviewing an application to construct an assured storage facility. The applicable safety requirements would vary based on the nature of the proposal and the potential risks to the public and the environment.

I trust that this response will be useful to Texas in your consideration of assured storage and safe management of LLW. If the NRC can be of further assistance, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script, appearing to read "Shirley Ann Jackson".

Shirley Ann Jackson

PART 61 • STATEMENTS OF CONSIDERATION

56 FR 61352  
Published 12/3/91  
Effective 6/20/91

Standards for Protection Against  
Radiation; Correction

See Part 20 Statements of  
Consideration

57 FR 55062  
Published 11/24/92  
Effective 12/24/92

Clarification of Statutory Authority for  
Purposes of Criminal Enforcement

See Part 11 Statements of Consideration

requirements for low-level radioactive waste (LLW) disposal facilities. These amendments clarify that these regulations also apply to the licensing of above-ground disposal facilities; replace the phrase "quality control program" in these regulations with the phrase "quality assurance program," tailored to LLW disposal; update the Paperwork Reduction Act Statement in the regulations, and identify the correct NRC recipient of copies of the licensee's annual reports. The changes are intended to simplify LLW disposal facility licensing interactions for NRC, the NRC Agreement States, and potential applicants for LLW disposal licenses.

**EFFECTIVE DATE:** July 22, 1993.

**ADDRESSES:** Copies of the regulatory analysis, the environmental assessment and finding of no significant impact, and the comments received on the rule may be examined at the NRC Public Document Room at 2120 L Street NW. (Lower Level), Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Mel Silberberg, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555; telephone (301) 492-3810.

**SUPPLEMENTARY INFORMATION:**

**Background**

The NRC published a proposed rule in the *Federal Register* on March 6, 1992, (57 FR 8093-8096) that proposed to make four specific changes to 10 CFR part 61 (hereafter referred to as "part 61" or "the regulation"). Part 61 sets out licensing requirements, licensing procedures, and performance objectives for the land disposal of LLW waste. A review of part 61 against the backdrop of current State and Compact efforts to site and develop LLW disposal facilities identified the need to modify the regulations as follows: (1) Clarify that 10 CFR part 61 also applies to above-ground disposal facilities; (2) replace the phrase "quality control program" in § 61.12(j) with the phrase "quality assurance program," tailored to LLW disposal; (3) update the Paperwork Reduction Act Statement in § 61.8; and (4) identify the correct NRC recipient of copies of the licensee's annual reports. A 30-day comment period expired on April 6, 1992. Comments were received from six respondents.

**Summary and Analysis of Public Comments**

Two of the letters came from States, one from a citizens group, one from an environmental consulting company, one from a LLW facility developer, and one from a private citizen. Three of the

respondents provided no actual comments but only wrote to indicate their support for the proposed rulemaking. Two of the actual commenters, the State of Illinois and the consulting company, objected to certain provisions of the proposed rule and provided comments on those provisions. The objections raised by these two commenters focused on the change which clarifies that part 61 also applies to above-ground LLW disposal facilities. The developer commented on a part of the rule that was not being revised. One of the commenters raised a concern about shallow land burial that was not germane to this rulemaking.

**Issue: Abandonment of the Systems Approach**

The State of Illinois and the consulting company expressed concern that the proposed amendments to clarify the applicability of part 61 to above-ground disposal amounted to more than simple clarification. These two commenters took the view that the proposed amendments constituted a significant change in, or even abandonment of, the regulatory concept that was the foundation of part 61 and referred to as the "systems approach." The consulting company stated that two of the basic concepts of the systems approach in part 61 were that "the site should make a significant contribution to the long-term isolation of the wastes," and "as reliance on the long-term performance of engineered features decreases over time, reliance on the site must increase over time in order to compensate." The same commenter stated that the site would play a significantly less important role in assuring the long-term isolation of the waste for above-ground disposal facilities without soil covers than it would for disposal facilities built into the ground with soil covers. The commenter stated that there would have to be overwhelming reliance on the above-ground engineered structures not only to contain the wastes over the short term, but to provide long-term isolation as well. The commenters argued that this situation is an abandonment by NRC of the system approach to LLW disposal.

**Response**

The systems approach to safe disposal of LLW was and still is the foundation of licensing under part 61. The NRC is not abandoning that regulatory concept in the process of clarifying that part 61 can be used to license above-ground disposal facilities. In pursuing the concept of the systems approach during the development of part 61, NRC

58 FR 33886  
Published 6/22/93  
Effective 7/22/93

10 CFR Part 61

RIN 3150 - AE00

Licensing Requirements for Land  
Disposal of Radioactive Wastes

AGENCY: Nuclear Regulatory  
Commission.

ACTION: Final rule.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is amending its regulations containing licensing

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assumed that for LLW disposal facilities to meet the performance objectives in subpart C, there would have to be an integrated performance of all of the disposal system components (i.e. the site, the waste form, the engineering or facility design, the operation, and the closure of the facility). Each component of the disposal system would make some particular contribution to the containment or isolation of the waste, albeit dependent upon the particular design. As an integrated system the components would work with each other to protect the public health and safety. This assumption applies to any LLW disposal facility, whether it is in the ground or above-ground. As noted in the Statement of Considerations for the proposed rule, technical criteria, analogous to those presently in 10 CFR part 61 but specific to above-ground disposal, do not exist. Nor is the NRC providing either technical criteria or guidance for above-ground disposal designs in this rulemaking. It is expected that should NRC receive an application for above-ground disposal, criteria will be developed on a case-by-case basis.

In any case, whether an LLW facility is in the ground or above ground, it will have to meet the part 61 performance objectives to be licensed for LLW disposal, and performance assessments will evaluate the interactions of the site, design, etc., to determine if they will result in a safe facility.

### *Issue: NRC Promotion of an Unproven and Questionably Safe Disposal Technology*

The public health and safety implications of the proposed action were also a major concern to the consulting company. That commenter objected to the proposed rule on the grounds that the NRC could not ensure that the public health and safety would be protected because the Agency had not evaluated the safety of an above-ground disposal facility over the 500 years during which there would be a radiological hazard at such a facility. The commenter also asserted that the NRC had not demonstrated through the proposed rule that an overall disposal system of such a design could, with reasonable assurance, meet the performance objectives of subpart C, as such a facility would be required to do before an LLW license could be granted. In addition, the commenter stated that above-ground disposal technology was not specifically evaluated in the Environmental Impact Statement (EIS) for the existing part 61 and noted that no additional assessment was offered as part of the proposed rulemaking. From

this commenter's perspective, by proposing the changes to authorize the use of above-ground disposal, NRC is promoting an unproven and questionably safe disposal technology.

### *Response*

The structure of part 61 is that all land disposal facilities must meet the performance objectives of subpart C. The subpart C performance objectives are the safety objectives, intended to protect the general population from releases of radioactivity, to protect individuals from inadvertent intrusion, and to protect individuals during facility operations. The licensee application for any LLW land disposal facility must demonstrate compliance with these objectives. If NRC received a license application for an above-ground facility, NRC would perform a safety evaluation as a necessary part of the licensing process to determine if the required performance objectives would be fulfilled. NRC's analysis and evaluation for such a facility would be based on site-specific information and data obtained during the licensing process to assess compliance with the performance objectives. Additionally, in accordance with 10 CFR 51.80(a), the NRC will prepare an EIS for the facility as it is required to do for any LLW disposal facility license issued under 10 CFR part 61.

### *Issue: Lack of Technical Requirements for Above-Ground Disposal—More Complicated Licensing Process*

The two commenters who objected to the proposed rule also objected because it did not contain technical requirements for above-ground disposal. Part 61 contains detailed technical requirements specifically for near-surface disposal facilities but no equivalent technical requirements for above-ground facilities are present in the existing part 61, nor were any proposed through the rulemaking. The commenters maintain that it is not desirable to promulgate a rule extending the applicability of Part 61 to above-ground disposal facilities without appropriate technical guidance.

The consulting company also objected to the proposed rule because the commenter believes that NRC's intentions to develop technical requirements after an application is received would increase uncertainty and complicate, rather than simplify, the licensing process. The commenter stated that developing the requirements at the same time a license application is under review would expose the license review to undesired debate about the adequacy of the regulations and the

manner in which they were developed. The commenter argued that NRC should develop the technical requirements for above-ground disposal now, as part of this rulemaking.

### *Response*

The NRC continues to support its earlier decision not to issue technical criteria for above-ground disposal with this rulemaking. While some States have considered above-ground disposal, no State has actually decided to build such a facility. Thus, NRC may not even receive an application to license an above-ground facility. Therefore, NRC believes that it is a more efficient use of NRC resources to develop technical criteria when there are actual plans for an above-ground facility rather than speculate at this time as to how such a facility might be designed.

Although the decision to defer development of the technical criteria for an above-ground disposal facility will introduce some uncertainty into the licensing process, the Commission does not believe that this deferral will substantially interfere with the development of a license application for such a facility or the NRC review of such a license application. As noted previously, the performance objectives of subpart C must still be met, and furthermore, the near-surface disposal requirements currently in § 61.50, § 61.51, and § 61.52 may be useful to a potential license applicant in preparing a license application for an above-ground disposal facility.

### *Issue: Increased Regulatory Uncertainty for Above-Ground Disposal*

The consulting company expressed concern that if an Agreement State receives an application for above-ground disposal and NRC has not developed technical requirements, the Agreement State will have to develop its own technical requirements which could be different from those developed by another Agreement State or by the NRC. The commenter's view is that the differences in requirements could raise issues that would ultimately have to be resolved by NRC or by the courts.

### *Response*

NRC recognizes that different States and the NRC might utilize different technical criteria appropriate to the particular design proposed to them. The NRC will provide assistance to the extent practical to facilitate States' efforts in developing and utilizing criteria. In any case, as noted previously by the Commission, the performance objectives of subpart C must still be met. Any differences in technical approaches

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should not give rise to proceedings before NRC or the Courts.

### *Issue: LLW Licensing on an Ad Hoc Basis*

According to one of the commenters, the proposed changes which include facility review and criteria development on a case-by-case basis, raise the specter of above-ground disposal facilities that are designed, licensed, constructed, operated, and closed, on an ad hoc basis. The commenter believes such licensing would be a retreat to the method of licensing used before the promulgation of part 61.

### *Response*

The NRC does not believe that the term "ad hoc" accurately describes the licensing decisions it will make on above-ground disposal. NRC has dealt with and will continue to deal with many specific licensing issues on a case-by-case basis. However, since the promulgation of part 61, the licensing process for LLW disposal is directed at attaining reasonable assurance that the licensed facility will meet the performance objectives of subpart G. Granted there will likely be new and different issues associated with licensing an above-ground facility, but NRC will deal with these issues as it has in the past, making sure that adequate conservatism has been incorporated in the design or the siting of the facility to ensure the public safety.

### *Issue: Not Disposal but Long-Term Storage*

One of the commenters objected to the concept of above-ground disposal as nothing more than a 500-year hold-for-decay, storage facility. The commenter notes that long-term storage of LLW is inconsistent with Commission policy. The commenter urged NRC to make a clear case that an above-ground disposal facility without an earthen cover is substantially different from a 500-year storage facility.

### *Response*

The NRC would not treat an above-ground disposal facility as a storage facility. A performance assessment would need to demonstrate long-term performance and stability as required by part 61. The facility would be licensed as a permanent disposal facility and would be evaluated for compliance with the Performance Objectives in subpart C.

### *Issue: Lack of Public Role in the Regulatory Process*

Another issue raised was that the approach NRC intends to use to license

above-ground disposal will not ensure adequate opportunity for public involvement in the regulatory process. The commenter noted that in the proposed rule NRC specified its intent to develop technical requirements for above-ground disposal facilities after an application is received and on a case-by-case basis. The commenter assumed that such an approach would not afford the public the opportunity to be actively involved in the development and review of such requirements.

### *Response*

There has been opportunity for public participation in the establishment of the performance objectives in subpart C, which were established by rulemaking. In addition, there will be opportunity for the public to be involved in the regulatory process related to licensing an above-ground disposal facility. As discussed previously, the technical review criteria for an above-ground disposal facility will be developed on a case specific basis after a license application is received for such a facility. On a case specific basis the Commission will determine what mechanism to use to establish the technical requirements for the facility license and the method for involving the public in the development of such requirements. In similar situations where the technical criteria for licensing has not been established by rule, the Commission has provided an opportunity for parties to the hearing on the license application for the facility, the opportunity to comment on the licensing criteria. This occurred in the Envirocare license application for a specialized high-volume, low-activity thorium and uranium waste disposal facility (58 FR 2939) 1991 and in the Louisiana Energy Services license application for the design, construction, and operations of unique uranium enrichment facilities. (58 FR 23310) 1991.

Participation by a member of the public in the licensing process is described in NUREG-1274 including procedures for compliance with 10 CFR part 2, NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders." Federal Register Notices (FRN) are published when an application is tendered, when an application is determined to be acceptable for docketing, when the Draft Safety Evaluation Report (DSER) and Draft Environmental Impact Statement (EIS) are completed, and when public hearings are scheduled. NRC will also publish a Notice of Intent to issue a license and a Notice of Issuance. The public, States, tribes, and local

governments can petition to participate in the licensing process and can request hearings to provide further involvement.

### *Issue: Shallow Land Burial Facilities Could be Considered Geologic Repositories*

The developer commented that the second sentence of the definition "land disposal facility" which reads, "For purposes of this chapter, a geologic repository as defined in part 60 is not considered a land disposal facility" might be construed to preclude shallow land burial as a permissible method for LLW disposal. The commenter noted that while the exclusion of geologic repositories is supposed to decouple LLW facilities from deep geologic facilities for high-level waste (HLW) disposal, the definition of geologic repository in part 60 (NRC's HLW disposal regulations) is very general, and that a "shallow land burial facility" for LLW could be considered a geologic repository under the part 60 definition.

### *Response*

NRC staff believes that this comment reflects a misunderstanding regarding NRC's proposed changes to the definition of "land disposal facility," and it addresses an issue which is outside of the intended scope of the rulemaking. From the developer's comments, it could be that the developer incorrectly believed that the second sentence of the definition was being added, or at least changed, as part of NRC's proposed revision to part 61. However, neither was the case. The language identified in this comment is already part of the definition of "land disposal facility" in part 61 and has been since the original rule was promulgated in 1982. For purposes of presenting the entire definition as it would appear when the revisions were promulgated, the NRC staff included the second sentence in what was referred to as the proposed definition for "land disposal facility" for the proposed rulemaking. Even though NRC was not proposing to add or change that sentence, NRC staff considered the developer's comment to determine if the wording of the second sentence could be used to exclude typical shallow land burial as an acceptable design for disposal of LLW.

The staff does not believe that there should be any difficulty in differentiating between a geologic repository that is licensed under the requirements of part 60 for disposal of HLW and a land disposal facility licensed under the requirements of part 61 for disposal of LLW. The definition of a geologic repository must be read

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within the context of the purpose and scope of 10 CFR 60.1. This section applies to a geologic repository that is only licensed to the U.S. Department of Energy (DOE) in accordance with the Nuclear Waste Policy Act of 1982. Moreover, § 60.1 specifically states that part 60 "does not apply to any activity licensed under another part of this chapter." Therefore, a shallow land burial facility licensed under part 61 would not come within the scope of § 60.1, but instead would fit within the scope of part 61. The staff concludes that no change is required to the second sentence in the definition for "land disposal facility" in part 61 to address the developer's comment.

Based on the analysis of public comments and further staff review, the staff has prepared this final rule. As described below, there are some editorial differences between the proposed definition for "land disposal facility" and the definition to be promulgated in the final rule.

### Discussion of the Revisions

I. Amend the definition of "land disposal facility" in § 61.2 to clarify that the term refers to LLW disposal facilities which are on or protrude through the earth's surface and do not have an earthen cover, in addition to those that are in the ground and have an earthen cover. The purpose of this change is to clarify the regulatory applicability of part 61 to the licensing of "above-ground" disposal designs like the "above-ground vault," in particular, and the applicability of the performance objectives of part 61 to these designs.

The definition of "land disposal facility" offered in the proposed rule read "land disposal facility" means the land, buildings, and equipment which are intended to be used for the disposal of radioactive wastes on the surface or into the subsurface of the land. For purposes of this Chapter, a 'geologic repository' as defined in part 60 is not considered a 'land disposal facility'."

For the final rule, the wording of the definition of "land disposal facility" has been modified slightly from the language of the proposed definition in order to better clarify that part 61 can be used by NRC to license above-ground LLW disposal facilities. The final definition of land disposal reads "land disposal facility means the land, buildings and structures, and equipment which are intended to be used for the disposal of radioactive wastes. For purposes of this Chapter, a "geologic repository" as defined in part 60 is not considered a "land disposal facility." In the final definition, the words "on the surface or into the subsurface of the

land" have been deleted to eliminate confusion regarding the kinds of facilities to which these terms apply. The word "structures" has been added since that term better describes the types of engineered features likely to be constructed at an above-ground LLW disposal facility. The Commission believes the final definition is not a substantive change but a modification to simplify the definition so that it is easier to understand.

At this time, the NRC is not issuing specific technical criteria for above-ground disposal facilities that are analogous to the near-surface disposal requirements of §§ 61.50(a), 61.51(a), and 61.52(a) of subpart D because of the special technical characteristics of above-ground disposal facilities. Only those portions of the regulation that apply generically to "land disposal facilities" are directly applicable to the licensing of above-ground disposal facilities. Specifically, this means that the overall performance objectives of subpart C will apply to above-ground disposal facilities, as well as the part 61 administrative and procedural requirements, the environmental monitoring requirements, the financial assurance requirements, the waste transfer and manifest requirements, and the general institutional requirements.

Establishing the applicability of the subpart C performance objectives to above-ground disposal is particularly important. Any applicant for a license for an above-ground disposal facility under part 61 will have to demonstrate to the NRC that the proposed facility can meet the same safety requirements and dose limits that apply to any LLW disposal facility that has an earthen cover. The demonstration of compliance will have to address the unique features of the above-ground design, the special technical considerations associated with those features, their potential health and safety consequences, and reconcile them with the subpart C performance objectives.

Even though some of the requirements in subpart D are only applicable to near-surface disposal, the Commission still believes they would be useful to a prospective license applicant as guidance for planning an above-ground facility and to the NRC or Agreement States in the development of technical requirements for such facilities.

To provide further clarification regarding the applicability of part 61 to the licensing of above-ground disposal facilities, NRC also is amending the "Disposal Facility" discussion in the Concepts Section—61.7. The change to § 61.7(a)(1) clarifies the distinction made by the NRC between near-surface

disposal and above-ground disposal, to emphasize that near-surface LLW disposal facilities built partially or totally above-grade have protective earthen covers, while similar facilities constructed without earthen covers are considered to be "above-ground disposal facilities."

NRC is not providing either technical criteria or guidance for above-ground disposal designs with these amendments. It is expected that, should NRC receive an application for above-ground disposal, criteria will be developed on a case-by-case basis.

II. Replace the term "quality control program" in § 61.12(j) with the term "quality assurance program, tailored to LLW disposal." The purpose of this change is to clarify what steps an applicant for an LLW disposal facility license must take in order to assure that the facility will perform as intended, and also to assure that the necessary records and documentation are available for evaluation and performance assessment by NRC or an Agreement State at the time of license submittal. Quality assurance is a broad term that encompasses quality control and also includes managerial controls and audits.

III. Revise § 61.8 to indicate that the NRC requested and obtained OMB approval for the information collection requirements in part 61. Under the OMB guidelines that were in effect when the original part 61 was issued, OMB approval of the part 61 information collection requirements was not necessary because the regulation was expected to affect less than 10 licensees. Subsequently the OMB guidelines changed, and part 61 was no longer exempt from the OMB approval requirement. Accordingly, NRC submitted part 61 for OMB review and obtained the OMB clearance that is required by the Paperwork Reduction Act. The purpose of this change is to update § 61.8 to correctly reflect this approval.

IV. Revise § 61.80(l)(1) to identify the correct NRC headquarters recipient of copies of the annual report.

### Issue of Compatibility for Agreement States

Under existing NRC policy and guidelines, two of the changes adopted in this rulemaking would be matters of compatibility for the NRC Agreement States. The change to the definition of land disposal facility in § 61.2 is a matter of Division I compatibility, and the "QC" to "QA" change in § 61.12(j) is a matter of Division II compatibility. This means that those Agreement States that have assumed NRC's regulatory authority for the disposal of LLW under

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section 274 of the Atomic Energy Act (AEA) of 1954, as amended, normally would be required to incorporate the new definition of "land disposal facility" essentially verbatim directly into their State regulations for LLW disposal. However, States who have already selected a disposal technology and adopted a more narrow regulatory definition of "land disposal facility" to reflect that selected technology, will not be required to amend their regulatory definition to conform to this revision, provided the selected technology falls within the scope of 10 CFR part 61 and the definition is not inconsistent with the NRC definition.

The incorporation of the Division II change is also required; however, the Agreement States have more flexibility than for the Division I change. For the Division II change, the language adopted need not be identical to the NRC regulations, but the effect cannot be less stringent.

Based on the existing guidelines, the changes would have to be incorporated within 3 years after this final rule is issued.

### **Finding of No Significant Environmental Impact: Availability**

The Commission has determined under the National Environmental Policy Act of 1969 as amended, and the Commission's regulations in subpart A of 10 CFR part 51, that this rule is not expected to have a significant impact affecting the quality of the human environment and, therefore, an environmental impact statement is not required. Three of the proposed changes—the "quality control" to "quality assurance" change in § 61.12(j), the update of the Paperwork Reduction Act Statement in § 61.8, and the correction of the organizational inconsistency in § 61.80(j)(1) are the types of actions described in categorical exclusion § 51.22(c)(2). As such they are considered by the Commission to be corrective and nonsubstantive in nature and will not have an impact on the environment. The remaining changes, which clarify the applicability of part 61 to the licensing of above-ground LLW disposal, also will not have an impact on the environment in that these amendments do not change the required level of overall performance for LLW disposal facilities. Furthermore, any environmental impact of operating such a facility will be addressed as a part of the licensing action for that specific facility under 10 CFR part 51. The environmental assessment and finding of no significant impact on which this determination is based are available for inspection at the NRC Public Document

Room, 2120 L Street NW (Lower Level), Washington, DC. Single copies of the environmental assessment and the finding of no significant impact are available from Mark Haisfield, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555, telephone (301) 492-3877.

### **Paperwork Reduction Act Statement**

This final rule does not contain a new or amended information collection requirement subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.). Existing requirements were approved by the Office of Management and Budget, approval number 3150-0135.

### **Regulatory Analysis**

The Commission has prepared a regulatory analysis on this final regulation. The analysis examines the alternatives considered by the Commission and explains the decision to revise part 61. The analysis is available for inspection in the NRC Public Document Room, 2120 L Street NW (Lower Level), Washington, DC. Single copies of the analysis may be obtained from Mark Haisfield, (301) 492-3877.

### **Regulatory Flexibility Certification**

As required by the Regulatory Flexibility Act of 1980, 5 U.S.C. 605(b), the Commission certifies that this rule does not have a significant economic impact on a substantial number of small entities. The changes made to part 61 in this rule will only affect those entities that decide to apply for a license to build and operate an LLW disposal facility. In the Low-Level Radioactive Waste Policy Act of 1980 (LLRWPA) and the Low-Level Radioactive Waste Policy Amendments Act of 1985 (LLRWPA), Congress mandated that the individual States or groups of States called compacts should provide the LLW disposal capacity for the LLW generated within each of their borders. Thus the licensees for LLW disposal facilities will either be States or private operators which are not small entities under the size standards established by the Nuclear Regulatory Commission on November 6, 1991 (56 FR 56871). In addition, this rule will not have a significant economic impact because the changes to part 61 are clarifying in nature, and only a small number of licensees are likely to be affected.

### **Backfit Analysis**

The NRC has determined that the backfit rule, 10 CFR 50.109, does not apply to this final rule, and therefore,

that a backfit analysis is not required for this final rule because these amendments do not involve any provisions which would impose backfits as defined in 10 CFR 50.109(a)(1).

### **List of Subjects in 10 CFR Part 61**

Criminal penalty, Low-level waste, Nuclear materials, Reporting and recordkeeping requirements, Waste treatment and disposal.

For the reasons set out in the preamble and under the authority of the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, as amended and 5 U.S.C. 552 and 553, the NRC is adopting the following amendments to 10 CFR part 61.

58 FR 52406  
Published 10/8/93  
Effective 11/8/93

*Whistleblower Protection for Employees of NRC-Licensed Activities*

See Part 19 Statements of Consideration

58 FR 54646  
Published 10/22/93

*Whistleblower Protection for Employees of NRC-Licensed Activities: Correction*

See Part 19 Statements of Consideration

58 FR 67657  
Published 12/22/93  
Effective 1/1/94

*Standards for Protection Against Radiation; Removal of Expired Material*

See Part 20 Statements of Consideration

60 FR 15648  
Published 3/27/95  
Effective 3/1/98

*Low-Level Waste Shipment Manifest Information and Reporting*

See Part 20 Statements of Consideration

"Pyrophoric liquid" means any liquid that ignites spontaneously in dry or moist air at or below 130°F (54.5°C). A pyrophoric solid is any solid material, other than one classed as an explosive, which under normal conditions is liable to cause fires through friction, retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation, handling, or disposal hazard. Included are spontaneously combustible and water-reactive materials.

"Site closure and stabilization" means those actions that are taken upon completion of operations that prepare the disposal site for custodial care and that assure that the disposal site will remain stable and will not need ongoing active maintenance.

"State" means any State, Territory, or possession of the United States, Puerto Rico, and the District of Columbia.

"Stability" means structural stability.

"Surveillance" means observation of the disposal site for purposes of visual detection of need for maintenance, custodial care, evidence of intrusion, and compliance with other license and regulatory requirements.

"Tribal Governing Body" means a Tribal organization as defined in the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450).

"Waste" means those low-level radioactive wastes containing source, special nuclear, or byproduct material that are acceptable for disposal in a land disposal facility. For the purposes of this definition, low-level waste has the same meaning as in the Low-Level Waste Policy Act, that is radioactive waste not classified as high-level radioactive waste, transuranic waste, spent nuclear fuel, or byproduct material as defined in section 11e.(2) of the Atomic Energy Act (uranium or thorium tailings and waste).

#### § 61.3 License required.

(a) No person may receive, possess, and dispose of radioactive waste containing source, special nuclear, or byproduct material at a land disposal facility unless authorized by a license issued by the Commission pursuant to this part, or unless exemption has been granted by the Commission under § 61.6 of this part.

(b) Each person shall file an application with the Commission and obtain a license as provided in this part before commencing construction of a land disposal facility. Failure to comply with this requirement may be grounds for denial of a license.

#### § 61.4 Communications.

Except where otherwise specified, all communications and reports concerning the regulations in this part and applications filed under them should be addressed to the Director, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555.

Communications, reports, and applications may be delivered in person at the Commission's Offices at 2120 L Street, NW., Washington, DC, or 11555 Rockville Pike, Rockville, Maryland.

#### § 61.5 Interpretations.

Except as specifically authorized by the Commission in writing, no interpretation of the meaning of the regulations in this part by any officer or employee of the Commission other than a written interpretation by the General Counsel will be considered binding upon the Commission.

#### § 61.6 Exemptions.

The Commission may, upon application by any interested person, or upon its own initiative, grant any exemption from the requirements of the regulations in this part as it determines is authorized by law, will not endanger life or property or the common defense and security, and is otherwise in the public interest.

#### § 61.7 Concepts.

(a) *The disposal facility.* (1) Part 61 is intended to apply to land disposal of radioactive waste and not to other methods such as sea or extraterrestrial disposal. Part 61 contains procedural requirements and performance objectives applicable to any method of land disposal. It contains specific technical requirements for near-surface disposal of radioactive waste, a subset of land disposal, which involves disposal in the uppermost portion of the earth, approximately 30 meters. Near-surface disposal includes disposal in engineered facilities which may be built totally or partially above-grade provided that such facilities have protective earthen covers. Near-surface disposal does not include disposal facilities which are partially or fully above-grade with no protective earthen cover, which are referred to as "above-ground disposal." Burial deeper than 30 meters may also be satisfactory. Technical requirements for alternative methods may be added in the future.

(2) Near-surface disposal of radioactive waste takes place at a near-surface disposal facility, which includes all of the land and buildings necessary to carry out the disposal. The disposal site is that portion of the facility which waste is used for disposal of waste and consists of disposal units and a buffer zone. A disposal unit is a discrete portion of the disposal site into which waste is placed for disposal. For near-surface disposal, the disposal unit is usually a trench. A buffer zone is a portion of the disposal site that is controlled by the licensee and that lies under the site and between the boundary of the disposal site and any disposal unit. It provides controlled space to establish monitoring locations which are intended to provide an early warning of radionuclide movement, and to take mitigative measures if needed. In choosing a disposal site, site characteristics should be considered in terms of the indefinite future and evaluated for at least a 500 year time frame.