



Department of Energy

Washington, DC 20585

July 11, 1997

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Mr. Joseph M. Graf
Radiation Protection Program Manager
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Dear Mr. Graf:

This letter responds to your request for exemption from certain provisions contained in Title 10, Code of Federal Regulations, Part 835 (10 CFR 835), "Occupational Radiation Protection," developed through the Work Smart Standards process. Specifically, this response concerns your request for the following exemptions:

1. An exemption from the provisions of 10 CFR 835.603 and paragraphs 10 CFR 835.603(a)-(f) as these requirements apply to posting of radiological warning signs under temporary conditions. The purpose of this exemption is to permit, for periods less than 8 hours, the use of a knowledgeable individual who will take precautions to control and prevent inadvertent exposure to radioactive materials or radiation fields instead of posting radiological areas in accordance with 10 CFR 835.603(a)-(f).
2. An exemption from the provisions of 10 CFR 835.1101(a)(2) for release of materials and equipment from radiological areas established to control surface or airborne radioactive materials. 10 CFR 835.1101(a)(2) prohibits the release of materials and equipment from radiological areas to controlled areas when prior use suggests that contamination levels on inaccessible surfaces are likely to exceed the values provided in appendix D of 10 CFR 835. The purpose of this exemption is to permit releases of materials and equipment suspected of having contamination on inaccessible surfaces at levels exceeding the appendix D values from radiological areas to controlled areas established for control of contamination.

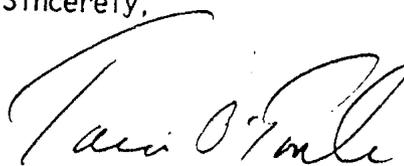
The Office of Worker Protection Programs and Hazards Management has conducted a technical review of the exemption requests (enclosure 1). Based on our review of the materials that were provided to us, discussions with your staff and Department of Energy (DOE) Albuquerque Operations Office staff, and a visit to the Los Alamos National Laboratory, DOE is granting an exemption from the provision of 10 CFR 835.603 and paragraphs 835.603(a)-(f) as they apply to posting and from the



provisions of 10 CFR 835.1101(a)(2) as it applies to release of items with potential contamination on inaccessible surfaces. These exemptions are contingent upon your compliance with the conditions specified in the enclosed exemption decision.

The Office of Defense Programs (DP) staff concurs with this response.

Sincerely,



Tara O'Toole, M.D., M.P.H.
Assistant Secretary
Environment, Safety and Health

2 Enclosures

cc w/enclosures:

Victor H. Reis, DOE/DP-1
Dennis M. Miotla, DOE/DP-13
Anne W. Troy, DOE/GC-52
J. Harris, Albuquerque Operations
Office (AL)/Los Alamos Area Office
Robert K. Christopher, DOE/EH-10
Price Anderson Amendment Act (PAAA)
Docketing Clerk, DOE/EH-10
Bruce G. Twining, AL
Radiological Control
Coordinating Committee
PAAA Coordinators

cc w/o enclosures:

Alvin L. Alm, DOE/EM-1
Martha A. Krebs, DOE/ER-1
Terry R. Lash, DOE/NE-1
Richard E. Glass, AL
Daniel G. Pellegrino, AL

Technical Position

Los Alamos National Laboratory Title 10, Code of Federal Regulations, Part 835 (10 CFR 835) Exemption Request (1 of 2)

Los Alamos National Laboratory (LANL) has requested exemption from certain requirements of 10 CFR 835, "Occupational Radiation Protection." LANL requests exemption from the requirements of section 603 and paragraphs 603(a)-(f) of 10 CFR 835 as these requirements apply to posting of radiological warning signs under temporary conditions. LANL proposes, for periods less than 8 hours, to assign a knowledgeable individual who will take precautions to control and prevent inadvertent exposure to radioactive materials or radiation fields instead of posting radiological areas in accordance with 10 CFR 835.603(a)-(f).

Discussion

Request

As a result of the application of the Work Smart Standards process to occupational radiation protection, LANL has prepared a proposed revision to the existing Radiation Protection Program that would include two exemptions from the requirements of 10 CFR 835. One of the exemptions, regarding posting of radiological warning signs, is discussed herein.

Applicable Requirements

10 CFR 835.603 requires that "Each access point to a radiological area (as defined in § 835.2) shall be posted with conspicuous signs bearing the wording provided in this section." Paragraphs (a)-(f) of 10 CFR 835.603 establish posting requirements for the radiological areas defined at § 835.2(a).

Analysis

The Office of Worker Protection Programs and Hazards Management (EH-52) has reviewed LANL's request for exemption and finds that within certain specified constraints, the request meets the requirements for granting an exemption as specified in 10 CFR 820, "Procedural Rules for DOE Nuclear Activities." Specifically, LANL has provided sufficient indication that the requested exemption meets the special circumstances provided at 10 CFR 820.62(d)(2), "Application of the requirement in the particular circumstances would not serve or is not necessary to achieve its underlying purpose, or would result in resource impacts which are not justified by the safety improvements."

Radiological warning postings are commonly used throughout those facilities and industries using radiation and radioactive materials to provide ample warning to affected individuals of the radiological conditions present in an area and precautions to be used for entry and exit. Through accepted practice and regulation, the design and content of certain radiological warning postings have become somewhat standardized, leading to substantial consistency between the requirements of the Nuclear Regulatory Commission (NRC) [see 10 CFR 20.1901 - 1903] and those of the Department of Energy (DOE) [see 10 CFR 835.601 - 603]. In its regulatory basis document supporting the 1996 proposed amendment to 10 CFR 835, DOE indicates that the mandatory radiological warning posting regimen supports two of the underlying programmatic objectives for occupational radiation protection programs:

- Provide for individual awareness of hazards and ability to work safely (objective C); and
- Control radioactive materials and access to areas where exposure may occur (objective E).

EH-52 believes that in lieu of radiological warning postings, a regimen of physical surveillance and intervention, when necessary, by a knowledgeable individual is adequate to ensure satisfaction of the underlying objectives noted above. EH-52 also notes that both section 1903 of 10 CFR 20 and section 604 of DOE's 1996 proposed amendment to 10 CFR 835 contain provisions for establishing controls in lieu of posting that are substantially consistent with the methods proposed in LANL's exemption request.

In acknowledging these facts, DOE notes that LANL's exemption request would require that the cognizant individual "take precautions to control and prevent inadvertent exposure to radioactive materials or radiation fields." While this provision is similar to that provided at 10 CFR 20.1903, it differs somewhat from DOE's proposed requirement for 10 CFR 835.604. Specifically, DOE's proposed requirement would require that the unposted radiological area be placed "under continuous observation and control of an individual knowledgeable of, and empowered to implement, required access and exposure control measures." The differences between these provisions arise from DOE's emphasis upon active hazard control whereas NRC's requirements may result in a more passive stance that DOE believes to be inappropriate. While these differences may appear to be minor, DOE believes that achievement of its programmatic objectives, as discussed above, is dependent upon the cognizant individual's action to control both inadvertent and planned entries, exits, and resultant exposures.

DOE also notes that provisions for individual surveillance in lieu of posting may also result in adverse impacts on the cognizant individual's (or individuals) potential for exposure to radiation and/or radioactive material. Therefore, the

benefits derived from the use of individual surveillance and control in lieu of posting must be weighed carefully against the possible detriments and the status of compliance with the As Low As Reasonable Achievable (ALARA) requirements of 10 CFR 835.

Consistent with this analysis, EH-52 recommends approval of LANL's request for exemption from the provisions of 10 CFR 835.603 and 10 CFR 835.603(a)-(f), subject to the following conditions:

1. A radiological area may be excepted from the posting requirements of § 835.603 for a period not to exceed 8 continuous hours when that area is placed under the continuous observation and control of an individual knowledgeable of, and empowered to implement, required access and exposure control measures.
2. The provisions of this exemption decision do not affect the applicability of other provisions of 10 CFR 835. Therefore, for radiological areas that are placed under the observation and control of a knowledgeable individual in lieu of posting, the required access and exposure control measures shall be consistent with those that would be implemented if the area were to be posted in accordance with § 835.603(a)-(f). Because the affected areas are radiological areas as defined in § 835.2(a), LANL is reminded that additional provisions of 10 CFR 835 may still apply. EH-52 calls particular attention to §§ 835.402, 403, 404, 501, 502, and 901-903. In addition, implementation of this exemption must also consider measures necessary to ensure compliance with the provisions of 10 CFR 835 that require implementation of the ALARA process.

Notwithstanding the apparent consistency with the proposed 1996 amendment, EH-52's technical position and recommendation that the request be granted is based upon our office's independent review of the basis for the exemption request. If the final language of the amendment varies from the proposed 10 CFR 835 amendment, the decision for this request remains unchanged.

Concurrence

Consistent with the technical justification and conditions provided above, EH-52 concurs with the subject exemption request as specified above.

Duration of Exemption

Permanent.

Technical Position

Los Alamos National Laboratory
Title 10, Code of Federal Regulations, Part 835 (10 CFR 835)
Exemption Request (2 of 2)

Los Alamos National Laboratory (LANL) has requested exemption from certain requirements of 10 CFR 835, "Occupational Radiation Protection." LANL requests exemption from the requirements of section 1101(a)(2) of 10 CFR 835 for release of materials and equipment from radiological areas established to control surface or airborne radioactive materials. 10 CFR 835.1101(a)(2) prohibits the release of materials and equipment from radiological areas to controlled areas when prior use suggests that contamination levels on inaccessible surfaces are likely to exceed the values provided in appendix D of 10 CFR 835. LANL proposes to permit releases of materials and equipment suspected of having contamination on inaccessible surfaces at levels exceeding the appendix D values (referred to herein as "potential internally contaminated items") from radiological areas to controlled areas established for control of contamination.

Discussion

Request

As a result of the application of the Work Smart Standards process to occupational radiation protection, LANL has prepared a proposed revision to the existing Radiation Protection Program that would include two exemptions from the requirements of 10 CFR 835. One of the exemptions, regarding release of potential internally contaminated items, is discussed herein.

Applicable Requirements

10 CFR 835.1101(a) requires that, "In radiological areas established to control surface or airborne radioactive material, material and equipment shall be treated as radioactive material and shall not be released from radiological areas to controlled areas if either of the following conditions exist: (1) Measurements of accessible surfaces show that either the total or removable contamination levels exceed the values provided in appendix D to this part; or (2) Prior use suggests that the contamination levels on inaccessible surfaces are likely to exceed the values specified in Appendix D to this part."

Analysis

The Office of Worker Protection Programs and Hazards Management (EH-52) has reviewed LANL's request for exemption and finds that within certain specified constraints, the request meets the requirements for granting an exemption as specified in 10 CFR 820, "Procedural Rules for DOE Nuclear Activities." Specifically, LANL has provided sufficient indication that the requested exemption meets the special

circumstances provided at 10 CFR 820.62(d)(2), "Application of the requirement in the particular circumstances would not serve or is not necessary to achieve its underlying purpose, or would result in resource impacts which are not justified by the safety improvements."

DOE's regulatory requirements for releasing materials and equipment from radiological areas to controlled areas provide appropriate measures for assessing the radiological hazards arising from such activities and constraints on the radiological conditions associated with the materials to be released. In general, these provisions of 10 CFR 835 require that the measured or suspected contamination levels be below the values provided in appendix D of 10 CFR 835. At 10 CFR 835.1101(c), DOE has established requirements that permit removal of materials and equipment having fixed contamination levels exceeding the appendix D values from radiological areas to controlled areas under certain restrictive conditions. The additional conditions include requirements for material labeling or tagging, routine monitoring, and administrative procedures.

In its exemption request, LANL has indicated that it intends to implement measures for potential internally contaminated items similar to those required by § 835.1101(c) for materials and equipment having fixed contamination levels exceeding the 10 CFR 835 appendix D values. LANL has proposed the following controls for potential internally contaminated items released from radiological areas to radiologically controlled areas for contamination:

1. Removable contamination on accessible surface shall be below the appendix D values;
2. Materials and equipment will be routinely monitored and clearly labeled or tagged to alert individuals to the contaminated status; and
3. Administrative procedures shall be established and used to maintain control of the materials and equipment, and such procedures shall require monitoring to the unrestricted release values specified in DOE Order 5400.5, "Radiation Protection of the Public and the Environment" (or 10 CFR 834, "Radiation Protection of the Public and the Environment," when published).

EH-52 recommends approval of LANL's request for exemption from the provisions of 10 CFR 1101(a)(2), subject to the following conditions to prevent inadvertent exposure:

1. LANL may release potential internally contaminated items from radiological areas to radiologically controlled areas established for contamination as described in LANL's "Radiation Protection Program Standards" of May 1996. As used herein, the term "radiologically controlled area for contamination" is consistent with the term "controlled area" defined at § 835.2(a).

2. Materials and equipment released in accordance with condition 1 above shall:
 - a. Have removable contamination levels on accessible surfaces below the applicable 10 CFR 835 appendix D value(s).
 - b. Be surveyed on a specified schedule or frequency to detect the spread of contamination. Such surveys shall include the released potential internally contaminated item(s), areas surrounding the released internally contaminated item(s), and any items or systems that may be connected to or otherwise come in contact with the potentially contaminated surfaces of the released potential internally contaminated items.
 - c. Be marked or labeled in a manner that clearly indicates the potentially contaminated status and precautions necessary to protect individuals who may be exposed to the hazard.
 - d. If surveys required by condition 2(b) reveal the presence of removable contamination on accessible surfaces at levels exceeding the applicable appendix D value(s), LANL shall immediately establish area postings and contamination controls consistent with the requirements of §§ 835.404, 835.501, and 835.603.
3. The operations and activities shall be controlled to minimize the potential for release of radioactive contamination from the potential internally contaminated items.
4. When operations in controlled areas involving the released potential internally contaminated items have been completed, LANL shall return the affected items to an appropriate radiological area or verify that the material or equipment meets the conditions specified in § 835.1101(a).
5. LANL shall develop and implement written procedures governing the release of potential internally contaminated items in accordance with condition 1 above. Such written procedures shall address, at a minimum, conditions 1-4 stipulated above and other provisions necessary to ensure that use and handling of internally contaminated items released in accordance with condition 1 are conducted in a manner that ensures compliance with all applicable requirements of 10 CFR 835.

The provisions of this exemption decision do not affect the applicability of other provisions of 10 CFR 835. LANL is reminded that additional provisions of 10 CFR 835 may still apply. EH-52 calls particular attention to §§ 835.401, 835.403, 835.404,

and 835.703. In addition, implementation of this exemption must also consider measures necessary to ensure compliance with the provisions of 10 CFR 835 that require implementation of the As Low As Reasonably Achievable process.

Concurrence

Consistent with the technical justification and conditions provided above, EH-52 concurs with the subject exemption request as specified above.

Duration of Exemption

Permanent.

PART 835 EXEMPTION DECISION

Pursuant to title 10, Code of Federal Regulations, part 820.61 (10 CFR 820.61), the Assistant Secretary for Environment, Safety and Health is authorized to exercise authority on behalf of the Department of Energy (DOE) with respect to requests for exemptions from nuclear safety rules relating to radiological protection of workers, the public, and the environment.

Los Alamos National Laboratory (LANL) has requested exemption from certain requirements of 10 CFR 835, "Occupational Radiation Protection" (10 CFR 835). Specifically, LANL has requested exemption from:

1. The requirements of § 835.603 and paragraphs 835.603(a)-(f) - This exemption request has been submitted in consideration of proposed practices related to utilization of a knowledgeable individual to provide warning and access control information in lieu of establishment of radiological warning postings. Such practices will be limited to a duration not to exceed 8 continuous hours.
2. The requirements of § 835.1101(a)(2). This exemption request has been submitted in consideration of proposed practices related to release of materials and equipment having removable contamination on inaccessible surfaces from radiological areas to controlled areas.

These requests state that the exemptions are not prohibited by law; will not present undue risk to the public health and safety, the environment, or facility workers; and are consistent with the safe operation of a DOE nuclear facility.

Under the terms set forth in 10 CFR 820.61, I am the Secretarial Officer granted review and approval authority for exemption requests made with respect to 10 CFR 835. Based on a review of the supporting documentation, I find that the requests set forth above have been justified for relief from the requirements of § 835.603 and paragraphs 835.603(a)-(f) and 10 CFR 835.1101(a)(2). Specifically, I find that the exemption criteria at 10 CFR 820.62 have been met. I have determined that the exemption is not prohibited by law; will not present undue risk to the public health and safety, the environment, or facility workers; and is consistent with the safe operation of a DOE nuclear facility. I also find that the special circumstances described in the technical position prepared by the office of Worker Protection Programs and Hazards Management constitutes a sufficient basis upon which to grant this exemption.

On the basis of the foregoing, I hereby approve LANL's request for exemption from the requirements of § 835.603 and paragraphs 835.603(a)-(f)¹ and 10 CFR 835.1101(a)(2)² conditional upon LANL incorporating the following controls in their Radiation Protection Program (RPP).

With respect to the exemption from the requirements of § 835.603 and paragraphs 835.603(a)-(f):

1. A radiological area may be excepted from the posting requirements of § 835.603 for a period not to exceed 8 continuous hours when that radiological area is placed under the continuous observation and control of an individual knowledgeable of, and empowered to implement, required access and exposure control measures.
2. For a radiological area that is placed under the control of a knowledgeable individual in lieu of posting, the required access and exposure control measures shall be consistent with those that would be implemented if the area were to be posted in accordance with § 835.603(a)-(f), as applicable.

With respect to the exemption from the requirements of 10 CFR 835.1101(a)(2):

1. LANL may release potential internally contaminated items from radiological areas to radiologically controlled areas established for contamination (as described in LANL's "Radiation Protection Program Standards" of May 1996).
2. Materials and equipment released in accordance with condition 1 above shall:
 - a. Have removable contamination levels on accessible surfaces below the applicable 10 CFR 835 appendix D value(s).
 - b. Be surveyed on a specified frequency or schedule to detect the spread of contamination. Such surveys shall include the released potential internally

¹ This exemption only applies to posting requirements for radiological areas provided in § 835.603 and paragraphs 835.603(a)-(f). This exemption does not affect the definitions for the various radiological areas established in § 835.2(a) nor does it affect related requirements for monitoring, contamination control, entry control, radiation safety training, or material release.

² This exemption only applies to release of contaminated materials and equipment as those materials and equipment may be affected by the provisions of § 835.1101(a)(2). This exemption does not affect the requirements of workplace monitoring, contamination control, and recordkeeping as specified in §§ 835.401, 835.404, 835.703, and 835.1101(d).

contaminated item(s), areas surrounding these item(s), and any items or systems that may be connected to or otherwise come in contact with the potentially contaminated surfaces of the released potential internally contaminated items.

- c. Be marked or labeled in a manner that clearly indicates the potentially contaminated status and precautions necessary to protect individuals who may be exposed to the hazard.
 - d. If surveys required by condition 2(b) reveal the presence of removable contamination on accessible surfaces at levels exceeding the applicable appendix D value(s), LANL shall immediately establish area postings and contamination controls consistent with the requirements of §§ 835.404, 835.501, and 835.603.
3. The operations and activities shall be controlled to minimize the potential for release of radioactive contamination from the potential internally contaminated items.
 4. When operation in controlled areas involving the released potential internally contaminated items have been completed, LANL shall return the affected items to an appropriate radiological area or verify that the material or equipment meets the conditions specified in § 835.1101(a).
 5. LANL shall develop and implement written procedures governing the release of potential internally contaminated items in accordance with condition 1 above. Such written procedures shall address, at a minimum, conditions 1-4 stipulated above and other provisions necessary to ensure that use and handling of potential internally contaminated items released in accordance with condition 1 are conducted in a manner that ensures compliance with all applicable requirements of 10 CFR 835.

The amended RPP would need to be approved by the cognizant DOE secretarial office.

Pursuant to 10 CFR 820.66, LANL has 15 days from the date of the filing of this decision to file a Request to Review with the Secretary. The Request to Review shall state specifically the respects in which the exemption determination is claimed to be erroneous, the grounds of the request, and the relief requested. If no Request to Review is submitted, the exemption decision becomes a Final Order 15 days after it is filed.



Tara O'Toole
Tara O'Toole, M.D., M.P.H.
Assistant Secretary
Environment, Safety and Health

7-9-97

Date