

memorandum

DATE: May 26, 2000

REPLY TO

ATTN OF: Worker Protection Programs and Hazards Management:P. O'Connell:301-903-5641

SUBJECT: UPDATE TO TRANSPORTATION SAFEGUARDS DIVISION, TITLE 10 CODE OF FEDERAL REGULATIONS, PART 835, EXEMPTION DECISION

TO: Steven C. Hafner
Director, Transportation Safeguards Division (TSD)
Albuquerque Operations Office

On December 29, 1995, the Department of Energy (DOE) Assistant Secretary for Environment, Safety and Health issued an Exemption Decision that granted TSD an exemption, with specified conditions, from Title 10 Code of Federal Regulations, Part 835 (10 CFR 835), "Occupational Radiation Protection." The Exemption Decision stated that the exemption was granted on a temporary basis and would be re-evaluated upon amendment of 10 CFR 835 to specifically exempt transportation-related activities. On November 4, 1998, an amendment to 10 CFR 835 was published in the Federal Register that included a specific exclusion in 10 CFR 835.1(b) for radioactive material transportation, as defined in 10 CFR 835.2(a).

The Office of Worker Health and Safety reviewed the December 29, 1995, Exemption Decision and determined that based on the radioactive material transportation exclusion in the November 4, 1998, amendment, the exemption from 10 CFR 835 that excused TSD from 10 CFR 835 requirements and imposed several conditions is no longer needed. This determination is based on TSD only conducting activities having the potential to result in the occupational exposure of their personnel that are:

- (1) considered radioactive material transportation as defined in 10 CFR 835.2(a); or
- (2) covered within the scope of another organization's radiation protection program (e.g., TSD personnel waiting for a shipment preparation inside the controlled area at a DOE facility who are covered within the scope of that facility's radiation protection program).

If TSD is involved in DOE activities having the potential to result in the occupational exposure of their personnel other than those types discussed above, these activities would need to be conducted in accordance with a DOE approved radiation protection program.

In addition, 10 CFR 835.1(c) states that occupational doses received as a result of radioactive material transportation shall be considered when determining compliance with the occupational dose limits. One approach for compliance with this provision would be for TSD to continue to provide personal dosimeters to TSD personnel involved in radioactive material transportation who are likely to receive doses exceeding the individual monitoring thresholds in 10 CFR 835.402. The Office of Environment, Safety and Health encourages TSD to continue performing the other functions listed as conditions in the December 29, 1995, Exemption Decision. In addition to providing personal dosimeters, these functions include conducting triennial audits, providing employees with General Employee Radiological Training, maintaining records of personnel monitoring, and providing monitoring reports to individuals.

If you have any questions on this matter, please contact Mr. Peter O'Connell, Office of Worker Protection Programs and Hazards Management, on 301- 903-5641.



David Michaels, PhD, MPH
Assistant Secretary
Environment, Safety and Health

cc: T. Gioconda, Acting DP-1
Keith Christopher, EH-10
Docketing Clerk, EH-10
Manager, Albuquerque Operations
Office
Radiological Control
Coordinating Committee
Price Anderson Amendments
Act Coordinator (Donna Bergman,
Albuquerque Operations Office)

memorandum

DATE: December 29, 1995

REPLY TO
ATTN OF: Office of Worker Protection Programs and Hazards Management:
Joel Rabovsky:3-2135

SUBJECT: APPROVAL OF DEPARTMENT OF ENERGY (DOE), TRANSPORTATION SAFEGUARDS
DIVISION (TSD) REQUEST FOR EXEMPTION FROM TITLE 10, CODE OF FEDERAL
REGULATIONS, PART 835 (10 CFR 835)

Bruce G. Twining, Manager, AL

This memorandum responds to your memorandum of June 28, 1995, requesting approval of the request from the TSD of Defense Programs (DP) for an exemption from all of the provisions of 10 CFR 835. The reason for this request is to relieve this organization of the burden of complying with the requirements of 10 CFR 835 for transportation-related operations. The exemption is requested temporarily until 10 CFR 835 can be amended so that radiological requirements related to transportation activities can be explicitly excluded from 10 CFR 835 through a clarifying amendment.

The Office of Worker Health and Safety has conducted a technical review of this exemption request and recommends approval. The results of this analysis are summarized as follows:

- o Exposure of TSD personnel is limited to activities involving the transport of radioactive materials and the use of small (low radioactivity) check sources. TSD personnel do not handle radioactive material at any time during the transportation activities.
- o Existing DOE Orders and Notices provide an adequate set of requirements to protect individuals from exposure to radiation for the types of activities performed by TSD personnel.
- o Historical records of external dose and the low probability of internal exposure indicate that these activities do not pose a significant hazard to TSD personnel.

Based on this analysis, it has been determined that this exemption request meets the criteria in 820.62 (a), (b), and (c). It would be authorized by law; it would not present an undue risk to public health and safety, the environment, or facility workers; and it would be consistent with the safe operation of a DOE facility. In addition, this exemption request also meets the special criterion of 820.62(d)(1), "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."



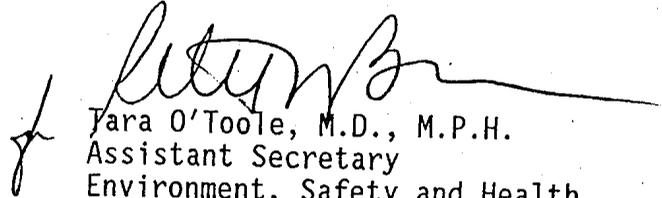
Accordingly, I approve TSD's request for exemption from 10 CFR 835 with the following conditions:

- o TSD will continue to adhere to the following radiological control practices:
 - Conduct triennial Environment, Safety and Health audits of transportation related radiological activities.
 - Provide personal dosimeters to TSD personnel involved in the use and storage of check sources and in transportation related activities.
 - Require that TSD personnel involved in transportation activities have received the equivalent of General Employee Radiological Training.
 - Maintain records of the results of personnel monitoring.
 - Provide reports of monitoring results to individuals.
 - Source custodians will receive the equivalent of Radiological Worker I training.
- o TSD will develop the technical basis to demonstrate that there is not a credible path for uptake or intake of radioactive material by its personnel.
- o Because DOE Notice 5400.9 has been superseded by DOE Notice 441.1, "Radiological Protection for DOE Activities," TSD will use the requirements in DOE Notice 441.1, section 6.e., to control exposure to check sources possessed by TSD.
- o Because all individuals exposed to ionizing radiation resulting from the conduct of DOE activities are subject to dose limits, TSD will institute an administrative control level of 2 rem total effective dose equivalent per year. Approval by the Assistant Secretary for DP or designee is required prior to allowing a TSD employee to exceed this dose level.

This exemption is granted on a temporary basis and will be reevaluated upon amendment of 10 CFR 835 to specifically exempt transportation related activities and to include requirements related to the control of check sources. In addition, this exemption will be reevaluated based on changes in the Department of Transportation regulations and any changes to the portions of the Transportation Safety Analysis Report for the DOE TSD, volume 1, "Highway Operations."

Because DP has delegated the Albuquerque Operations Office (AL) programmatic authority for TSD operations, I am responding directly to AL.

The DOE DP staff concur with this response.


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

2 Attachments

cc w/attachments:
V. Reis, DP-1
A. Luck, AL
Keith Christopher, EH-3
Docketing Clerk, EH-3
Radiological Control
Coordinating Committee
Price Anderson Amendments
Act Committee
Ted Wyka, EH-9

Technical Position

Transportation Safeguards Division (TSD) Title 10, Code of Federal Regulations, Part 835 (10 CFR 835)

The Albuquerque Operations Office (AL) has requested temporary exemption from all of the provisions of 10 CFR 835 for the Transportation Safeguard Division (TSD) of Defense Programs (DP). AL states that the reason for this request is to relieve this organization of the burden of complying with the requirements of 10 CFR 835 for transportation-related operations. AL maintains that since all operations performed by TSD are transportation related, the exemption request applies to all of 10 CFR 835.

Discussion

TSD is requesting an exemption from all requirements of 10 CFR 835 until 10 CFR 835 can be amended so that radiological requirements related to transportation activities can be explicitly excluded from 10 CFR 835 through a clarifying amendment. TSD maintains that 10 CFR 835 was not intended to apply to transportation-related activities. In support of this position, TSD cites the portion of the preamble of 10 CFR 835, which states that transportation activities are covered by various Department of Energy (DOE) Orders and; therefore, not addressed in 10 CFR 835. In addition, a January 17, 1995, memorandum from the Director of the DOE Enforcement and Investigations Staff to the Director of the AL Health Protection Division states that it was not the intention of the DOE Office of Health Physics and Industrial Hygiene that 10 CFR 835 be applicable to activities involving the offsite packaging and transportation of radioactive material.

Finally, the Price Anderson Amendments Act (PAAA) does not apply to Federal employees. Since both the highway transportation activities and the activities involving check sources carried out by TSD are performed by Federal employees, PAAA enforcement does not apply to these TSD activities.

Analysis

Activities Covered by Exemption Request

TSD Federal employees perform transportation of radioactive materials for DOE over public highways. These operations are limited to radioactive material under the cognizance of DP. All TSD personnel involved in radiological operations are Federal employees who drive and guard DOE Safe Secure Transports. They do not handle the radioactive materials at any time during the transport operations. Loading, unloading, packaging, and unpacking of radioactive material or items containing radioactive materials are the responsibility of the shipper and receiver of the shipment. The information received in the exemption request indicates that TSD personnel performing radiological activities in support of the TSD highway operations can be exposed to only two sources of occupational radiation that are not covered by an existing Radiological Protection Program - activities performed during the transport of radioactive materials and activities involving the use of check sources.

Documents Covering the Conduct of Transportation Activities:

TSD transportation related activities are conducted in accordance with 49 CFR 173 as mandated by the following DOE Orders:

- o 1540.1, Materials Transportation and Traffic Management;
- o 1540.2, Hazardous Material Packaging for Transport - Administrative Procedures;
- o 1540.3, Base Technology for Radioactive Material Transportation Packaging Systems; and
- o 5610.1, Packaging and Transportation of Nuclear Explosives, Nuclear Component and Special Assemblies.

Although TSD follows Department of Transportation (DOT) transportation requirements, the Office of Worker Protection Programs and Hazards Management notes that transportation activities are designed to ensure protection of the transportation personnel through requirements placed upon the shippers and receivers of radioactive materials. Accordingly, the following paragraphs provide support for the presumption that the shippers and receivers of materials transported by TSD conduct transportation activities in accordance with DOT requirements.

The Transportation Safety Analysis Report (TSAR) for DOE TSD, volume 1, "Highway Operations," states that all TSD highway shipments must have an approved DOE offsite transportation certificate or an approved DOE offsite transportation authorization. The TSAR also states that the safety documentation upon which the offsite transportation certificate or authorization is based shall contain information to demonstrate compliance of the packaging system and cargo handling equipment with the requirements of DOE Order 5610 series and regulatory guidelines from DOT and the Nuclear Regulatory Commission (NRC). DOE AL approves the offsite transportation authorization or certification.

The exemption request states that the shipper packages radioactive materials to ensure that radiation levels at the surface of the packages and within the vehicle meet 49 CFR requirements. Also, the exemption request states that contamination control is performed by the shipper and receiver of the items shipped by TSD. Finally, we note that the shipper certifies on the Transportation Services Request (TSR) form that the shipment presented to TSD is packaged in accordance with DOT transportation requirements in 49 CFR, subchapter C, "Hazardous Materials Regulations." The shipper and the receiver are audited by AL to verify compliance with the statements on the TSR form.

In addition to the transportation requirements associated with this shipment, there are additional requirements associated with the TSD operations that also reduce the likelihood of an event that would result in exposure of TSD personnel to radioactive material. These requirements are described in the TSAR.

Historical Radiation Doses Received by TSD Couriers and Drivers:

The exemption request states that external doses received by TSD employees involved in transportation activities are typically zero except for occasional spikes that have never exceeded 80 millirem per year. This evidence supports the TSD position that the system of radiological controls used by TSD provides an acceptable method of controlling personnel exposure to radiation.

We note that there is no discussion of internal exposure in the exemption request. Based on the information in the TSAR and the statement by the AL representative that there has been no evidence of contamination on the surfaces of the shipments, we believe that the potential internal exposure is remote but not impossible. Accordingly, TSD should provide information to demonstrate that there is not a credible path for uptake of radioactive material for TSD couriers (guards) and drivers.

Additional Radiological Controls Practices:

Material provided by AL in support of the exemption request states that TSD performs the following set radiological controls to ensure that exposure to DOE personnel is minimized:

- o Conducts triennial Environment, Safety and Health audits of transportation related radiological activities;
- o Provides personal dosimeters to TSD personnel involved in transportation related activities;
- o Requires that TSD personnel involved in transportation activities have received the equivalent of General Employee Radiological Training;
- o Assures that records are maintained of the results of personnel monitoring; and
- o Provides reports of monitoring results to individuals.

Check Sources:

Activities Involving Check Sources:

In addition to the transportation of radioactive material, TSD performs operational checks of radiation detection instruments using check sources that are of low activity. These check sources are used in support of the transportation activities to ensure that in the case of an accident, the radiation detection instruments used to survey for the release of radioactive materials are operating properly. These check sources are not used during the transport of radioactive material but are stored and used at TSD facilities on the sites where the shipment originates. Therefore, we have chosen to address this source of radiation exposure separately from the transportation activities. Note that several of the check sources are lantern mantels and consumer products containing nominal amounts of radioactive material. Radiation from these items is defined as background radiation (835.2(a)); therefore, no radiological controls are required for these sources.

Documents:

TSD commits to control the accountability, storage, and integrity of these sources using the requirements in DOE Notice 5400.9, "Sealed Radioactive Source Accountability."

Expected Exposure to TSD Personnel:

While the use of the check sources is covered under 10 CFR 835, the potential for significant exposure is very low. The amount of radioactive material (activity) contained in these sources is very low. The activity of the largest of these sources ($8\mu\text{Ci}$ Cs-137) is sufficiently low and continuous occupational exposure for a year (2000 hours) would result in a dose less than 20 millirem. This dose is well under the 100 millirem level at which monitoring is required under 10 CFR 835. Since it is unlikely these sources are used for more than several hours in a year, significant exposure is almost impossible. We note that these levels are sufficiently low and that under NRC regulations, they are exempt from licensing requirements.

Additional Radiological Control Practices

Material provided by AL in support of the exemption request states that TSD performs the following set of radiological controls to ensure that exposure to DOE personnel from radioactive check sources is minimized:

- o Source custodians will receive the equivalent of Radiological Worker I training; and
- o Personnel involved in the use and storage of these check sources will wear personnel dosimeters.

Conclusion

These requests for exemption from TSD meets the criteria in 820.62 (a), (b), and (c), which states that it would be authorized by law; it would not present an undue risk to public health and safety, the environment, or facility workers; and it would be consistent with the safe operation of a DOE facility. In addition, the exemption requests also meet the special criterion of 820.62(d)(1), "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."

The evidence provided in the exemption request and other supporting documents indicate that for TSD activities involving use of check sources and the transport of radioactive materials, the compliance with the provisions in 10 CFR 835 is not needed to protect workers from exposure to radiation. Adherence to the set of requirements referenced above provides an acceptable level of protection to TSD personnel. Therefore, an exemption from all of the requirements of 10 CFR 835 is recommended with the following conditions:

- o TSD will continue to adhere to those "additional radiological control practices" listed above.
- o TSD will develop the technical basis to demonstrate that there is not a credible path for uptake or intake of radioactive material by its personnel.
- o Because DOE Notice 5400.9 has been superseded by DOE Notice 441.1, "Radiological Protection for DOE activities," TSD will use the requirements in DOE Notice 441.1, section 6.e., to control exposure to check sources possessed by TSD.
- o Because all individuals exposed to ionizing radiation resulting from the conduct of DOE activities are subject to dose limits, we recommend that TSD institute an administrative control level of 2 millirem total effective dose equivalent per year. Approval by the Assistant Secretary for DP or designee is required prior to allowing a TSD employee to exceed this dose level.

This exemption is granted on a temporary basis and will be reevaluated upon amendment of 10 CFR 835 to specifically exempt transportation related activities and to include requirements related to the control of sealed sources. In addition, this exemption will be reevaluated based on changes in the DOT regulations and any changes to the portions of the TSAR referenced above.

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.

The Transportation Safeguards Division (TSD) of Defense Programs (DP) filed a request for exemption from certain provisions contained in 10 CFR 835, "Occupational Radiation Protection." In particular, TSD requested an exemption from all of the provisions of 10 CFR 835. The request states 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 operations of a DOE facility.

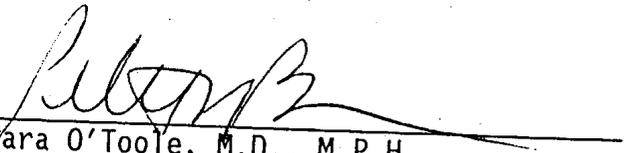
Based on a review of the supporting documentation and other information obtained during the evaluation of this exemption request, I find that this request for exemption from 10 CFR 835 meets the special requirements of 10 CFR 820.62(d)(1), "Application of the requirement in the particular circumstances 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." I have read the exemption request and the technical position prepared by the Office of Worker Protection Programs and Hazards Management and have determined that the exemption is authorized by law; will not present undue risk to public health and safety, the environment, or facility workers; and is consistent with the safe operation of a DOE nuclear facility. Radiological protection of TSD personnel transporting radioactive materials and using radioactive check sources are adequately covered by other DOE requirements pertaining to the transportation of radioactive materials and the control of sealed sources. Accordingly, compliance with 10 CFR 835 is not needed to protect TSD personnel from radiation exposure.

On the basis of the foregoing, I hereby approve TSD's request for exemption from 10 CFR 835 with the following conditions:

1. TSD will continue to adhere to the following radiological control practices:
 - o Conduct triennial Environment, Safety and Health audits of transportation related radiological activities;
 - o Provide personal dosimeters to TSD personnel involved in the use and storage of check sources and in transportation related activities;
 - o Require that TSD personnel involved in transportation activities have received the equivalent of General Employee Radiological Training;
 - o Assures that records are maintained of the results of personnel monitoring;

- o Provide reports of monitoring results to individuals; and
 - o Source custodians will receive the equivalent of Radiological Worker I training.
2. TSD will develop the technical basis to demonstrate that there is not a credible path for uptake or intake of radioactive material by its personnel.
 3. Because DOE Notice 5400.9 has been superseded by DOE Notice 441.1, "Radiological Protection for DOE activities," TSD will use the requirements in DOE Notice 441.1, section 6.e., to control exposure to check sources possessed by TSD.
 4. Exemption from 10 CFR 835 removes all dose limits from TSD. Accordingly, TSD will institute an administrative control level of 2 rem Total Effective Dose Equivalent per year. Approval by the Assistant Secretary for DP or designee is required prior to allowing a TSD employee to exceed this dose level.

This exemption is granted on a temporary basis and will be reevaluated upon amendment of 10 CFR 835 to specifically exempt transportation related activities and to include requirements related to the control of sealed sources. In addition, this exemption will be reevaluated based on changes in the Department of Transportation regulations and any changes to the portions of the Transportation Safety Analysis Report covering TSD Highway Operations.

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

12/29/95
 Date