



Department of Energy
Washington, DC 20585

January 5, 1996

Mr. W.A. Weinreich
General Manager
Mason and Hanger
Silas Mason Co., Inc.
Pantex Plant
P. O. Box 30020
Amarillo, Texas 79177

Dear Mr. Weinreich:

This letter responds to your set of five exemption requests for exemption from certain provisions contained in Title 10, Code of Federal Regulations, Part 835 (10 CFR 835), "Occupational Radiation Protection." Specifically this response concerns your request for exemption from certain provisions contained in sections 1304(a) and 1304(b)(1) through (4). The purpose of these exemption requests is to obtain relief from requirements associated with providing personnel with nuclear accident dosimetry.

The Office of Worker Health and Safety (EH-5) conducted a technical review of the exemption requests (enclosed). Based on our review of the materials that were provided to us and subsequent conversation with your staff and your follow-up letter providing additional information (reference your July 24, 1995, letter to Mr. G.W. Johnson, Area Manager, Department of Energy (DOE) Amarillo Area Office), the DOE is granting an exemption from the 10 CFR 835.1304(a) requirement to provide personnel with nuclear accident dosimetry. This exemption is contingent upon your compliance with the conditions specified in the enclosed exemption decision.

For the other exemptions which you requested, it was determined that granting an exemption from 10 CFR 835.1304(a) precludes the need for exemptions from the nuclear accident dosimetry requirements of 1304(b)(1) through (4).

The DOE Office of Defense Programs staff concur with this response.

Sincerely,

A handwritten signature in black ink, appearing to read "Tara O'Toole".

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

2 Enclosures

cc w/enclosures:
See next page

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 (EH-1) 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 Mason and Hanger, Silas-Mason Company, Inc. (Mason and Hanger) requests exemption from requirements of 10 CFR 835, "Occupational Radiation Protection." Specifically, Mason and Hanger requests permanent exemption from the requirements sections 1304(a) and 1304(b)(1) through (4). The purpose of the exemption requests is to obtain relief from requirements associated with providing personnel at the Pantex Plant in Amarillo, Texas with nuclear accident dosimetry.

The request states 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.

Based on a review of the supporting documentation, the exemption criteria in 10 CFR 820.62, and the technical position prepared by the Office of Worker Protection Programs and Hazards Management, I find that the request set forth above has been justified for relief from the requirement of 10 CFR 1304(a) to provide personnel at the Pantex Plant in Amarillo, Texas with nuclear accident dosimetry. Specifically, I find that the exemption criteria in 10 CFR 820.62 have been met. I have read the exemption request and the technical position prepared by EH-52 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. I also find that the special circumstances, described in the Technical Position prepared by EH-52, constitute a sufficient basis upon which to grant this exemption.

On the basis of the foregoing, I hereby approve Mason and Hanger's request for exemption from the stated section of 10 CFR 835. This exemption is conditional upon Mason and Hanger:

- Conducting operations at the Pantex Plant as described in the exemption request and as described in the July 24, 1995, letter from Mr. W.A. Weinreich, General Manager, Mason and Hanger, Pantex Plant, to Mr. G.W. Johnson, Area Manager, DOE Amarillo Area Office; and
- revising their Radiation Protection Program, required by 10 CFR 835.101, to incorporate operating conditions as described in the exemption request and as described in Mr. Weinreich's July 24, 1995, letter to Mr. G.W. Johnson.

Pursuant to 10 CFR 820.66, Mason and Hanger has fifteen 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 fifteen days after it is filed.



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

4/4/96
Date

TECHNICAL POSITION

Pantex Plant Title 10 Code of Federal Regulations Part 835 (10 CFR 835)

The Mason and Hanger, Silas-Mason Company, Inc. (Mason and Hanger) requests exemption from requirements of 10 CFR 835, "Occupational Radiation Protection." Specifically, Mason and Hanger requests permanent exemption from the requirements of sections 1304(a) and 1304(b)(1) through (4). The purpose of the exemption requests is to obtain relief from requirements associated with providing personnel at the Pantex Plant in Amarillo, Texas, with nuclear accident dosimetry. Mason and Hanger states that its exemptions are authorized by law; do not present an undue risk to health and safety of the public or facility workers or to the environment and are consistent with the safe operation of a Department of Energy (DOE) nuclear facility.

Discussion

Request

Mason and Hanger manages and operates the Pantex Plant in Amarillo, Texas, for the DOE. The Pantex Plant possesses enough fissile material to constitute a critical mass; however, it does not process the fissile material. All fissile material is in the form of finished weapons components of fixed physical form, quantity, and isotopic concentration. The components are disassembled from a nuclear weapon and then staged awaiting shipment. Mason and Hanger states that the combination of physical and administrative controls and the physical properties of the fissile material render the probability of either an accidental or intentional nuclear criticality incredible. Therefore, there is no need to provide personal nuclear accident dosimetry in accordance with 10 CFR 835.1304(a). The Pantex Plant was previously granted an exemption from a similar requirement in DOE Order 5480.11, "Radiation Protection for Occupational Workers," in 1992. It is for these reasons that Mason and Hanger requests to be exempted from the requirement to provide nuclear accident dosimetry to personnel.

Requirements from which Exemption is Sought

§ 835.1304 Nuclear accident dosimetry.

- (a) Installations possessing sufficient quantities of fissile material to potentially constitute a critical mass, such that the excessive exposure of personnel to radiation from a nuclear accident is possible, shall provide nuclear accident dosimetry for those personnel.
- (b) Nuclear accident dosimetry shall include the following:
 - (1) A method to conduct initial screening of personnel involved in a nuclear accident to determine whether significant exposures to radiation occurred;

- (2) Methods and equipment for analysis of biological materials;
- (3) A system of fixed nuclear accident dosimeter units; and
- (4) Personal nuclear accident dosimeters worn by all personnel who enter locations in which installed criticality alarm systems are required.

Analysis

The Office of Worker Protection Programs and Hazards Management (EH-52) reviewed the requests for exemptions from five requirements of 10 CFR 835 and the results are as follows:

1. Mason and Hanger requested exemption from 10 CFR 835.1304(a) which requires that the facility provide nuclear accident dosimetry for personnel at the facility. EH-52 reviewed the materials accompanying the exemption request and requested additional information from the facility. That information was provided in a follow-up July 24, 1995, letter from Mr. W.A. Weinreich, General Manager, Mason and Hanger, Pantex Plant, to Mr. G.W. Johnson, Area Manager, DOE Amarillo Area Office.

On February 26, 1992, the Pantex Plant was granted an exemption from DOE Order 5480.11, Section 9q, "Nuclear Accident Dosimetry," by the DOE Office of Environment, Safety and Health (DOE/EH). In the exemption, DOE/EH concurred with the conclusion of the DOE Albuquerque Field Office and the Weapons Criticality Committee that nuclear accident dosimeters are not required at the Pantex Plant.

The supporting documentation submitted with the current exemption request was similar to that sent for the request for exemption from DOE Order 5480.11 in 1990. In the above referenced letter to Mr. G.W. Johnson from Mr. W.A. Weinreich, additional information was submitted concerning this exemption request. In this letter, Mr. Weinreich states that little has changed in Pantex Plant operations since 1990. The changes that were made were the results of a Final Safety Analysis Report (FSAR) on Pantex Plant Zone 4 in 1993. A new stacking configuration has been adopted for containers with nuclear weapons components in this area. The FSAR was reviewed by the DOE Headquarters Technical Safety Review Panel and their conclusion was that "the analysis here and in the SAR demonstrated that a criticality event is incredible, therefore there is no need for a CAS [criticality alarm system] in Zone 4 West."

In addition, Mr. Weinreich states that formally documented Pantex Plant programs have been developed to address Nuclear Criticality Safety, per DOE Order 5480.24, and Unreviewed Safety Questions, per DOE Order 5480.21. All proposed changes to nuclear facilities or operations are processed through these programs in accordance with Pantex Plant Policy Directives DIR-0120, "Nuclear Criticality Safety," and DIR-0121, "Safety Analysis," to ensure that operations remain within the Pantex authorization basis. Mr. Weinreich further states that any change in facilities or operations

that may create new criticality issues after this exemption is granted will be evaluated to ensure that the original conclusions used to justify this request are still valid in accordance with Pantex Plant Policies and Standards.

Based on this review, EH-52 has determined that the request meets the requirements for granting an exemption as specified in 10 CFR 820. Specifically, Mason and Hanger has provided sufficient indication that the requested exemption meets the special circumstances provided in 10 CFR 820.62, "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."

This exemption is conditional upon Mason and Hanger:

- Conducting operations at the Pantex Plant as described in the exemption request and as described in Mr. Weinreich's July 24, 1995, letter to Mr. G.W. Johnson; and
 - revising their Radiation Protection Program, required by 10 CFR 835.101, to incorporate operating conditions as described in the exemption request and as described in Mr. Weinreich's July 24, 1995, letter to Mr. G.W. Johnson.
2. Mason and Hanger requested exemption from 10 CFR 835.1304(b)(1) through (4) which includes specific requirements for the nuclear accident dosimetry. EH-52 reviewed these requirements and determined that granting an exemption from 10 CFR 835.1304(a) precludes the need for granting exemption from the nuclear accident dosimetry requirements of 1304(b)(1) through (4). Accordingly, exemptions from these provisions are not necessary.

Conclusion

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