

Hangar 481 Special Exposure Cohort Petition Evaluation Report Update

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Hangar 481 Site History

- **Located at Kirtland Air Force Base in Albuquerque, New Mexico**
- **Ross Aviation, with operations based at Hangar 481 during the covered period, was under contractual agreement with DOE**
 - **Provided air transportation of personnel and equipment as using government owned aircraft at government owned facilities associated with DOE operations at the Sandia National Laboratory in Albuquerque, New Mexico**
- **Transported equipment—including packages containing radioactive materials associated with atomic weapons programs**

Petition Overview

- **February 27, 2009: 83.13 petition received**
- **September 8, 2009: petition qualified for evaluation**
- **December 18, 2009: Evaluation Report issued**
- **February 2010: Evaluation Report presented at Advisory Board meeting**
 - **Delay requested by petitioner until Freedom of Information Act (FOIA) material could be provided**
- **July 2010: FOIA completed (DOE and NIOSH)**
- **September 23, 2010: Revised Evaluation Report issued (updated photo of Hangar 481)**

Petition Overview—cont.

- **November 2010: Evaluation Report re-presented at Advisory Board meeting**
- **November 3, 2010 Petitioner submits FOIA request for information which was not in NIOSH's possession at the time**
- **January 21, 2011: CDC FOIA office responds to the November 3 request explaining that materials will not be in our possession for some time as they are being reviewed by the Department of Energy and that he should resubmit the request in June 2011**

Petition Overview—cont.

- **January 2011: NIOSH and petitioners tour Hangar 481 and provided a list of follow-up questions to Office of Secure Transport (OST) (DOE)**
- **June 2011: Responses provided by OST to NIOSH**
- **August 2011: Addendum to the Evaluation Report issued for Hangar 481**
- **August 2011: Evaluation report re-presented at Advisory Board meeting**
- **August 2011: Petitioner requests extension of the matter from the Board so that a FOIA request could be submitted**

Petition Overview—cont.

- **October 2011: Petitioner submits an official FOIA request**
- **November 2011: Petitioner withdrew FOIA request**
- **February 2012: NIOSH provides brief summary to the Advisory Board for their consideration**
 - **NIOSH believes that all concerns expressed by the Advisory Board were addressed**

Summary of External Dose Feasibility

- External dose records exist for many Ross Aviation personnel and the REIRS reported data have been verified using Eberline data from 1990-1994
- Data from the 1994 REIRS report was found to be incorrectly entered into the database (lifetime total instead of annual dose) and has been corrected in this addendum and DOE has been notified
- The individual results of these records or use of the highest dose received by monitored personnel, adequately bounds unmonitored worker external dose

Summary of External Dose Feasibility_{-cont.}

- **Data from 1996 was not included in REIRS (covered period ends February 29, 1996)**
 - **NIOSH will use the highest annual dose for previous years for this 2-month period**
- **NIOSH will use the highest dose received in the entire year previously to bound any external dose for all employees**
- **The circumstances and locations related to the pilots' lockers and radiographic activities (done only during off hours) provide the only available explanation for elevated personnel dosimeter readings as described by the petitioner**

Summary of External Dose Feasibility_{-cont.}

- **There is no credible potential for neutron exposures**
- **Potential doses from off-hour radiographic testing would be included in the reported personal monitoring data**
- **Ambient environmental external doses are included by using the existing personnel external monitoring data**
- **X-ray examinations are not included because medical X-rays were not performed on-site at Hangar 481**

Summary of Internal Dose Feasibility

- **No radioactivity was stored or handled at the Hangar 481 facility**
- **Radioactive materials handled by workers at Hangar 481 were in sealed DOT-compliant containers and monitored in accordance with DOT regulations to verify radiation and contamination levels on package exteriors**
- **Results of available radiological surveys performed on the packages and in the transport aircraft support this premise**

Summary of Internal Dose Feasibility—cont.

- Based on the available information on the radiological program and potential for internal exposure sources, NIOSH concludes that internal radiological exposures to Ross Aviation employees resulting from services rendered for the DOE at Hangar 481 are unlikely to have occurred
- Sandia National Laboratory, being an adjacent facility, was used to provide a bounding estimate of the dose from ambient environmental internal dose during the covered period

Feasibility Summary

Feasibility Findings for SEC-00139		
Source of Exposure	Dose Reconstruction Feasible	Dose Reconstruction NOT Feasible
Internal		
	X	
External		
- Beta-Gamma	X	
- Neutron	N/A	
- Occupational Medical X-ray	N/A	