

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.: 030-28641

License No.: 42-23539-01AF

Report No.: 030-28641/96-15

Licensee: United States Air Force

Facility: Eielson Air Force Base

Location: Fairbanks, Alaska

Dates: July 23, 1996

Inspector: Richard A. Leonardi, Jr., Radiation Specialist

Approved by: Charles L. Cain, Technical Assistant
Division of Nuclear Materials Safety

Attachment: Partial List of Persons Contacted

Report Details

1 Background

Under contract by the NRC, Oak Ridge National Laboratory was tasked to review licenses which had either expired or had been terminated prior to 1985. During this review, AEC License 04-07177-02 was identified for review because of a lack of information concerning the disposition of facilities and materials previously covered by this license.

AEC License 04-07177-02 was originally issued in April 1962 to the United States Air Force for activities to be conducted at McClellan Central Laboratory located in Building 628 at McClellan AFB. In July 1963, this license was amended to authorize activities in Building 1183 at Eielson AFB, Fairbanks, Alaska. The license apparently expired on July 31, 1965, because the most recent license renewal carried this expiration date. There was a telex in the license file dated July 28, 1965, indicating that a renewal application would be sent within 2 months; however, there is no evidence that the license was ever renewed.

The docket file contains no information concerning the disposition of license materials and facilities nor information pertaining to possible radioactive waste land burials. The docket file also contained no specific information relating to a final survey or AEC or Air Force final inspections of facilities at McClellan AFB and Eielson AFB.

2 Eielson AFB Building 1183 Site Visit

2.1 Inspection Scope

An inspection at Eielson AFB, Fairbanks, Alaska, was conducted on July 23, 1996, to determine the disposition of licensed materials and facilities used at Eielson AFB under AEC License 04-07177-02, that expired on July 31, 1965.

2.2 Observations and Findings

During discussions with Eielson AFB personnel at Detachment 460 located in Building 1183, the inspection disclosed that Building 1183 had remained an active location for the support of the Nuclear Debris Collection and Analysis Program that opened the first radiochemical laboratory in about 1950. In 1964, this group was officially called Detachment 202 (Det 202), and continued activities until May 1974, at which time Det 202 was inactivated at Eielson and Det 460 was activated. Since January 1978, the mission of the field laboratory at Det 460 (Building 1183) has been to serve as a forward location for early quantitative and qualitative analyses of debris samples taken from the atmosphere. It is assumed that Det 202 used license materials under AEC License 04-07177-02 from April 1962 through July 31, 1965, at which time the license expired.

During the review of documents provided by Det 460 personnel, it was determined that Eielson AFB was issued its own AEC license (50-13057-01) as a result of an application dated September 5, 1968. This license authorized essentially the same licensed materials and authorized uses as did AEC License 04-07177-02. However, no records were made available to suggest that the license issued to Eielson AFB (50-13057-01) had been renewed after the December 31, 1971 expiration date.

As a result of discussions with Det 460 personnel and the Eielson AFB radiation safety officer, it was determined that the current use of licensed material at both McClellan AFB and Eielson AFB is authorized by USAF Radioactive Material Permit No. 09-30272-1AFP issued to Patrick AFB, Florida. A review of Amendment No. 10 of that permit revealed a parallel with the original AEC License 04-07177-02 in the materials and uses authorized. All health physics support for Det 460 is provided by Patrick AFB's permitted radiation safety officer on an ongoing basis and upon request. Det 460 personnel indicated that no radiochemical operations using unsealed licensed materials are performed in Building 1183 in conjunction with Det 460's mission at Eielson AFB. Det 460 personnel indicated that only instrument calibration sources are maintained in that building.

Discussions with Det 460 personnel regarding the disposition of licensed materials that had been used under AEC License 04-07177-02 and apparently AEC License 50-13057-01 in Building 1183 on Eielson AFB produced no new information. Det 460 personnel indicated that they had been researching the prior use of Building 1183 for the past 4 years with future plans on decommissioning this facility; however, they have been unsuccessful in locating useful records that would document licensed activities with respect to Building 1183 between the period 1976 through 1986. They indicated that they were in the process of contacting retired Air Force personnel who had worked at Building 1183 in an effort to obtain historical information to support the decommissioning process.

A review of two radiation area/contamination area surveys performed by both Eielson AFB and Patrick AFB indicated that the radiochemical work areas within Building 1183 under AEC License 04-07177-02 and AEC License 50-13057-01 had been decontaminated prior to Det 460 assuming activities in Building 1183. The inspector was unable to enter the area in the building where licensed materials were used because of the classified nature of the work within.

2.3 Conclusions

The site visit at Eielson AFB did provide the necessary information to indicate that Building 1183 had been decontaminated and was released for unrestricted use prior to Det 460's occupation and use of this facility in 1974.

3 Radioactive Waste Land Burial

3.1 Inspection Scope

The Oak Ridge National Laboratory's review of AEC License 04-07177-02 identified possible inappropriate disposal or abandonment of radioactive waste or radioactively contaminated materials associated with activities at Building 1183 at Eielson AFB. The inspector sought to determine the identity, quantities, and locations of land burial sites associated with this operation.

3.2 Observations and Findings

The interview of Det 460 personnel did provide some new information as to the possible land burial of licensed materials on Eielson AFB property. The review of documents provided by Det 460 personnel included a copy of the original license application dated September 3, 1968. Item 15 of this application described procedures for disposal of radioactive waste originating from activities involving Building 1183. This procedure called for the disposal of bulk radioactive waste by means of collection of solid material (or liquid material absorbed in inert solids) in 55-gallon drums, capped and sealed when full, monitored by laboratory technicians, and buried by Base Civil Engineering personnel. This procedure further called for the burial to be carefully monitored to ensure proper depth of earth cover and separation between drums (4-feet deep, 6-foot separation of individual drums). Again, no records could be located regarding documented disposals by any method of licensed materials that had originated from Building 1183.

The review of an excerpt from a draft GAO Report, GAO/RCED-94-130FS, dated July 1994, "Nuclear Health and Safety-Sites Used for Disposal of Radioactive Waste in Alaska," indicated that past Air Force radioactive waste disposal activities in Alaska were confined to Elmendorf AFB, Clear AFS, and Eielson AFB. The report indicated that according to information related to NRC License 50-13057-01, a radiochemistry laboratory at Eielson may have buried radioactive waste in 55-gallon drums in the early 1970s and before. The report indicated that radioactive material had been disposed of at a landfill; however the location, when disposals took place, and the amount of radioactive material involved were all unknown. In a separate review of a memorandum issued by the Air Force's Medical Operations Agency dated May 4, 1994, it was disclosed that Eielson AFB's disposal of radioactive waste was being investigated by Air Force, HQ AFTAC/SEG at their request. These investigative findings were not available for review.

During discussions with Det 460 personnel, the possibility was disclosed that radioactive material may have been used and/or disposed of on the Island of Shemya located among the Aleutian Islands in the Bering Sea. They indicated that an inactive Air Force Base (Eareckson AFB) is located on Shemya Island and that licensed materials may have been used on the island in conjunction with activities out of Building 1183 at Eielson AFB. However, no records were provided to substantiate the use on Shemya Island.

3.3 Conclusions

The interview of Det 460 personnel and the review of records provided by Det 460 personnel pertaining to radioactive material disposition at Eielson AFB covering activities under both AEC License 04-07177-02 and NRC License 50-13057-01 provided some information regarding the disposition of radioactive material waste. Although there is evidence that radioactive waste and/or contaminated material has been buried at Eielson AFB and possibly at Eareckson AFB (inactive) on Shemya Island, no documentation has been produced to verify these land disposals. A review of possible disposals is being conducted by the Air Force.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

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NRC

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