

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 999-9003/94010(DRSS)

Docket No. 070-00171 (Terminated)

License Nos. SNM-0013 and SNM-0152 (Terminated)

Licensee: Owens-Corning Fiberglas
Toledo, OH

Inspection At: Owens-Corning Newark Plant
400 Case Avenue
Newark, OH 43055-5893

Owens-Corning Technical Center
2790 Columbus Road, Route 16
Granville, OH 43023-1200

Inspection Conducted: Onsite February 3, 1994 and review of data
February 10, 1994.

Inspector: Ryszard H. Glinski 3/9/94
R. L. Glinski Date
Radiation Specialist

Approved By: G. M. McCann 3/9/94
G. M. McCann, Chief Date
Fuel Facilities and
Decommissioning Section

Inspection Summary

Inspection on February 3, 1994 (Report No. 999-9003/94010(DRSS))

Areas Inspected: This was a special inspection to review the former licensee's activities and to determine if the facilities were adequately decontaminated prior to terminating the license. The inspector conducted independent radiation surveys in the former licensee's research/development laboratory areas. This inspection was part of an NRC project which evaluated approximately 17,000 retired licenses. An NRC contractor, Oak Ridge National Laboratories (ORNL) performed the evaluation. On the basis of the information in the retired license file, such as type and quantity of authorized materials and lack of adequate decontamination documentation, ORNL concluded that these facilities have potential for residual radioactive contamination.

Results: The NRC inspector did not identify any radiation levels or any removable radioactive contamination above ambient background at the locations surveyed. Based upon the inspection findings, it was concluded that the facilities meet the current NRC criteria for release for unrestricted use.

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 999-9003/94010(DRSS)

Docket No. 070-00171 (Terminated)

License Nos. SNM-0013 and SNM-0152 (Terminated)

Licensee: Owens-Corning Fiberglas
Toledo, OH

Inspection At: Owens-Corning Newark Plant
400 Case Avenue
Newark, OH 43055-5893

Owens-Corning Technical Center
2790 Columbus Road, Route 16
Granville, OH 43023-1200

Inspection Conducted: Onsite February 3, 1994 and review of data
February 10, 1994.

Inspector: Ryszard H. Glinski 3/9/94
R. L. Glinski Date
Radiation Specialist

Approved By: G. M. McCann 3/9/94
G. M. McCann, Chief Date
Fuel Facilities and
Decommissioning Section

Inspection Summary

Inspection on February 3, 1994 (Report No. 999-9003/94010(DRSS))

Areas Inspected: This was a special inspection to review the former licensee's activities and to determine if the facilities were adequately decontaminated prior to terminating the license. The inspector conducted independent radiation surveys in the former licensee's research/development laboratory areas. This inspection was part of an NRC project which evaluated approximately 17,000 retired licenses. An NRC contractor, Oak Ridge National Laboratories (ORNL) performed the evaluation. On the basis of the information in the retired license file, such as type and quantity of authorized materials and lack of adequate decontamination documentation, ORNL concluded that these facilities have potential for residual radioactive contamination.

Results: The NRC inspector did not identify any radiation levels or any removable radioactive contamination above ambient background at the locations surveyed. Based upon the inspection findings, it was concluded that the facilities meet the current NRC criteria for release for unrestricted use.

DETAILS

1. Persons Contacted

- *# James G. Worden, Owens-Corning, Manager, Marketing Communications
- *# Gerald D. Bowling, Owens-Corning, Technical Center Radiation Safety Officer (RSO)
- *# Kenneth D. Gould, Owens-Corning, Senior Counsel, Regulatory Law
- * Thomas A. Mullady, Owens-Corning, Newark Plant Safety Supervisor
- *#@Kathleen A. Johnson, Owens-Corning, Senior Specialist, Occupational Health and Safety
- *# Jeffrey Fry, Owens-Corning, Technical Center Environmental Coordinator
- *# Richard Smallets, Owens-Corning, Advanced Environmental Specialist
- *# Larissa Gilham, Ohio Department of Health

*Denotes individuals present during entrance meeting on February 3, 1994

#Denotes individuals present during exit meeting on February 3, 1994

@Denotes individual contacted by phone on February 11, 1994

2. License Background

On January 31, 1956, the Owens-Corning Fiberglas Corporation (O-C) was issued Atomic Energy Commission (AEC) license SNM-013, which authorized receipt and possession of fifty (50) grams of uranium oxide. The uranium content was about 90% U-235. The license authorized transfer of licensed material to the Rennsalaer Polytechnic Institute (RPI). Scientists at O-C Newark Research Center produced samples of fibrous glass containing small amounts of uranium oxide for RPI to use in chemo-nuclear process experiments. This license expired on August 1, 1956.

On December 11, 1957, O-C was issued the AEC license SNM-152 to receive and possess 150 grams of special nuclear material for the same project. This license was amended on April 28, 1958 increasing the possession limit to 1800 grams. The amendment was approved with the stipulation that only 100 grams of SNM could be used at a time. On November 19, 1958, the license was again amended reducing the possession limit to 500 grams. The license was renewed on March 17, 1960, changing the location of use from the Newark Plant to the new Technical Center in Granville, OH. On May 11, 1960, O-C received AEC Prime Contract AT(30-1)-2489 and became directly accountable to the AEC for the special nuclear material. The license was again renewed on May 7, 1965 for the possession of "500 grams U-235 as contained in UO₂ enriched in the U-235 isotope." This license was renewed for the last time on May 9, 1968. On November 29, 1972, O-C requested termination of the license. The license was terminated on December 12, 1972.

3. Areas and Procedures for SNM Use; and Previous Surveys

Through discussions with retired personnel, O-C staff determined the areas at the Newark Plant and the Technical Center where SNM had been handled. The retired staff also provided information regarding the procedures that were followed. O-C personnel indicated that a "high-powered vacuum" was used after experiments and the "vacuumings" were sent to the AEC, and that surveys were performed after each experiment. Prior to this inspection, the O-C conducted surveys over the areas of interest and found radiation levels slightly above background only at the Technical Center Building 70 Sump.

The areas where the SNM was handled are listed below:

a. At the Newark Plant;

- (1) Building 7 - Former project manager's office where the storage safe had been located. This area is now used for storage.
- (2) Building 7 - Fiberizing area. This area is now a carpenter shop.
- (3) Building 7 - Vault.
- (4) Building 36 - Batching area. This is now a fire inspection area.
- (5) Building 36 - Melting furnace area. This area was later used as a warehouse and is now the motor pool.

The buildings at the Newark Plant have been extensively remodeled. The remodeling included removal of walls, erection of new walls, removal of carpeting and tile, bricking up of doorways, and new floor covering.

b. At the Technical Center in Granville;

- (1) Building 70, Area 101 - Area where the storage safe was kept and where fiber-forming was done. This area was extensively remodeled and is now used for research.
- (2) Building 70, Area 70 Sump
- (3) Building 71, Area 033.1 - Melting furnace area.
- (4) Building 71, Room 019 - Batch mixing area. This room is now used for equipment storage.
- (5) Building 71, Room 016 - Fiber-forming and pulling area. This room has been extensively remodeled with new floor covering and laboratory cabinets.
- (6) Building 71, Room 008.1 - Vault.
- (7) Building 71 - Sump which receives waste from all chemistry labs.

4. Independent Measurements

During this inspection, a walkover beta/gamma survey was conducted over 100% of the areas where the enriched uranium had been used. The

instrument used for this survey was a Ludlum Model 3 survey meter equipped with a Model 44-9 "pancake" probe, NRC #037301, calibrated May 26, 1993. The survey concentrated on the floors, counter tops, hoods, floor/wall junctions, cracks, shelving, and drains. In addition, the hood ductwork from the Room 019 hood and the sumps in Buildings 70 and 71 were surveyed. The inspector did not identify any areas with radiation levels distinguishable from ambient background. Four smears were collected during the survey from the following locations; the safe storage area in Building 7, the Building 36 furnace area, the Building 70 sump, and in Building 70, Area 101. All the samples were less than 3 disintegrations per minute (DPM) for alpha activity and less than 10 DPM for beta activity.

5. Exit Meeting

At the conclusion of the inspection an exit meeting was conducted with the individuals specified in Section 1 of this report. The preliminary findings of the inspection were discussed. The inspector informed the company representatives that the survey results indicated that the facilities meet the current NRC release criteria for unrestricted use. The NRC criteria is presented in a document titled, "Guidelines for Decontamination of Facilities and Equipment Prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material." The O-C personnel did not identify any of the information discussed or the documents provided as being proprietary.