



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION IV

611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TEXAS 76011-8064

FEB 6 1995

① License STB-434  
Docket 040-00204

② License:  
42-23539-01AF  
Docket 030-28641

MEMORANDUM TO: Donald A. Cool, Director  
Division of Industrial and  
Medical Nuclear Safety  
Office of Nuclear Material Safety  
and Safeguards

FROM: Samuel J. Collins, Director  
Division of Radiation Safety  
and Safeguards

SUBJECT: REGION IV REVIEW OF TERMINATED SITES

The purpose of this memorandum is to provide you with a status update of all terminated sites identified as having Oak Ridge National Laboratory (ORNL) scores above five.

Enclosure 1 lists all terminated sites that have been removed or are hereby recommended for removal from the active list. Enclosure 2 summarizes the terminated sites not yet ready for closure. Enclosures 3 through 13 identify each former licensee file still open or recommended for closure by this memorandum. The enclosures provide reasons why the licenses should or should not be removed from the list. The sites are listed in numerical order (highest ORNL score to lowest).

To the extent possible, when reviewing the sites, we considered the indicators of potential subsurface soil and groundwater contamination as described in John Austin's October 9, 1992, memorandum on that subject.

The 38 sealed source files and the 22 terminated site files associated with Job 1700 (ORNL review of licenses retired prior to 1965) are not included in this memorandum. Also, this report does not include former Region V licenses, which are being addressed by the Walnut Creek Field Office.

#### Sites With ORNL Score Above 300

Region IV was assigned 13 sites with ORNL scores above 300. One docket file was transferred to another region in 1992. This file for the Kerr-McGee Cimarron facility was sent to Region III in July 1992 since that region had inspection oversight responsibility for that facility. According to W. L. Holley (retired) of this office, the file was apparently not received by Region III. A memorandum (undated) was sent from W. L. Holley to P. F. Goldberg stating that the file was apparently lost by the U. S. Postal Service.

The responsibility for inspection oversight of the Cimarron facility was recently transferred from Region III to Region IV. The Cimarron docket files that were being maintained by Region III were transferred to Region IV.

During an audit of the Cimarron files, the "missing" terminated site file was located. The file has been reviewed by the Region IV office and is being recommended for closure as discussed in Enclosure 3 of this memorandum.

Including the Kerr-McGee docket file, the Region has recommended that all 13 sites with ORNL scores above 300 be removed from the terminated site list.

#### Sites Between 5 and 300

At this time, the Region recommends that 5 out of the 9 open files be removed from the Terminated Site List, as indicated in the attached enclosures.

#### Administrative Matters

Headquarters records indicate that Region IV was sent the file for Kerr-McGee Oil Industries, License SUB-143. However, we have been unable to locate the file. We thought it might have been sent to Region III in 1992 along with the Cimarron files, but Region III personnel have stated that they do not have the file. This former Kerr-McGee facility is owned by AMAX, a Colorado state licensee. Portions of Atomic Energy Commission (AEC) License SUB-143 files were found in the Colorado state files. Kerr-McGee officials were recently contacted about this license; however, they were unable to locate any information in their archives. Based on our review of those documents found in the state files and on the knowledge that the site is covered by an active Colorado license, we previously recommended that the license be removed from the ORNL Terminated Site List. If the docket file is located, we will again review it to ensure that it contains no information contrary to our previous recommendation.

If you have any questions concerning this memorandum, please call Charles L. Cain of my staff at (817) 860-8186.

Enclosures:  
As stated

Marquardt Corporation, Source Material License STB-434

License Active: January 1957 - April 1971

Business  
Address: Marquardt Corporation  
16555 Saticoy Street  
Van Nuys, California

Location: Marquardt Corporation (original)  
1000 West 33rd Street  
Ogden, Utah 84402

Morton Automotive Safety Products (current)  
3350 Airport Road  
Ogden, Utah 84405

Little Mountain Annex  
Hill Air Force Base, Utah 84056

Activity: Fabrication, manufacturing, and assembly of jet, rocket and missile engines, including associated controls, accessories, and engine parts.

**ORNL**

- Concerns:
1. There was significant generation of waste material and possible inappropriate disposal or abandonment of contaminated material.
  2. There was inadequate documentation of the materials disposition. There was documentation of burial by the licensee.
  3. There was no verifiable decontamination of the facility at closeout.
  4. There was no closeout survey for this licensee, and there was not a final AEC/NRC inspection of the facility.

**Region IV**

- Comments:
1. Construction of the Marquardt Aircraft Ramjet manufacturing plant in Ogden began in July 1956 and was completed in June 1957. The plant was built for fabrication of rocket and missile engine parts. In August 1957, construction began on the Air Force-Marquardt Jet Laboratory, located on a 2150-acre site 15 miles west of Ogden at Little Mountain. Facility dedication occurred in October 1959. This laboratory was owned by the Air Force and was operated by Marquardt to conduct acceptance tests of Ramjet engines.

2. The Marquardt Aircraft Company of Van Nuys, California, was issued Source Material License C-3650 in January 1957 for possession of magnesium-thorium alloy. In January 1958, License C-3650 was revised to include the Marquardt facility in Ogden.
3. During April 1959, the licensee sent a letter to the AEC concerning disposition of magnesium-thorium scrap material. The licensee was having difficulty in finding a supplier who would accept their scrap material. In June 1961, Marquardt requested AEC approval to burn the machine chips and small pieces of magnesium-thorium scrap material accumulated at the Ogden facility. The licensee proposed to burn the material in pits that were 10 feet deep, 8 feet wide, and 20 feet long. The pits would be "located in a remote controlled area on government property."
4. In September 1961, Source Material License C-3650 expired and License STB-434 was issued for the Marquardt facility in Ogden. This license included permission to incinerate source material in accordance with the 10 CFR Part 20 regulations associated with treatment or disposal by incineration. The licensee committed to incinerate no more than 1000 pounds of alloy, containing approximately 40 pounds of thorium, per week.
5. Docket file records document that 500 pounds of scrap alloy was buried in June 1959, 1500 pounds was buried in February 1960, and 3600 pounds was incinerated in August 1961. No other documentation of disposal was identified in the docket files.
6. In October 1964, Source Material License STB-434 was renewed for another 3 years. The license reduced the amount of source material which may be possessed at any one time from unlimited quantities of magnesium-thorium alloy to 200 pounds of source material. In October 1967, the license was again renewed for 5 more years with the same quantity restrictions. The authorization to incinerate the waste material was not mentioned in the renewed licenses.
7. In March 1971, the Murdock Machine and Engineering Company, successors of the Marquardt Company, informed the AEC that they had not used or acquired any thorium for at least 2 years and did not foresee any requirement for it; therefore, they requested that the AEC cancel the license and the invoice that had been

submitted for the license renewal. License STB-434 was terminated on April 12, 1971.

8. The old Marquardt facility in Ogden was eventually acquired by Volvo-White, which was subsequently absorbed by General Motors. The facility was then sold to Morton International, Morton Automotive Safety Products, which makes automobile air bags. About the same time that the Marquardt facility in Ogden was sold to Murdock, the Little Mountain laboratory was abandoned by Marquardt and was returned to the Air Force. This facility is currently being used by Rockwell International.
9. On November 9, 1993, an NRC inspector visited both the Morton Automotive Safety Products factory in Ogden and the Little Mountain Annex of Hill Air Force Base. Both the Morton and Little Mountain Annex facilities had low levels of residual radioactive contamination (none was found inside of any building). The highest exposure rate measured at Morton was 130 micro-Roentgens per hour, which was about 10 times background. Two apparent disposal pits were identified at Little Mountain, based on changes in topography and in background exposure rates. The highest exposure rate measured was 30 microRoentgens per hour at Little Mountain, or about twice the background rate in the suspect area. Region IV documented the visit in letters to Morton, the Air Force, and the State of Utah.
10. On November 10, 1994, the Director, Division of Radiation Control, State of Utah, verbally committed to the NRC that the state would provide regulatory oversight of the Morton facility in Ogden. On January 26, 1995, a representative from the Division of Radiation Control verbally committed to send Region IV a letter in the near future to document their acceptance of the oversight responsibility.
11. In letters dated February 25 and March 31, 1994, the Air Force committed to perform a characterization survey of Little Mountain. The letters also stated that remediation plans would be formulated based on the results of the survey.
12. License SMB-89, issued to the Marquardt facility in Van Nuys, California, was previously closed out by the Walnut Creek Field Office and has been removed from the Terminated Site List.

**Regional**

**Recommendation:**

Region IV recommends removal of this site from the Terminated Site List. The State of Utah has verbally committed to provide regulatory oversight of the Morton facility. The Air Force committed to take actions as necessary to remediate the Little Mountain facility. The Region plans to retain the Marquardt file and any future commitment letters or other related correspondence will be added to the file as appropriate.