

The quarterly status reports for those Region II sites contained on the ORNL list of formerly licensed sites identified as potentially contaminated are contained in Attachments 1, 2, and 3. The status reports for those sites with an ORNL final score greater than 300 are at Attachment 1. The status reports for those sites with an ORNL final score from 5 to 300 which have been reviewed and remain in an open status are at Attachment 2 and the reports for those sites which Region II recommends be closed and deleted from the list are at Attachment 3. The information required for the Monthly Information Status Report is at Attachment 4. A tabular summary of all files assigned to Region II is at Attachment 5.

If you have any questions regarding these reports or our evaluations, please contact Mr. Jay L. Henson of my staff at (404) 331-0344.

- Attachments:
- (1) Reports for sites >300
  - (2) Reports for sites <300 (remain open)
  - (3) Reports for sites <300 (recommend deletion)
  - (4) Monthly Information Status Report
  - (5) Tabular summary for all Region II sites



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION II  
101 MARIETTA STREET, N.W., SUITE 2900  
ATLANTA, GEORGIA 30323-0199

July 7, 1995

*DL 07/07/95 -  
IMCB*

*Various  
Licenses*

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

FROM: Bruce S. Mallett, Director *Bruce S. Mallett*  
Division of Radiation Safety and Safeguards

SUBJECT: STATUS REPORT OF REGION II REVIEW OF OAK RIDGE NATIONAL  
LABORATORY (ORNL) LIST OF POTENTIALLY CONTAMINATED SITES

STATUS REPORTS FOR SITES WITH ORNL SCORE >300

Attachment 1

REGION II TERMINATED SITES LIST

SITE STATUS REPORT

JUNE 30, 1995

Docket No. 070-00784

License No. SNM-00724

Licensee Name: Union Carbide Corporation

Site Name: Carbon Products Division

Site Address: 3 miles south of Lawrenceburg, TN

City: Lawrenceburg State: TN Zip: 38464

Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 15,456

Background

- \* On August 26, 1963, Union Carbide-Lawrenceburg was issued an SNM license authorizing possession of up to 500 grams of fully-enriched (<94%) uranium for testing of equipment and processes in their Lawrenceburg Fuel Development Facility.
- \* On May 22, 1964, the license was amended to authorize possession of 150 kilograms of U235 to make graphite-coated uranium-thorium carbide particles and graphite-matrix fuel elements.
- \* The possession limit was increased to 475 kg. on June 12, 1964.
- \* On December 6, 1964, a capsule containing 93% enriched uranium exploded in a furnace used to convert uranium oxide to uranium dicarbide. One additional capsule ruptured after being ejected from the furnace by the explosion. The two ruptured capsules contained 10.9 kg. of uranium. The licensee's description of the cleanup and associated sampling/monitoring performed after the incident does not clearly state the quantity of material that was recovered from the ruptured capsules. Soil samples were taken outside the fence around the facility, but there is no indication that soil samples were taken within the restricted area.
- \* Liquid wastes containing "small amounts" (undefined) of non-recoverable licensed material were piped to two settling basins after being fluorometrically measured. Daily samples were also taken of liquid exiting the basin prior to entering Shoal Creek.



## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Union Carbide Corporation  
Lawrenceburg, TN

License No. SNM-724  
Docket No. 070-00784

- \* By letter dated February 4, 1974, the licensee submitted closeout survey information and requested that License No. SNM-724 be terminated and the facility be released for unrestricted use. (NOTE: The submitted survey does not to include soil or settling basin sampling.)
- \* In a March 15, 1974 memo, the Chief, Fuel Fabrication and Reprocessing Branch, AEC, stated that the submitted survey appeared to meet AEC guidelines for decontamination of facilities prior to release for unrestricted use, but desired that Region II perform a confirmatory survey.
- \* On April 5, 1974, Region II performed a closeout inspection which was documented in Inspection Report 70-784/74-1. Region II recommended that the license be terminated and the facility released for unrestricted use. (NOTE: The report does not include soil or settling basin sampling.)
- \* By AEC letter dated June 4, 1974, License No. SNM-724 was terminated and the facility released for unrestricted use.

#### Assessment

Region II evaluated the available survey data to determine if the information is sufficient to conclude that the building meets existing guidelines for unrestricted use. Region II determined that sampling of the soil in the former restricted area as well as the settling basins should be performed.

Union Carbide (UCAR) submitted a survey/sampling plan in 11/11/94. Region II reviewed the plan and sent comments back to UCAR on 1/12/95. UCAR expects to submit a revised sample plan in 4/95.

UCAR submitted their revised sampling plan in a letter dated April 20, 1995. Region II personnel reviewed the plan and prepared a response which included comments regarding some changes which must be made to the plan before it could be approved. The Region II letter to UCAR was forwarded to the State of Tennessee for their review and comment on May 31, 1995. Their comments were forwarded to Region II on June 18, 1995, and are under review. Region II will send a letter to UCAR with comments regarding the revised sampling plan in July, 1995.



REGION II TERMINATED SITES LIST

SITE STATUS REPORT

JUNE 30, 1995

Docket No. 040-00575

License No. C-3469

Licensee Name: American Lava Corporation

Site Name: Central Research Building

Site Address: 25 Cherokee Boulevard

City: Chattanooga State: TN Zip: 37405

Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 6140 (included with American Lava facility licensed under SNM-00109)

Background

- \* In April 1956, American Lava was issued Source Material License No. C-3469 authorizing possession and use of 200 pounds of refined source material for experimental purposes.
- \* On June 7, 1957, the license was amended to authorize possession and use of 600 pounds of refined source material for fabrication into ceramic fuel for reactors and for experimental purposes.
- \* On August 27, 1957, an inspection was conducted at the facility. At that time the licensee had received a total of 450 pounds of  $\text{ThO}_2$  and 220 pounds of  $\text{UO}_2$  under the license. The inspector described the operation as consisting of two rooms in the rear of the licensee's Central Research Building located a few blocks from the processing plant. In the Preparation Room, material was weighed, ball milled, mixed, dried, and then compressed in a 65,000 p.s.i. press. In the Kiln Room, pellets received from the Preparation Room were heated in a hydrogen atmosphere. The Kiln Room was vented to a vacant lot behind the building. No information on the quantity of material processed through the laboratory was given. This operation was essentially a testbed for the production facility subsequently licensed under SNM-00109. No other inspection reports are in the file.
- \* On February 19, 1959, the possession limit was increased to 11,500 pounds.



## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

American Lava Corporation  
(A subsidiary of 3M)  
Chattanooga, TN

License No. C-3469  
Docket No. 040-00575

By letter dated June 28, 1960, the licensee requested termination of Source Material License No. C-3469. The licensee stated that no source material was on hand at the time, but provided no information concerning disposition of material or decontamination/closeout surveys of the research facility.

By AEC letter dated July 13, 1960, the license was terminated.

Former American Lava employees have stated that the former research building still stands at the corner of Cherokee Blvd. and Ames Ave. in Chattanooga. They believe it is occupied by elements of the Hamilton County government.

#### Assessment

There was a potential for contamination of the laboratory and adjoining vacant lot. There are no records concerning closeout surveys or facility cleanup.

On March 2, 1995, Region II personnel performed a followup inspection of this facility. It is currently occupied by the Southeast Tennessee Development District and elements of the Hamilton County Sheriff's Office. Access to original surface areas in the building was limited. The radiation levels of those surfaces which were accessible and surveyed were less than two times the background radiation level. These surfaces included concrete and painted brick materials. It was not possible to determine if the levels of radiation detected above background were due to formerly licensed material or naturally occurring materials in the concrete and brick.

The results of the survey were documented in a report sent to NMSS for concurrence. Based upon the results of the inspection/survey, and the history of the facility, Region II is recommending that this facility be deleted from the terminated sites list. A final decision on this recommendation will be rendered after review of the inspection report by NMSS.

**Based on the comments from the NMSS/LLW review, Region II will return to this facility in July, 1995, to obtain additional survey data to support and clarify Region II's conclusion that this facility meets the criteria for release for unrestricted use. Once this survey is complete, a final report will be forwarded to NMSS with Region 11's recommendations regarding the deletion or need for additional review/assessment of this site.**

REGION II TERMINATED SITES LIST

SITE STATUS REPORT

JUNE 30, 1995

Docket No. 070-00105

License No. SNM-00109

Licensee Name: American Lava Corporation

Site Name: Production Facility (Building 8)

Site Address: 511 Manufacturers Road

City: Chattanooga State: TN Zip: 37405

Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 6140

Background

- \* License issued to American Lava on August 15, 1957, authorizing possession of up to 2,500 pounds of  $UO_2$  containing uranium enriched to 20% in the U235 isotope, "for use in the fabrication of ceramic-type fuel elements." The summary process/equipment description provided with the license application is attached. Detailed process information and a facility description are available in the docket file. The application states that the SNM used would consist of "Mallinckrodt or equivalent grade chemically pure  $UO_2$  powder enriched to a maximum of 20% in the U235 isotope."
- \* In November 1957, the licensee requested authorization to process 5,000 grams of  $UO_2$ , enriched to 8%, in their Research Laboratory (which was licensed for source material under License No. C-3469), rather than in the location of use identified in License No. SNM-00109, which was still under construction. It is unclear from the file whether this operation took place.
- \* In March 1959, the licensee asked for and received, authorization to receive high-density pellets containing 200 grams of "fully enriched uranium oxide dispersed in thorium oxide at the rate of three to 8 percent uranium oxide to thorium oxide" for testing of their pellet grinding procedures.
- \* Between April and, at least, October 1959, the licensee was producing an order of fuel pellets for Allis-Chalmers Manufacturing Company. The records do not indicate the quantity of material involved in filling this order or if this was the only production order American Lava received.



## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

American Lava  
(A subsidiary of 3M Corporation)  
Chattanooga, TN

License No. SNM-00109  
Docket No. 070-00105

On June 28, 1960, the licensee requested that license SNM-00109 be terminated. No information concerning decontamination of the facility was included with the letter.

By AEC letter dated July 13, 1960, the license was terminated.

Between July 1960 and approximately 1981, the licensee had used the facility for processes involving beryllium oxide (BeO). Following termination of the BeO operation, chemical decontamination activities resulted in the removal of floor tiles, ducts, pipes, and interior plasterboard walls, leaving only the building's shell intact.

In July 1982, NMSS requested that Region II conduct a survey of the former American Lava facility. The survey was conducted on August 4, 1982 and documented in an August 27, 1982 memo to NMSS. A small quantity of thorium was found in the trap of an unused drain line and was transferred to an authorized person.

3M's Radiation Safety Officer (RSO) located a memo dated August 31, 1982, in the company's archives. The memo reviews the Chattanooga facility's history and states, "At the completion of the [uranium] work all materials were sent to Northern States Power as fuel elements, or in raw material form to Mallinckrodt, or Davidson Chemical (part of W. R. Grace) and clean up was conducted with surveys performed to determine that the building was cleaned to the then current acceptable release levels. No burial activity was performed on 3M property during this operation." 3M's RSO advised that he had found no other records that described the decontamination efforts in any greater detail.

In 1983, 3M sold the facility to General Electric Ceramics, Inc.

In December 1989, General Electric Ceramics, Inc., stock was sold to Adolph Coors, Inc., and the name of the facility was changed to Coors Electronic Package Company. Coors currently owns the facility. No contact has been made with Coors.

Records of the State of Tennessee Division of Radiological Health and interviews of State of Tennessee, 3M, GE, and former American Lava employees, including the former Vice President and General Manager, Manufacturing Director, Plant Manager, and Division Engineer, has not developed any additional information concerning closeout surveys of the Chattanooga plant.

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

American Lava  
(A subsidiary of 3M Corporation)  
Chattanooga, TN  
Assessment

License No. SNM-00109  
Docket No. 070-00105

It was determined that the records did not contain adequate information to ascertain the current radiological condition of this facility. Region II personnel performed a followup inspection of this facility on November 22, 1994. The survey revealed that background radiation levels in the original structure were approximately two times the levels found in an area of the building that was added after licensed activities were discontinued. The survey also revealed that the radiation levels detected at the surface of the soil where a settling pond was formerly located were approximately fifty percent higher than the levels measured from soil near where the settling pond was located.

The results of this survey were forwarded to the current facility owner, Coors Electronic Package Company, in a letter dated January 24, 1995. Based on the results of the survey, it appeared that further investigation, including additional, more sensitive surveys, should be performed in Building 8 and in the area of the former settling pond adjacent to this building to demonstrate that this facility meets the NRC's criteria for release for unrestricted use.

Coors Ceramics Company responded to the report in a letter dated March 3, 1995. Their position is that Building 8 was thoroughly cleaned and renovated since licensed activities were discontinued. They further stated that based upon the review of their files and those of previous owners, they believe the facility is ready for occupancy and that the existing levels of radiation in the facility are due solely to natural background.

Region II plans to request that Coors produce any documentation which describes the type and intensity of decontamination/cleaning efforts which were undertaken in this facility in the past. Region H will also request that Coors produce documents that indicate the settling pond behind Building 8 was established after licensed activities were discontinued. Region II will also attempt to get a better description of the survey performed at this facility by Region II personnel on August 4, 1982, to determine if it was adequate enough to demonstrate that the facility meets the criteria for release for unrestricted use.

**Region II personnel conducted additional interviews with a former employee of American Lava to determine if the settling pond existed and/or was used to support the licensed activities performed under the terminated license. Based upon this interview, it appears the settling pond did not exist when licensed activities were performed. This conclusion is supported by information in the docket file describing the manufacturing process. As described, effluents which may have contained**

**REGION II TERMINATED SITES LIST**

**SITE STATUS REPORT**

**JUNE 30, 1995**

**American Lava**  
**(A subsidiary of 3M Corporation)**  
Chattanooga, TN  
Assessment

License No. SNM-00109

Docket No. 070-00105

**licensed material were not released from the facility either to a settling pond or to a sanitary sewer.**

**Based upon the above, and additional information obtained during this interview and interviews with former Region II employees who conducted surveys at this facility in 1982, Region II personnel are reevaluating their assessment of what additional information is needed to support a recommendation to delete this facility from the list. Region II personnel intend to conduct an additional survey of this facility in July, 1995, to support the reevaluation.**

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30 1995

Docket No. 030-09026

License No. 45-14090-02

Licensee Name: Environmental Protection Agency

Site Name: Research Laboratory

Site Address: 9200 Leesburg Pike

City: Vienna State: VA Zip: 22180  
Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 750

#### Background

License No. 45-14090-02 was issued on November 29, 1972, authorizing possession of any byproduct material between Atomic Numbers 1 and 83, inclusive (possession limit of 100 mCi of each isotope, except: Hydrogen-3, 3.0 Ci; Strontium 85, 1.0 Ci; and Strontium 89, 1.0 Ci), Americium-241 (possession limit 1.0 mCi), Plutonium-237, Plutonium-238, and Plutonium 239 (1 milligram each), and Plutonium-241 (0.5 milligram), for research and development activities. The authorized chemical and/or physical form was "any."

The initial inspection of this license was conducted on June 13, 1973. At that time, the inspector found that the licensee was in the process of closing the facility. The inspector reported that the licensee was performing metabolism and bioeffects studies on cats and listed the following radioisotopes as being used: H-3, C-14, Ca-45, Fe-59, Sr-85, Sr-89, Sr-90, and I-131. Metabolism studies involved 0.5-1 microcurie of material per animal and bioeffects studies involved 10-100 microcuries per animal. Information on the number of studies was not in the file. Additionally, standards (sealed sources) with the following isotopes were listed: Sr-90, Co-60, Be-133, and Cs-137. The inspector reported that waste disposal was by decay-in-storage or pickup by Hittman Nuclear and Development Corporation, Columbia, Maryland. Radioactive waste from one sink and one animal run was processed through a series of four tanks (three 1,000 gal. and one 1,500 gal.) before being monitored and released. Records concerning receipt,

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Environmental Protection Agency  
9200 Leesburg Pike, Vienna, VA, and  
12709 Twinbrook Parkway, Rockville, MD

License No. 45-14090-02  
Docket No. 030-09026

use, and disposal of licensed material were enroute to the EPA's facility in Research Triangle Park, NC (License No. 32-14048-04) at the time of the inspection. Licensed material was also being prepared for transfer to the North Carolina facility.

By letter dated August 17, 1977, EPA requested that the Vienna, Virginia, license be terminated. In response to an NRC request for additional information, the licensee responded that no radioactive material had been possessed or used at the Rockville, Maryland, location and no americium or plutonium was received under the license. EPA also furnished the results of their closeout survey of the facility, which showed no contamination left at the site. (NOTE: The EPA survey does not specifically address four underground septic-type tanks which could have contained radioactive waste from one sink and an experimental animal area.)

The EPA laboratory was on the property of Hazelton Laboratories (now Hazelton Washington). We have obtained a memo from the Hazelton RSO (Hazelton Washington is a current NRC broad-scope licensee) which documents closeout survey and decontamination action by Hazelton. The Hazelton survey also does not address the underground tanks. The Hazelton RSO states that a portion of the former EPA animal facility is still used by Hazelton as a radioactive waste storage area and that the underground tanks are still in place, but unused.

#### Assessment

With the exception of the underground tanks, surveys of the facility appear to be adequate. There is a potential that the underground tanks could be contaminated with H-3, C-14, and/or Sr-90.

EPA submitted proposed survey/decommissioning plan on February 14, 1994. Region II's comments regarding this plan were forwarded September 21, 1994. EPA submitted a revised survey/decommissioning plan on February 3, 1995. Region II forwarded its comments regarding this plan on February 27, 1995. As of March 21, 1995, EPA had not responded to the February 27 letter.

**EPA responded to the February 27 letter in a letter dated April 12, 1995. After review of their response, Region II forwarded a letter to the EPA on May 1, 1995, which approved their proposed survey and decommissioning plan.**

STATUS REPORTS FOR SITES WITH SCORES <300  
(REMAIN IN OPEN STATUS)

Attachment 2

REGION II TERMINATED SITES LIST

SITE STATUS REPORT

JUNE 30, 1995

Docket No. 040-01957

License No. SUB-00081

Licensee Name: Homer Laughlin China Company

Site Name: Homer Laughlin China Company

Site Address: \_\_\_\_\_

City: Newell State: WV Zip: 26050-1299

Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 115

Background

- \* In February, 1959, the Homer Laughlin China Company was issued Source Material License No. C-4475. This license authorized possession of 100,000 pounds of source material for use in manufacturing glazed ceramic tableware (glaze to contain not more than 20% uranium).
- \* In February, 1961, this license was renewed and the license number was changed to SUB-00081.
- \* Records indicate that licensed activities were performed in Plant No. 4 and materials were stored in a vault adjacent to the dispensary at Plant No. 8. Records also indicate that the rinse water from washing equipment used to transport uranium glaze entered the city sewer system and in some cases was washed into a storm drain that emptied directly into the Ohio River. Inspection records indicate that these effluents were estimated to be approximately 40% of the regulatory limits.
- \* In a letter dated February 28, 1972 Homer Laughlin China (HLC) requested termination of their license and stated that all remaining licensed materials had been returned to their supplier. On March 29, 1972, the AEC terminated the license.

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Homer Laughlin China Company  
& Welfare  
Newell, WV

License No. SUB-00081  
Docket No. 040-01957

In **August, 1994, the former** licensee discovered that it possessed **approximately 500 pounds of uranium** oxide (U O). Subsequent to CI 8this discovery, the licensee hired a contractor to survey areas where licensed materials were used and stored. Several areas of significant contamination were discovered during this characterization survey. HLC sent the results of this survey to Region II on September 28, 1994.

On November 4, 1994, Region II issued a Confirmatory Action Letter (CAL) to HLC to ensure that the uranium oxide was properly stored and secured and that adequate control measures were implemented to protect personnel from the contamination discovered in the facility. On November 17, 1994, a Region II inspector visited the site to determine if HLC had implemented adequate protective measures. HLC had secured the material and the contamination areas as required by the CAL.

On January 5, 1994, HLC submitted their decommissioning plan for the facility. On January 9, 1994, Region II forwarded comments on the plan to HLC. HLC submitted a revised plan on January 10 and Region II approved the plan on January 12.

HLC and its decommissioning contractor began decommissioning effort after approval of the plan. The contractor has completed the decontamination of the majority of the facility and is currently working to complete decontamination of some equipment. HLC and its contractor are having some difficulty in finding an acceptable means to dispose of the waste and bulk material.

#### Assessment

Region II will continue to monitor HLC's progress in decommissioning this facility. A confirmatory survey will be scheduled upon completion of HLC's decommissioning effort and review of their final survey report.

**HLC's efforts to decontaminate/decommission their facility continues. Most of the building surfaces have been decontaminated, but some contaminated equipment remains to be removed and either decontaminated or disposed as radioactive waste. Region II has visited the site on two occasions to survey floor areas in some currently operational areas which HLC needed to have released for operational safety reasons. Based upon the Region II surveys, these floor surfaces were determined to not meet the free release criteria and were not approved for release for unrestricted use. HLC and their contractor, Applied Health Physics, are evaluating the conditions which resulted in these areas not meeting the release criteria. Region II will continue to monitor HLC's decommissioning effort.**

REGION II TERMINATED SITES LIST

SITE STATUS REPORT

JUNE 30, 1995

Docket No. 030-09859

License No. 45-10085-03

Licensee Name: Roanoke College

Site Name: Physical Science and Life Science Buildings

Site Address: North College Avenue

City: Salem State: VA Zip: 24153

Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Ranking: 66

Background

- \* In June, 1974, Roanoke College was issued Byproduct Material License 45-10085-03 authorizing the possession of the following:

(1) any byproduct material between Atomic Nos. 3 and 83, inclusive, in any form, with a possession limit of 10 mCi of each, inclusive, except 1 mCi each of Strontium 90 and Iodine 131, and a total possession limit of 100 mCi for all materials

(2) Americium 241 as sealed sources or electroplated discs with an activity limit of 1 microcurie

(3) Cobalt 60 as foils with an activity limit of 30 mCi

The authorized use for (1) and (2) was instruction and laboratory research and for (3) was experiments in surface physics and sputtering.

- \* In December, 1979, this license was amended to a storage only license pending disposition of the licensed materials.
- \* A NRC-314 form dated November 3, 1981, indicated that all materials procured and/or possessed under this license were transferred to the Virginia Polytechnic Institute and State University under their license (45-09475-30). The license was not formally terminated but was simply allowed to expire in July, 1981. There are no records of a final survey performed by the licensee of the facilities where licensed activities were conducted in the docket file and no indication that the NRC performed a closeout survey.



REGION II TERMINATED SITES LIST

SITE STATUS REPORT

JUNE 30, 1995

Roanoke College  
Salem, VA

License No. 45-10085-03  
Docket No. 030-09859

\* In August, 1985, Roanoke College was issued Byproduct Material License No. 45-10085-04 which authorized them to possess 1 mCi of Carbon 14 in any form for use in laboratory research studies. In December, 1986, their license was amended to authorize a maximum possession limit of 2 mCi. This license is currently active.

\* The authorized locations of use under the 45-10085-03 license compared to those locations authorized under License No. 45-10085-04 are listed below:

<u>Building</u>	<u>45-10085-03</u>	<u>45-10085-04</u>
Physical Science	176, 177A, 177B, 178, 179  266B, 266C, 266D  462	266B, 266C, 266D
Life Sciences	215, 217  410	215, 217, 201, 201A, 201B, 217A, 218E  410, 409A, 410A

In a December, 1986, amendment to the current license (45-10085-04), the licensee deleted rooms 266C and 266D in the Physical Science Building and room 409A in the Life Sciences building as areas of use.

Assessment

Many of the facilities where licensed activities were performed under License No. 45-10085-03 continue to be utilized for similar activities authorized under the current license (45-10085-04). In a December 4, 1979, letter contained in the 45-10085-03 docket file, the licensee stated that it would submit a report of the surveys conducted in the areas where materials have been stored when all materials were disposed or transferred. This report, if submitted, is not in the docket file.

Region II will send Roanoke College a letter requesting that they send copies of any reports of final surveys performed in those facilities where licensed activities were performed under License No. 45-10085-03 to demonstrate that when this license expired, all facilities met the criteria for unrestricted release. If Roanoke



## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Roanoke College  
Salem, VA

License No. 45-10085-03  
Docket No. 030-09859

College cannot produce these reports, then Region H will request that Roanoke College perform these surveys in those facilities where licensed activities were performed under License No. 45-10085-03, excluding those facilities where licensed activities are currently performed under License No. 45-10085-04. Copies of the Region H and Roanoke College correspondence regarding this matter will be placed in the 45-10085-04 docket file for reference regarding the future decommissioning of these facilities.

**Region II forwarded a letter to Roanoke College on March 30, 1995, requesting information on the radiological status of those facilities used under this terminated license which are not being used under their current license (License No. 45-10085-04). As of June 30, 1995, Roanoke College has not responded to this letter. Region II will follow-up with additional telephonic contacts and/or written correspondence to obtain an answer to the March 30 letter.**

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Docket No. 030-01746

License No. 16-00380-03

Licensee Name: Department of the Army

Site Name: Medical Research Laboratory

Site Address:

City: Ft. Knox                      State: KY    Zip: 40121-5520  
Regional Contact: Jay L. Henson                      Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 31

#### Background

In January, 1957, the U.S. Army Medical Research Laboratory (USAMRL) was issued Byproduct Material License No. 16-00380-03 which authorized possession of up to 1 Ci of any byproduct material from Atomic No.s 3 to 83, except Sr-90, Co-60 and Tm-170, in any form for research and development purposes. It does not appear that the licensee ever possessed quantities approaching the 1 Ci limit for any material authorized.

In later years, the license was amended to limit the possession to 50 mCi of any form of any byproduct material with Atomic Nos. 3-83, inclusive, possession of I-131 in any form to 500 mCi, and possession of H-3 in any form to 500 mCi. These materials were used for in vitro and in vivo (animal) research and development activities. Materials were used and/or stored in ten buildings during the life of the license.

In August, 1977, the licensee requested termination of the license and on November 16, 1977, the NRC terminated the license.

Records indicated that materials were transferred to a waste disposal firm for disposal or sent to the Letterman Army Institute, San Francisco, California. The USAMRL activity was relocated to this facility.

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Department of the Army  
Medical Research Laboratory  
Ft. Knox, KY

License No. 16-00380-03  
Docket No. 030-01746

The U.S. Army Environmental Hygiene Agency (USAEHA) conducted surveys at USARML in April, 1974 and in April, 1977, to demonstrate that the facilities at Ft Knox could be released for unrestricted use. The NRC conducted a confirmatory survey in September, 1977. No contamination above the criteria for release for unrestricted use was detected during any of the above surveys. Surveys included scans with survey meters and contamination smears.

In February, 1994, the U.S. Army Office of the Surgeon General requested that Region II provide guidance on how to proceed with the demolition of one of the buildings used (1025) for licensed activities. The Army had the building surveyed and on September 29, 1994, a Region II inspector conducted a confirmatory survey of the facility. The building was found to meet the criteria for unrestricted use and was subsequently demolished.

On January 23, 1995, The U.S. Army Medical Department Activity at Ft. Knox sent a letter to Region II describing their proposal regarding any further surveys and disposition of the remaining buildings that were used under this terminated license. On February 27, 1995, Region II responded to the Army's January 23 letter with comments regarding their proposal.

#### Assessment

It appears that the final survey performed by USAEHA in 1977 and the confirmatory survey performed by the NRC thereafter were adequate at the time to demonstrate that the facilities met the criteria for release for unrestricted use. However, to demonstrate this compliance based upon current guidance, the Army intends to conduct some additional surveys of some of the remaining facilities (2nd quarter, CY95). Region II will continue to monitor the Army's progress. Region II will schedule confirmatory surveys of these facilities after review of the Army's final survey report.

Ft. Knox personnel forwarded a revised final survey plan for review and **approval by Region II in a letter dated** June 9, 1995. Region II personnel will complete their review of this plan in July, 1995.

STATUSREPORTS FOR SITES WITH SCORES <300  
(RECOMMENDED FOR DELETION)

Attachment 3

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

Docket No. Unknown

License No. .04-02579-01

Licensee Name: Department of the Navy

Site Name: U.S. Naval Postgraduate School

Site Address:

City: Monterey State: CA Zip:  
Regional Contact: Jay L. Henson Phone: (404) 331-0344

Status Summary:

ORNL Final Score: 19

#### Background

On June 3, 1957, the U.S. Naval Postgraduate School (NPS) was issued this license which authorized the possession of millicurie amounts of a variety of radionuclides for use in courses of instruction in radiochemistry, nuclear physics and reactor technology.

The license was amended on two occasions to add radionuclides to the list of authorized materials.

On June 21, 1963, the license was terminated. The limited information in the file does not indicate why the license was terminated. The file does also not contain any records of close-out surveys which may have been performed to support the termination request.

#### Assessment

Region H personnel contacted the Navy to determine what records they had regarding this license. Their records indicate that NPS had been issued licenses subsequent to this termination which authorized possession of the same or similar radionuclides for the same purpose. They had a record of NRC License No. 04-02579-04, a broad scope license, that the NPS maintained until September, 1987. At that time, based upon their master materials license, the Navy converted the NRC license to a

## REGION II TERMINATED SITES LIST

### SITE STATUS REPORT

JUNE 30, 1995

U.S. Naval Postgraduate School  
Monterey, CA

License No. 04-02579-01  
Docket No. Unknown

#### Assessment

Navy permit (Permit No. 04-62271-FINP). The NPS permit is currently active and authorizes the possession of the same or similar materials and uses of these materials as authorized in the NRC license.

Since the activities, materials and facilities at NPS which were authorized under this terminated license, are currently authorized for similar activities under the Navy permit, it is recommended that the terminated sites status of License No. 04-02579-01 be changed from "open" to "closed". Decontamination/decommissioning actions required prior to termination of the Navy permitted activities at this site are the responsibility of the Navy and are reviewed by Region H.

REGION II MONTHLY INFORMATION STATUS REPORT

STATUS OF SITES IDENTIFIED BY ORNL

	Total	Sites Eliminated	Total Sites Pending	Pending Sites Contaminated
> 300	7	4	3	0 <sup>1</sup>
5-300	40 <sup>2,3</sup>	14	26	1
Total	47 <sup>4</sup>	18	29	1

1 - Contamination at these sites is undetermined

2 - Additional five sites forwarded by ORNL in May, 1995 to Region II for resolution. All known site files with scores >5 are now at RII.

3 - Two licenses are for sites which are for licensees/sites also listed on the >300 list.

4 - ORNL originally scored 46 RII sites greater than 5 (7 >300; 39 <300). One additional site (Navy) sent by RIV to RII for resolution brings total to 47.

STATUS OF LICENSES WITH SEALED SOURCES NOT ACCOUNTED FOR

	Total	Eliminated or Transferred	Pending
> 300	0	0	0
< 300	75	5	70
Total	75	5	70

Note: Total Region II sealed source files reviewed and scored by ORNL was 71. Disposition/status of the files is:

3 - Transferred to other Region or HQ for resolution (status unknown)

2 - Deleted from list after Region II review

31 - At Region II awaiting review

35 - Returned to NRC archives by ORNL without Region II review

Region IV transferred four files from Navy facilities for resolution by Region II.



TABULAR SUMMARY OF REGION II TERMINATED SITES

Attachment 5



## REGION II TERMINATED SITES, SCORES > 300

As of 06/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
SNM-00724	Union Carbide	Lawrenceburg, TN	15,456	Open (note 3)
SNM-00730	B&W NNF	Lynchburg, VA	7,346	Closed by RII action
SNM-00260	Lockheed-Georgia	Dawsonville, GA	6,534	Closed by RII action
SNM-00109	American Lava	Chattanooga, TN	6,140	Open (note 4)
45-14090-02	EPA	Vienna, VA	750	Open (note 5)
SUB-00587	David Witherspoon	Knoxville, TN	346	Closed by RII action
STB-00440	AMAX Spec.Metals	Washington, WV	321	Closed by RII action

### NOTES:

(Changes printed in bold typeface)

1. Original list had seven sites with scores >300.
2. Four sites have been removed from list through RII-supplied information.
3. UCAR submitted survey/sampling plan 11/94. RII comments to UCAR 1/12/95. UCAR response received 5/95. RII response forwarded to State of Tennessee for review 6/95. State comments received 6/95 and are under review.
4. RII met with Coors Electronic Packaging Division [CEPD] current occupant of former American Lava (AL) production facility and performed limited facility survey on 11/22/94. Inspection report issued 12/94. CEPD sent letter 3/95 stating in their opinion existing records demonstrate facility can be released for unrestricted use. On 3/2/95 RII inspected/surveyed former American Lava Central Research Laboratory. Only limited area of facility currently occupied by Hamilton County Sheriff's Office available for survey. No contamination above release criteria detected. Based on survey and review of information in docket file, RII will recommend deleting this facility from further investigation. **Additional surveys planned for both facilities in 7/95.**
5. Additional information concerning the proposed decommissioning plan requested in accordance with the NMSS guidelines in NUREG/CR-5849. EPA POC contacted in 12/94 to determine status of plan. Draft plan received 2/3/95 and comments back to EPA 2/27/95. **Revised plan received 4/95 and RII approval forwarded 5/95.**



## REGION II TERMINATED SITES, SCORES < 300

As of 06/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
01-02861-01	US Army Chem.Corps	Ft. McClellan, AL	240	Closed by RII action
SMB-00720	Union Carbide	Lawrenceburg, TN	219	Consolidated with SNM-724 (>300)
39-00743-05	Medical College of South Carolina	Charleston, SC	205	Closed by RII action
SNM-01315	US Nuclear	Oak Ridge, TN	180	Closed by RII action
10-01937-15	Georgia Tech	Atlanta, GA	163	Deleted by NMSS
32-00632-16	Duke Univ.Med.Cntr.	Durham, NC	148	Closed by RII action
SMA-00227	Vitro Chemical	Chattanooga, TN	123	Closed by RII action
SUB-00081	Homer Laughlin China	Newell, WV	115	Open (note 9)
09-07428-02	Florida Power & Light	Ft. Pierce, FL	84	Closed by RII action
C-03465	B&W NNFD	Lynchburg, VA	81	Closed by RII action
45-10085-03	Roanoke College	Salem, VA	66	Open (note 3)
52-13137-01	Dept.of HEW	San Juan, PR	48	Open
C-05317	Knoxville Iron Co.	Knoxville, TN	45	Open
45-00953-02	US Army	Ft. Belvoir, VA	40	Open
STB-00058	E.I.DuPont de Nemours	Belle, WV	37	Open
C-03469	American Lava	Chattanooga, TN	33	Consolidated with SNM-109 (>300)
16-00380-03	US Army Med.Res.Lab.	Ft. Knox, KY	31	Open (note 5)

REGION II TERMINATED SITES, SCORES <300 (As of 06/30/95)

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
SNM-00842	EPA (Eastern Env.Rad. Facility)	Montgomery, AL	19	<b>Closed by RII action</b>
47-17725-01	Appalachian Reg.Hosp. Facility)	Beckley, WV	13	Deleted by NMSS (note 6)
51-12758-02	US Army (535th Engineer Detachment)	Fort Davis Canal Zone, Panama	11	Open (Same licensee as one below)
45-17819-01	US Army (535th Engr.Det.)	Ft. Belvoir, VA	11	Open
39-12662-01	Jerry Walker and Charles Lee	Clemson, SC	7	Deleted by NMSS (note 6)
09-02747-04	US Air Force	Eglin AFB, FL	6	Deleted by NMSS (note 6)
SUB-00432	Pittsburgh Metallurgical Co.	Calvert City, KY	14	Open (note 8)
C-03569	Kingston Pencil Corp.	Chattanooga, TN	10	Open (note 8)
SUB-00921	Atlantic Research Corp./Research and Ordnance Division	Alexandria, VA	22	Open (note 8)
C 03523	National Advisory Committee for Aeronautics	Langley Field, VA	8	Open (note 8)
C-04922	Carborundum Company	Parkersburg, WV	84	<b>Closed by RII action</b>
C-04327	Fostoria Glass Co.	Moundsville, WV	15	Open (note 8)
SUC-00628	Fostoria Glass Co.	Moundsville, WV	9	Open (note 8)
C-04345	Wheeling Tile Co.	Wheeling, WV	7	Open (note 8)
C-04576	Hercules Powder Co.	Ridgely, WV	6	Open (note 8)

REGION II TERMINATED SITES, SCORES <300 (As of 06/30/95)

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
SNM-00430	Radiochemistry, Inc.	Louisville, KY	10	Open (added 3/11/94)
SUC-01047	Portsmouth Terminal	Portsmouth, VA	64	Closed by RII action
10-01126-01	University of Georgia	Athens, GA	11	Open (note 4)
01-00126-13	Army-Redstone Arsenal	Huntsville, AL	14	Open (note 4)
39-01285-03	University of South Carolina	Columbia, SC	18	Open (note 4)
32-06655-07	Duke University	Durham, NC	32	Open (note 4)
09-01708-01	Orlando Research, Inc.	Orlando, FL	40	Open (note 4)
04-02579-01	Naval Postgraduate School	Monterey, CA	19	Open (note 7)

NOTES:

(Changes printed in bold typeface)

1. Original list contained 22 sites with scores <300. Current list total is 40 separate license files.
2. Ten have been removed from the list based on RII action.
3. Information on radiological status of facilities used under terminated license not used under the current license requested 3/95. No response received as of 6/30/95.
4. Additional 5 sites forwarded by ORNL 5/95.
5. Based on previous survey data by both the Army and NRC, Region II accepted proposal to resurvey two buildings. New survey protocol received 6/13/95 for review.
6. Four sites were deleted by NMSS based on additional contractor review.
7. Navy site transferred from Region IV to Region II, 6/95.

REGION II TERMINATED SITES, SCORES <300 (Asof06/30/95)

8. Additional 8 sites forwarded by ORNL 12/94.

9. Homer Laughlin's remediation efforts continue. New estimated date for completion is July/August, 1995.

10. Twenty-two sites with scores <300 remain to be worked.

REGION II TERMINATED SITES, SEALED SOURCES ONLY  
SCORES > 1 BUT < 300

As of 06/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
04-04484-01	Navy Ship Repair Facility	GUAM	11	Open (note 2)
SNM-00232	Navy Bureau of Ships	Vallejo, CA	23	Open (note 2)
SNM-00491	Naval Ordnance Test Station	China Lake, CA	18	Open (note 2)
SNM-00678	Naval Civil Engineering Lab	Port Hueneme, CA	51	Open (note 2)
SUD-00561	University of Tennessee	Knoxville, TN	3	Open (note 3)
SNM-00484	Christian Brothers College	Memphis, TN	11	Open (note 3)
SNM-00586	Tennessee Polytechnic Inst.	Cookeville, TN	13	Open (note 3)
SNM-00537	Oak Ridge Technical Enterprises	Oak Ridge, TN	13	Open (note 3)
SNM-00478	Memphis State University	Memphis, TN	13	Open (note 3)
SNM-00671	University of Chattanooga	Chattanooga, TN	13	Open (note 3)

SEALED SOURCE TERMINATED SITES AS OF 6/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
SNM-00813	Southern Missionary College	Collegedale, TN	13	Open (note 3)
SNM-00854	Vanderbilt University	Nashville, TN	14	Open (note 3)
SUD-00601	University of South Carolina	Columbia, SC	3	Open (note 3)
CSA-03841	University of Puerto Rico	Mayaguez, PR	2	Open (note 3)
SUD-00395	North Carolina State University	Raleigh, NC	3	Open (note 3)
SNM-00393	Research Triangle Institute	Durham, NC	7	Open (note 3)
SNM-00698	Wake Forest College	Winston-Salem, NC	13	Open (note 3)
CSA-05230	University of Mississippi	University, MS	3	Open (note 3)
SUD-00158	Mississippi State University	State College, MS	3	Open (note 3)
SNM-00479	Mississippi State University	State College, MS	14	Open (note 3)
SUD-00278	University of Kentucky	Lexington, KY	3	Open (note 3)
CSA-05228	University of Louisville	Louisville, KY	3	Open (note 3)
SNM-00413	University of Louisville	Louisville, KY	13	Open (note 3)



SEALED SOURCE TERMINATED SITES AS OF 6/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
09-03267-01	Navy Mine Defense Lab	Panama City, FL	3	Open (note 3)
SUD-00263	University of Florida	Gainesville, FL	4	Open (note 3)
01-01905-01	A.W. Williams Inspection Co.	Mobile, AL	2	Open (note 3)
01-02377-01	Vester J. Thompson	Mobile, AL	3	Open (note 3)
01-02377-02	Vester J. Thompson	Mobile, AL	11	Open (note 4)
01-03568-01	Caldwell Foundry & Machine Co.	Birmingham, AL	3	Open (note 3)
01-03568-02	Caldwell Foundry & Machine Co.	Birmingham, AL	3	Open (note 3)
CSA-03529	Alabama Polytechnic Inst.	Auburn, AL	3	Open (note 3)
SNM-00766	University of Alabama	Tuscaloosa, AL	7	Open (note 3)
CSA-03518	Virginia Polytechnic Inst.	Blacksburg, VA	2	Open (note 3)
45-01972-02	Allied Chemical Corp.	Hopewell, VA	3	Open (note 3)
41-08706-11	University of Tennessee	Memphis, TN	2	Open (note 3)
19-01398-31	Isotopes, Inc. U.S. Coast Guard	Mobile, AL	291	Closed (Transferred to Region I)

SEALED SOURCE TERMINATED SITES AS OF 6/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
01-05661-03	Lloyd Noland Hospital	Fairfield, AL	28	Open (note 4)
01-02510-02	Central Foundry Co.	Holt, AL	22	Open (note 4)
SNM-00842	EPA (Eastern Env. Rad. Facility)	Montgomery, AL	14	Closed by RII action
01-04151-01	Ephriam E. Camp	Huntsville, AL	10	Open (note 4)
01-11485-01	Chicabo Bridge and Iron Co.	Birmingham, AL	3	Open (note 4)
01-09722-01	H.K. Porter Co.	Birmingham, AL	2	Open (note 4)
09-07428-02	Florida Power & Light	Ft. Pierce, FL	14	Closed by RII action
09-11579-01	QC Laboratories	Hollywood, FL	2	Open (note 4)
04-07326-02	Aerospace Corp.	Cape Canaveral, FL	2	Open (note 4)
10-09383-01	Dynatomics Inc.	Chamblee, GA	2	Open (note 4)
10-09823-01	Georgia Power Co.	Jacmac, GA	2	Open (note 4)
16-17692-01	Mason and Hanger Silas Mason Co.	Lexington, KY	23	Open (note 4)
16-00380-03	US Army Med. Res. Lab.	Ft. Knox, KY	2	Open (same license as listed on Terminated Sites, <300, list)
23-10448-01	Superior Inspection Co.	Multiple Sites	2	Open (note 4)
52-18076-01	Chevron Chemical Co.	Guayama, PR	3	Open (note 4)

SEALED SOURCE TERMINATED SITES AS OF 6/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
52-09574-01	Puerto Rico Water Resources Authority	San Juan, PR	2	Unknown (ORNL sent to NRC HQ)
19-08794-02	J.M. Huber Corp.	Etowah, TN	2	Open (note 4)
45-00174-03	Robert McClelland	Danville, VA	22	Open (note 4)
45-15353-01	James A. Hancock	Norfolk, VA	14	Open (note 4)
45-13307-01	Bassett Frurniture	Bassett, VA	8	Open (note 4)
45-09361-06	American Machine and Foundry Co.	VA (city not specified)	6	Open (note 4)
45-09469-01	Avtex Fibers, Inc.	Front Royal, VA	6	Open (note 4)
45-17132-01	US Army	Anywhere, NC & VA	2	Open (note 4)
45-07740-01	US Navy	Yorktown, VA	2	Open (note 4)
SNM-00522	Dept. of Interior Bureau of Mines	Morgantown, WV	18	Open (note 4)
47-01163-26	West Virginia University	Morgantown, WV	11	Unknown (ORNL sent to NRC HQ)
47-09638-05	Charleston General Hospital	Charleston, WV	4	Open (note 4)
47-17428-01	Allied Chemical Corp.	WV (city not specified)	2	Open (note 4)
47-17517-01	Preston Contractors, Inc.	Kingwood, WV	2	Open (note 4)
47-13738-01	Matthiessen and Hegeler Zinc Co.	Spelter, WV	2	Open (note 4)

SEALED SOURCE TERMINATED SITES AS OF 6/30/95

LICENSE NO.	LICENSEE NAME	CITY, STATE	OAK RIDGE SCORE	STATUS
45-12222-01	American Telephone & Telegraph (AT&T)	Buckingham County, VA	1	Open (note 4)
45-11841-01	AT&T	Purcellville, VA	1	Open (note 4)
45-11842-01	AT&T	Keswick, VA	1	Open (note 4)
45-13195-01	AT&T	Moseley, VA	1	Open (note 4)
GL-00337	Cottrell Electronics Corp.	VA	1	Open (note 4)
GL-00307	Epperson and Dull Co.	VA	1	Open (note 4)
GL-00306	Jack L. Hartman & Co.	VA	1	Open (note 4)
GL-00344	Powers Regulator Co.	VA	1	Open (note 4)
GL-00345	Powers Regulator Co.	VA	1	Open (note 4)

NOTES:

(Changes printed in bold typeface)

1. Original list had 75 sites with scores <300.
2. Navy sites forwarded by Region IV in 6/95 for action by Region II.
3. Files sent to RII from ORNL, 6/95
4. Files reviewed by ORNL which were returned to the NRC archives and not RII. HQ contacted 6/95 and requested to send files to RII.
5. One site closed by transfer to RI, two sites closed by RII action.

