

December 6, 1994

Carboloy Company
ATTN: Mr. Barry Moser, Manager
Plant and Facilities
11177 East Eight Mile Road
Warren, MI 48089

SUBJECT: NRC REVIEW AND APPROVAL OF FINAL RADIOLOGICAL STATUS SURVEY
REPORT
(NRC REPORT NO. 999-90003/94065(DRSS))

Dear Mr. Moser:

This refers to the special inspection conducted by Messrs. Michael Kurth and Edward Kulzer on August 19, 1994, and Messrs. Kurth and William Snell on September 27, 1994, of the facility formerly occupied by the General Electric Company located at 11177 East Eight Mile Road, Warren, Michigan. Licensed activities were previously authorized by Atomic Energy Commission (AEC) Special Nuclear Material License No. SNM-0059. The results of our inspection findings were discussed with you at the conclusion of the onsite inspection and on November 14, 1994, NRC Inspection Report No. 999-90003/94048(DRSS) was issued documenting the results.

On November 7, 1994, the contractor hired to conduct the remediation activities at your facility, LAW Environmental, Inc., submitted to us the Final Radiological Status Report for the Carboloy Company, Inc. facility. This report was reviewed and approved and on November 23, 1994, the approval was discussed in a telephone conversation between Mr. Kenneth Waller of LAW Environmental, Inc., and Mr. Michael Kurth of my staff. Therefore, the Carboloy facility, located at 11177 East Eight Mile Road, Warren, Michigan, is conditionally released for unrestricted use.

The former press room, an area where remediation activities were conducted, is considered to be released for unrestricted use. Also, the former furnace room is considered to be remediated below NRC guidelines. However, during the performance of the remediation activities, several 55 gallon drums of radioactive waste were generated and are currently being stored in the former furnace room. Therefore, the former furnace room is not considered to be released for unrestricted use at this time. Following the removal of barrels offsite and the completion of a final survey, the former furnace room will be eligible for release for unrestricted use. Final authorization for release and unrestricted use will be required from this office.

We request that you submit your proposal regarding the possible disposal of the radioactive waste within 30 days after receipt of this letter. The issuance of an NRC license for storage of the waste may be required if the proper disposal of the material cannot be accomplished within 90 days of the date of this letter.

On September 27, 1994, at the conclusion of the onsite inspection, you verbally committed to restricting access to the former furnace room. We ask that you continue restricting access and advise us prior to transferring the radioactive waste outside of the former furnace room.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter will be placed in the NRC Public Document Room. We will gladly discuss any questions you have concerning the inspection.

Sincerely,

Original Signed By

Gary L. Shear, Chief
Fuel Cycle and Decommissioning Branch

Docket No. 070-00055 (Terminated) License No. SNM-0059 (Terminated)

cc: R. Skowronek, Michigan Department of Health
R. Corneil, General Electric Company
W. Waller, LAW Environmental, Inc.

bcc: P. Goldberg, IMNS
T. Johnson, LLWM
PUBLIC (IE07)

DOCUMENT NAME: B:\CAR94065.DSS

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OFFICE	RIII	C	RIII	C	RIII	N		
NAME	Kurth <i>MK</i>		Snell <i>wgs</i>		Shear <i>GLS</i>			
DATE	12/6/94		12/6/94		12/6/94			

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Carboloy Company
ATTN: Mr. Barry Moser, Manager
Plant and Facilities
11177 East Eight Mile Road
Warren, Michigan 48089

SUBJECT: NRC CONFIRMATORY SURVEY (NRC REPORT NO. 999-90003/94048(DRSS))

Dear Mr. Moser:

This refers to the special inspection conducted by Messrs. Michael Kurth and Edward Kulzer on August 19, 1994, and Messrs. Kurth and William Snell on September 27, 1994, of the facility formerly occupied by General Electric Company located at 11177 East Eight Mile Road, Warren, Michigan. Licensed activities were previously authorized by Atomic Energy Commission (AEC) Special Nuclear Material License No. SNM-0059. The results of our inspection findings were discussed with you and Messrs. Thomas Corneil of General Electric Company, Bart Germond and W. Kenneth Waller of LAW Environmental, Inc., and Richard Dubiel and Robert Leddy of Applied Radiological Control, Inc., at the conclusion of the on-site inspection on September 27, 1994.

The enclosed copy of our inspection report identifies areas examined during the inspection. The inspection consisted of independent surveys and measurements of the facility at 11177 East Eight Mile Road, Warren, Michigan.

The results of the radiological surveys and analyses performed indicated that residual radioactive material on building surfaces at the facility were less than the criteria found in NRC's "Guidelines for Decontamination of Facilities and Equipment prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," dated August 1987. However, in order to release the site for unrestricted use, a Final Status Survey Report needs to be submitted, reviewed, and approved by the NRC. Therefore, we request that you submit your Final Status Survey Report within 60 days after receipt of this letter.

Also, because of remediation activities, several 55 gallon drums of radioactive waste were generated and are currently being stored at the Carboloy facility. We request that you include your proposal regarding the storage or the possible transfer or disposal of licensable material with the Final Status Survey Report.

After the receipt, review, and approval of the Final Status Survey Report, and proper transfer or disposal of licensable material, the Carboloy facility, located at 11177 East Eight Mile Road, Warren, Michigan, should be released for unrestricted use.

November 14, 1994

Mr. Barry Moser -2-

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC Public Document Room. We will gladly discuss any questions you have concerning the inspection.

Sincerely,

Original Signed By
G. M. McCann for

Gary L. Shear, Chief
Fuel Cycle and Decommissioning Branch

Docket No. 070-00055 (Terminated) License No. SNM-0059 (Terminated)

Enclosure: Inspection Report
No. 999-90003/94048(DRSS)

cc w/encl: R. Skowronek, Michigan Department of Health
R. Corneil, General Electric Company
W. Waller, LAW Environmental, Inc.

bcc w/encl: P. Goldberg, IMNS
T. Johnson, LLWM
PUBLIC (IE07)

DOCUMENT NAME: B:\CAR94048.DSS

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OFFICE	RIII	C	RIII	E	RIII	C	RIII	E
NAME	Kurth <i>MC</i>		Snell <i>WGS</i>		McCann <i>Sign</i>		Shear <i>Number 6 CC</i>	
DATE	11/9/94		11/10/94		11/10/94		11/10/94	

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Inspection Summary

Inspection on August 19 and September 27, 1994 (Report No. 99990003/94048(DRSS)) Areas Inspected: This was a special inspection to perform a confirmatory survey following remediation of contamination previously identified in a February 3, 1994, onsite inspection (NRC Report No. 999-90003/94009(DRSS)). The purpose of the survey was to determine if residual radioactive material was less than NRC's unrestricted use criteria. Results: The inspection did identify two locations (one within a conduit pipe protruding from the northern section of flooring in the former furnace room, and the other on the southwest section of wall in the former furnace room) where the radiation levels were above the NRC's unrestricted use criteria

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 999-90003/94048(DRSS)

License No. SNM-0059 (terminated)
Docket No. 070-00055 (terminated)

Licensee: General Electric Company (former licensee)
11177 East Eight Mile Road
Warren, Michigan 48089

Inspection At: Carboloy, Inc. (a former General Electric Company facility)
11177 East Eight Mile Road
Warren, Michigan 48089

Inspection Conducted: August 19 and September 27, 1994

Inspector: Michael Kurth
Michael Kurth
Radiation Specialist

11/9/94
Date

William Snell
William Snell
Senior Radiation Specialist

11/10/94
Date

Approved by: George M. McCann
G. M. McCann, Chief
Fuel Facilities and Decommissioning Section

11/10/94
Date

limits. However, during the inspection, the hired contractor, Applied Radiological Control, Inc., performed remediation activities (scabbling techniques and cleaning) to lessen the radiation levels below the NRC's unrestricted use criteria limits. Also, all other locations surveyed were below the NRC's use criteria limits. Therefore, at the conclusion of the onsite inspection, it was preliminarily concluded that the facilities met the current NRC criteria for release for unrestricted use.

DETAILS

1. Persons Contacted

. Barry Moser, Facilities Manager, Carboloy, Inc.

*Thomas Corneil, Manager, General Electric Company

*Bart Germond, II, P.G., Assistant Vice President Northeast, LAW Environmental, Inc.

*W. Kenneth Waller, Technical Director, LAW Environmental, Inc.

Richard Dubiel, Director, Special Programs, Applied Radiological Control, Inc.

Robert Leddy, Director, Commercial Programs, Applied Radiological Control, Inc.

Indicates those present at the onsite exit meeting conducted on September 27, 1994.

2. Background

On February 3, 1994, the NRC conducted a scoping survey of the facility (Inspection Report No. 999-90003/94009(DRSS)) confirming that radioactive material was present that exceeded the NRC release limit for unrestricted use. In response, General Electric Company contracted LAW Environmental, Inc., for the development and execution of a characterization and remediation of the facility.

3. Facility Status

Carboloy, Inc., is a manufacturer of tungsten-carbide cutting tools. Prior to 1987, General Electric Company owned the facility. The former furnace room, where licensed materials were used and/or stored, is now used for storage and occasionally used for spray painting. The former press rooms, where licensed materials were used and/or stored, are now used as a boiler room storage area and work area.

4. Independent Measurements

The NRC inspectors conducted radiological surveys in and around the former press rooms and furnace room. Radiation surveys were performed with two Ludlum Model 12 portable survey instruments with Model 44-9 alpha-beta-gamma probes (pancake probe) and a Ludlum Model 2221 Scaler Ratemeter with attached Model 43-68 gas proportional detector. The Ludlum Model 12 instruments, NRC Tag Nos. 047065 and 047068, were calibrated on February 9 and August 29, 1994, respectively. Prior to the surveys, the instruments were checked for accuracy and constancy with a dedicated and traceable $^{90}\text{Sr}/^{90}\text{Y}$ check source. The instruments responded as expected. The instruments results were also corrected for probe size and counting efficiency. This correction showed that for beta/gamma radiation with background included, approximated 5,000 disintegrations per minute per 100 cm^2 ($\text{dpm}/100\text{ cm}^2$), (the average unrestricted release level per m²), instrument 047065 indicated

257 counts/minute (cpm) and instrument 047068 indicated 252 cpm. Background was measured and determined to be 40 cpm for both instruments. The Ludlum Model 2221 Scaler Ratemeter with attached gas proportional detector, NRC Tag No. 045645, was checked for accuracy and constancy with a dedicated and traceable ... Pu check source. For alpha radiation detection, approximately 5000 dpm/100 cm² equalled 1500 cpm.

Confirmatory surveys were performed on the floors, walls, accessible ventilation ducts, drain openings, support beams, industrial lighting fixtures, ventilation units located on the roof, and the surrounding roof area of the former press rooms and furnace room. The survey identified two locations where residual contamination exceeded the NRC unrestricted use criteria of 15,000 dpm (50 Bq)/100 cm² maximum activity. One area, approximately 200 cm², located on the lower southwestern portion of the former furnace room wall, demonstrated readings of approximately 2,400 cpm/100 cm² (55,000 dpm/100 cm²) using the Ludlum Model 12 Count Ratemeter with attached pancake probe, NRC Tag No. 047068. The other area was a section of conduit protruding from the northeastern portion of the former furnace room floor. The count rate reading for this area, using a Ludlum 12 Count Ratemeter with attached pancake probe, NRC Tag No. **047065**, was **1,200** cpm/100 cm² (26,500 dpm/100 cm²).

As explained in Section 5 of this report, the contractor was able to remediate the two locations to levels below the NRC's unrestricted use limit. After this was performed, confirmatory wipes were taken on the floors and walls of both the former press rooms and furnace room and the ventilation units. Wipes were analyzed for gross alpha and gross beta activity.

The final survey and smears conducted of the former press rooms and furnace room resulted in exposure rates and removable activity rates below the NRC unrestricted use criteria of 5000 dpm (17 Bq)/100 cm² average activity; 15,000 dpm (50 Bq)/100 cm² maximum activity; and 1000 dpm (3 Bq)/100 cm² removable activity. These criteria are found in NRC's "Guideline for Decontamination of Facilities and Equipment prior to Release for Unrestricted Use or Termination of Licenses for Byproduct, Source, or Special Nuclear Material," August 1987. However, LAW Environmental's confirmatory survey data needs to be submitted, reviewed, and approved to release the site for unrestricted use.

In conclusion, the inspectors' independent radiation measurements confirmed that the facility had been adequately remediated and although two locations were identified demonstrating excessive exposure rates, remediation activities were performed resulting in radiation levels that were below the NRC guideline values for unrestricted use. The contractors confirmatory survey needs to be submitted, reviewed and approved prior to releasing the site for unrestricted use.

5. Identification of Contamination - Remediation Efforts

As indicated in Section 4. of this report, two locations were identified in the former furnace room demonstrating excessive exposure rates. The first area was located on the southwestern wall, approximately 200 cm'. This area was remediated using a commercial cleaner, scouring pad, and a putty knife. After conducting the remediation efforts, the area was resurveyed. The count rate reading was 60 cpm/100 CM2 (470 dpm/100 CM2) using the Ludlum Model 12 Count Ratemeter with attached pancake probe, NRC Tag No. 047068.

The other location was a section of conduit protruding from the northeastern portion of the floor. The conduit was remediated using a commercial cleaner and several scouring pads. After performing the remediation efforts, the area was resurveyed. The count rate reading was 200 cpm/100 cm' (3680 dpm/100 cm2) using the Ludlum Model 12 Count Ratemeter with attached pancake probe, NRC Tag No. 047068.

The radioactive waste generated from remediating both locations was bagged in plastic and placed in a 55 gallon radioactive waste drum. Surveys were conducted in areas surrounding the remediated locations. No count rate levels were identified above background.

6. Radioactive Waste

While performing remediation activities of the facility, approximately seven 55 gallon drums of radioactive waste were generated. The drums are currently stored in the facilities' former furnace room, an area where access is restricted and is properly secured. The drums have been sealed and are being **temporarily stored** at this location. The issue of waste storage will be furthered addressed by the Carboloy Company and/or its contractors.

7. Exit Meeting

The NRC inspectors met with the individuals identified in Section I of this report and summarized the findings of the inspection. The inspectors' final independent radiological survey identified no residual radioactive material that exceeded the NRC release criteria. However, to release the site for unrestricted use, the contractors' confirmatory surveys need to be submitted, reviewed and approved by the NRC. Also, the issue of radioactive waste storage will be addressed in future correspondence by the Carboloy Company and/or its contractors. During the course of the inspection and during the exit meeting, no documents, inspection findings and/or statements were identified as proprietary in nature.