

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

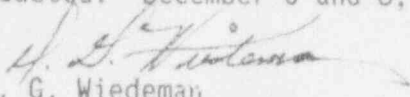
Report No. 999-90003/93041(DRSS)

License No. SNM-183 (terminated)
Docket No. 070-00133 (terminated)
License No. 34-00653-01(terminated)
License No. 34-00653-02(terminated)
License No. C-3790 (terminated)
License No. C-3692 (terminated)

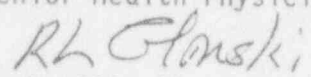
Licensee: Clevite Research Center
Division of Clevite Corporation
540 East 105th Street
Cleveland, Ohio

Inspection At: Neighborhood Progress, Inc.
(a former Clevite Corp. facility)
540 East 105th Street
Cleveland, Ohio 44108

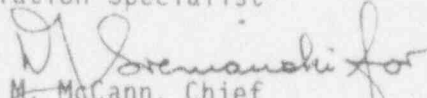
Inspection Conducted: December 6 and 8, 1993

Inspectors: 
D. G. Wiedeman
Senior Health Physicist

12/22/93
Date


R. L. Glinski
Radiation Specialist

12-22-93
Date

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

12/22/93
Date

Inspection Summary

Inspection on December 6 & 8, 1993 (Report No. 999-900 041(DRSS))

Areas Inspected: This was a special followup inspection which included a review of the former licensee's activities associated with the decontamination and remediation of their manufacturing, processing and research areas. This inspection was a followup to the previous NRC inspection conducted on May 27, 1993.

Results: The NRC inspectors identified six areas that exceeded the NRC release limit of 5,000 dpm ($\beta\gamma$)/100 cm², averaged over one meter squared and four individual areas that exceed the NRC release criteria of 15,000 dpm/100 cm² on the floor of the former licensee's hallway and manufacturing areas of the building. The inspectors did not identify any significant radiation levels above natural background in the basement or former research areas on the second floor. Based upon the inspection findings, it was concluded that the facility was not successfully decontaminated to levels below the NRC release criteria.

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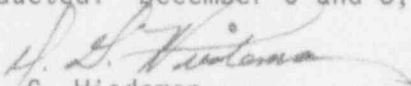
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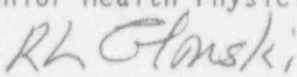
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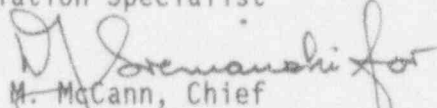
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DETAILS

1. Persons Contacted

*Raymond J. Pierce, Facilities Manager, Neighborhood Progress, Inc.
(NPI)

#Daryl Rush, Vice President, NPI

Todd T. Brady, R.T., Cuyahoga County Board of Health

*Attended the exit meeting conducted on December 8, 1993.

#Telephone conversation conducted on December 21, 1993 regarding progress of the laboratory sample analyses.

2. Background

License No. SNM-183 was issued to Clevite Research Center, Division of Clevite Corporation on March 10, 1958, for use and possession of enriched uranium at their facility located at 540 East 105th Street, Cleveland, Ohio. The authorized activities included melting, alloying, forging, rolling, welding, pickling, chemical and metallographic analyses, machining, stamping, and the sintering of enriched uranium powder and ceramic materials for the production and fabrication of fuel elements for nuclear reactors. Initially the license authorized 9,010 grams of 90% enriched uranium-235. Subsequent amendments to the license authorized 55,800 grams of enriched uranium-235. A special area located on the 1st floor of the building (near the rear of the building) was reserved for fabrication of fuel elements.

Other licensed activities at this facility were conducted under license No. 34-00653-01 and 34-00653-02. The 01 license authorized millicurie amounts of phosphorus-32, sodium-24, potassium-42 and chlorine-36 for use in irradiation and research on crystalline compounds. License No. 34-00653-02 authorized sealed sources of cobalt-60 for use in irradiation and radiography. Source Material Licenses No. C-3790 and C-3692 authorized 200 pounds of natural uranium and 5 grams of thorium sulfide, respectively, for research.

3. Facility Status

Since the last NRC inspection conducted on May 27, 1993, (see NRC Report No. 999-90003/93011(DRSS)), status of the facility had not changed. During a November 16, 1993 meeting between Neighborhood Progress, Inc., legal counsel for Gould Inc., and the NRC staff, it was agreed that the NRC would conduct another inspection to further characterize the level of contamination in the facility.

4. Independent Measurements

The NRC inspectors conducted radiologic surveys in and around the former manufacturing areas on the first floor, basement and second floor research areas of the building. The areas surveyed included the first

floor locker rooms, rest rooms, hallways, offices, former manufacturing areas, ventilation ducts and loading docks. The NRC inspectors' radiologic surveys of the basement and second floor research areas did not identify any significant radiation levels above natural background.

Independent radiation surveys were performed with a Victoreen, Model 190 portable survey instrument with a Model RP-1 pancake probe, Serial No. 000549, calibrated on October 12, 1993, and Ludlum Model 12, Serial No. 105690 with a Model 43-5 pancake probe, calibrated on October 6, 1993. Prior to the surveys both instruments were checked for accuracy and constancy with dedicated and traceable check sources. Both instruments responded as expected. During the instrument response checks, both instruments were corrected for background, probe size, geometry and counting efficiency with an NIST traceable standard. This correction showed that 2,250 counts/minute (cpm) equates to $\approx 15,000$ disintegrations per minute/100 cm² and 750 cpm (average) equates to 5,000 dpm/m² beta/gamma radiation. Direct radiation measurement results and locations where smear tests were taken are indicated in Attachment A. Attachment B shows the results of the average contaminate level in 1-meter grids and the locations where smear tests were taken.

Background measurements taken in the parking lot with the Victoreen and Ludlum survey instruments showed 45-55 counts per minute (cpm). Measurements on contact with the floor were made in five areas of a one meter grid of the 1st floor manufacturing area which showed the highest radiation level. Each area was surveyed for alpha, beta and gamma radiation and smear tests were taken to determine if the contaminate was removable. A sample of chipped concrete was taken to determine the specific nuclide.

Five one meter grid areas in the manufacturing/machine shop area and one 1-meter grid in the hallway exceeded the NRC release criteria of 5,000 dpm/100 cm² (averaged over 1 square meter) and four specific areas in the machine shop exceeded the NRC release criteria of 15,000 dpm/100 cm². Smear tests were taken on various areas that showed elevated radiation levels. These smear tests are currently being analyzed in the Region III laboratory; however, previous smear tests indicate that the contamination was predominantly a beta emitter and the contaminant was not removable. The results from the smear tests and concrete sample taken during this inspection were not available. A supplemental report will be issued when the results become available.

In conclusion, the inspectors independent radiation measurements indicate that the low level contamination that remains in the floor in the former manufacturing area exceeds the NRC release criteria for release of facilities for unrestricted use.

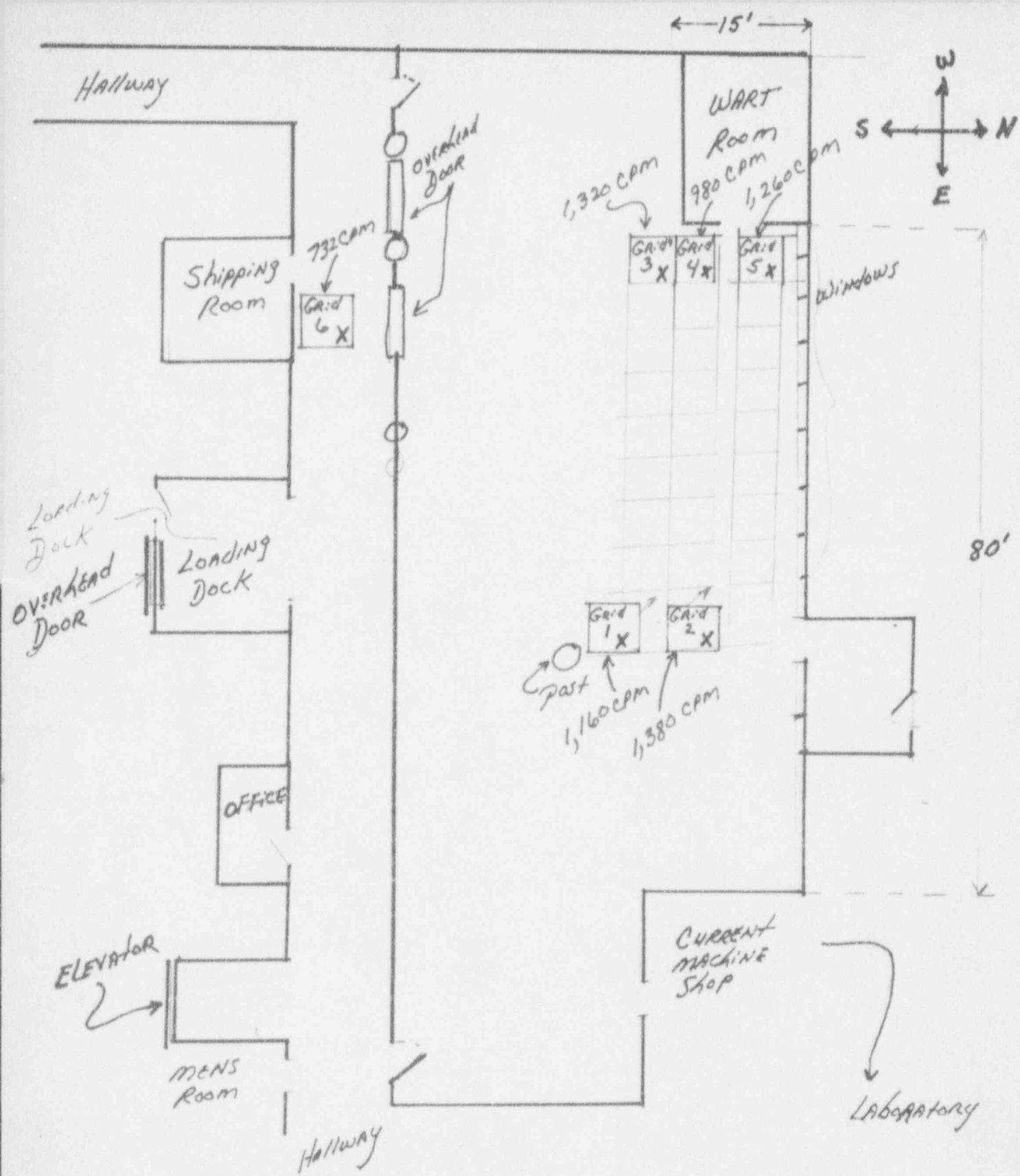
5. Exit Meeting

The NRC inspectors met with the individuals identified in Section 1 of this report and summarized the findings of the inspection. The inspectors informed the current property owner representatives that the

independent radiologic survey confirmed the previous NRC findings and indicated that certain areas did not meet the current NRC release criteria. These areas were identified for further evaluation during remediation. During the course of the inspection and during the exit meetings with the current property owner and their legal counsel, they did not identify any documents or inspection findings and/or statements as proprietary in nature.

Attachments:

- A. Survey results and smear test locations
- B. Survey results (Grids 1-6)



Clevite (Neighborhood Progress, Inc.)

1st Floor and adjacent rooms to former machine shop

Survey Date- December 6, 1993, by: R. Glinski & D. Wiedeman

Survey instrument- Ludlum Model 12, Probe 4345 pancake, and alpha probe

background= 45-65 counts/minute (cpm) beta/gamma

.5-2.0 cpm alpha

XXXXXX

X= smear test locations



ATTACHMENT A

PAGE 2 of 3 PAGES

NOTE- All units are counts/minute 750 cpm=5,000 dpm/1 meter squared

DATE December 6, 1993

LOCATION Neighborhood Progress

INSTRUMENT Ludlum Model 12 S/N 105690 PROBE Model 43-5 pancake

Grid Number 1	Grid Number 2	Grid Number 3
1. 900	1. 1000	1. 2100
2. 900	2. 1300	2. 1600
3. 1700	3. 1900	3. 1300#
4. 500	4. 1800#	4. 600
5. 1800#	5. 900	5. 1000
Average 1160	Average 1380	Average 1320

Grid Number 4	Grid Number 5	Grid Number 6
1. 1400	1. 700	1. 600
2. 1200#	2. 700	2. 1300
3. 800	3. 1200	3. 1200
4. 800	4. 1500	4. 200
5. 700	5. 2200#	5. 350
Average 980	Average 1260	Average 732

NOTE- All units are in counts/minute (cpm)

2,250 cpm= 15,000 dpm/100 cm²

750 cpm(avg)= 5,000 dpm/1 meter²

#=area smear tested for removable contamination



ATTACHMENT B

PAGE 1 of 1 pages