

U.S. NUCLEAR REGULATORY COMMISSION
REGION I
INSPECTION REPORT

Report No. 030-15075/94-001

Docket No. 030-15075

License No. 20-05520-05 (expired)

Priority 3

Category E

Licensee: Omni-Wave Electronics Corporation
Blackburn Industrial Park
22 Blackburn Drive
Gloucester, Massachusetts 01930

Facility Name: Omni-Wave Electronics Corporation

Inspection At: 22 Blackburn Drive
Gloucester, Massachusetts

Inspection Conducted: June 15, 1994

Inspectors: Richard Gibson, Jr. 7/13/94
Richard Gibson, Jr. Health Physicist date

Approved by: Walter J. Pasciak 7-13-94
Walter J. Pasciak, Chief date
Industrial Applications Section
Division of Radiation Safety and Safeguards

Inspection Summary: A special confirmatory closeout survey was conducted at the licensee facility located at 22 Blackburn Drive, Gloucester, Massachusetts for contamination and radioactivity of that facility. The facility was surveyed to identify licensed material still in possession under an expired license, and to identify any removable radioactive contamination and radioactivity. The survey included the pump room area of the facility, the manufacturing area, and the area where licensed radioactive material was once used and currently stored. Eighteen samples were obtained and assayed for gross beta contamination, and to confirm the isotope, cobalt-60. Radiation surveys were taken in the general areas and on items containing radioactive material.

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RETURN ORIGINAL TO
REGION I

IE-07

Areas Inspected: Locations where licensed material was used and currently stored; confirmatory survey made by the inspector.

Results: Removable contamination and radioactivity distinguishable above background were found at the facility located at 22 Blackburn Drive, Gloucester, Massachusetts. The survey results are enclosed as Attachment 1, with this report.

DETAILS

1. Persons Contacted

- * Milton R. Hamilton, Executive Vice-President, Omni-Wave Electronics Corporation
- Raymond Tarr, President, Omni-Wave Electronics Corporation
- * Thomas F. O'Connell, The Commonwealth of Massachusetts

* Indicates those in attendance at the exit interview

2. Organization and Scope of Licensed Activities

The Omni-Wave Electronics Corporation, located at 22 Blackburn Drive, Gloucester, Massachusetts, is operated under NRC Materials License No. 20-05520-05. The NRC license expired on April 30, 1990. The license was not terminated, and an NRC Form-314, "Disposition of Radioactive Material," and closeout survey results were not submitted to the NRC. The NRC was informed by Mr. Hamilton that Omni-Wave Electronics Corporation is now defunct, and since the expiration of the License, the byproduct material has remained in his possession at 22 Blackburn Drive, Gloucester, Massachusetts. There have been two successors of Omni-Wave Electronics Corporation, RCM Corporation and Cherokee Electronics, who we understand are now defunct. As of June 15, 1994, licensed materials, cobalt-60 in any form, up to 10 millicuries and Krypton-85 in any form, up to 500 millicuries, still remains at 22 Blackburn Drive, Gloucester, Massachusetts without a valid specific NRC License.

3. Confirmatory Survey Results

Eighteen wipe samples were obtained at the facility located at 22 Blackburn Drive, Gloucester, Massachusetts using filter paper disks in the locations identified in Appendix A of this report and placed in distilled water in glass counting vials. The wipe samples were obtained in areas where licensed material was used and currently stored. The areas are, a pump room with two krypton-85 canisters mounted on pumps used to back fill gas switches, a cabinet containing gas switches with licensed material located in the inspection room of the manufacturing area, and the storage area with licensed materials in gas switches, aqueous solution, and waste. The samples were analyzed in the Region I laboratory using a Packard 2250 CA Liquid Scintillation Counter. Removable contamination was found on a number of items inside of the storage room. See Appendix A for survey results. No removable contamination was found above background in the cabinet located in the inspection room or the pump room.

A radiation survey was performed of the areas mentioned above at the facility. Contact surveys were taken on the krypton-85 canisters, the gas switches inside of the cabinet, and items containing licensed material and waste containers inside of the storage room. A general area survey was also performed of all areas mentioned above. The survey instrument used was a Ludlum Model 3, S/N NRC 006314, calibrated on January 14, 1994. Measurements indicated radiation levels above background. See appendix A for survey results.

4. Exit Interview

The inspector reviewed the scope and purpose of the inspection with Mr. Hamilton of Omni-Wave Electronics Corporation, and Mr. O'Connell of the Commonwealth of Massachusetts. The inspector informed Mr. Hamilton that there is to be no use of the licensed material and that the material must remain secured until a valid NRC specific license is obtained or the licensed material is properly disposed.

APPENDIX A

RESULTS OF WIPE TEST SAMPLES AND RADIATION MEASUREMENT TAKEN AT THE OMNI-WAVE ELECTRONICS CORPORATION 22 BLACKBURN DRIVE GLOUCESTER, MASSACHUSETTS

<u>Sample No.</u>	<u>Description</u>	<u>Results</u>
1.	Tube to pump over cylinder on vacuum pump	2 ± 2 dpm/wipe
2.	Krypton-85 cylinder	2 ± 2 dpm/wipe
3.	Inside wooden box, cobalt-60 switches	1 ± 2 dpm/wipe
4.	Inside wooden box, krypton-85 switches	1 ± 2 dpm/wipe
5.	Deck, in front of door to storage room	4 ± 2 dpm/wipe
6.	Door knob to storage room	4 ± 2 dpm/wipe
7.	Inside door knob to RAM storage room	4 ± 2 dpm/wipe
8.	On deck just inside room	5 ± 2 dpm/wipe
9.	Deck in front of shelf in RAM storage room	29 ± 4 dpm/wipe
10.	On storage shelf in RAM storage room- top shelf	14 ± 3 dpm/wipe
11.	Treatment rack on storage shelf	14 ± 3 dpm/wipe
12.	Lead brick used for storage of Co-60 aqueous solution	500 ± 15 dpm/wipe
13.	Third shelf on RAM storage area	160 ± 10 dpm/wipe
14.	Another treatment rack	4440 ± 40 dpm/wipe
15.	Inside of the oven	26 ± 4 dpm/wipe
16.	Laydown plastic inside of transfer area next to cave	37740 ± 120 dpm/wipe
17.	55 gallons drum on the outside	300 ± 10 dpm/wipe
18.	30 gallons drum on the outside	420 ± 15 dpm/wipe

RADIATION MEASUREMENT

<u>Item</u>	<u>Levels</u>
1. Canister (krypton-85, 8/10/84, 200 mCi)	< 0.1 mr/hr
2. Canister (krypton-85, 10/09/87, 200 mCi)	0.8 mr/hr
3. Wooden Box w/gas switches (Co-60 & Kr-85)	0.7 mr/hr to 2.0 mr/hr
4. 30 gallon drum (radioactive waste)	5.0 mr/hr
5. 55 gallon drum (radioactive waste)	5.0 mr/hr
6. Storage shelf (treatment rack)	1.5 mr/hr
7. General area of storage room	0.5 mr/hr
8. Tube used for Co-60 extraction (taped to Pb brick)	20.0 mr/hr
9. Bottle of Kovar Bright Dip	1.5 mr/hr
10. Out side wall of storage area	1.0 mr/hr

ATTACHMENT 1
SURVEY ANALYSIS

SAMPLE RECORD SHEET
REGION 1 LABORATORY

LAB CONTROL NUMBER
301638

ROUTINE URGENT
DATE NEEDED

ANALYZED BY
APPROVED BY
DATE

DATE ANALYSIS BEGAN
DATE COMPLETED
CONTACT NOTIFIED

SAMPLE LOCATION
COLLECTED BY
DIVISION
PHONE

NO.	DATE	HOUR	DESCRIPTION	ANALYZE FOR	INSTRUMENT USED	QUANTITY USED	DATE COUNTED	COUNT TIME	GROSS COUNT	BACK GROUND	NET COUNT	RESULT $\pm 1\sigma$
1	6/15	1245	tube to pump over exhaust in vacuum pump	gross	LD	1	6/20	10 min	17	11	6 ± 5	2 ± 3
2			for 25% reduction						17		6 ± 5	2 ± 3
3			inside breathing device box with the device						13		2 ± 5	1 ± 3
4			inside breathing device container						15		4 ± 5	1 ± 3
5			Cal. in front of door to storage room						21		10 ± 5	4 ± 3
6			Down knob in storage room						22		11 ± 6	4 ± 3
7			handles door knob to RAM storage room						22		11 ± 6	4 ± 3
8			On work post inside room						27		12 ± 6	5 ± 3
9			Doors in front of shelf in RAM storage						28		77 ± 10	69 ± 4
10			On storage shelf in RAM storage room						50		29 ± 8	14 ± 3
11			Exhausts back on storage shelf in RAM storage room						48		37 ± 8	14 ± 3
12			On head bin box used for storage of gas canisters						1571		176 ± 57	500 ± 15
13			shelf underneath cone in RAM storage room						426		46 ± 21	160 ± 10
14			on another Tuffant shelf						11747		1102 ± 167	4440 ± 90
15			inside van						91		70 ± 10	26 ± 4
16			Exhausts back of Tuffant shelf in RAM storage room						101522		16151 ± 98	37740 ± 120
17			55 gal drum outside						797		79 ± 38	300 ± 10

* Random uncertainties reported are 1 standard deviation, 1 σ , small negative and other results $\leq 2\sigma$ are interpreted as including "zero" or as not detected. If appropriate, estimates of possible systematic errors are reported in parentheses.

REQUEST FOR ANALYSIS
Region I Laboratory

CONTROL NUMBER

301638

SAMPLE LOCATION (LICENSEE)

Oma-1-WAVE ELECTRONICS CORPORATION

LICENSE NO.

DOCKET NO.

20-05520-05

030-15075

SAMPLES SUBMITTED

#(TOTAL)

TYPE

VOLUME

WEIGHT

DATE SAMPLES SUBMITTED

PRIORITY

18

WIPES

JUNE 20, 1994

ROUTINE

URGENT ***

SAMPLE COLLECTION INTERVAL

MONTH

DAY

YEAR

TIME

START

06

15

1994

11:30

STOP

06

15

1994

12:45

INSPECTOR RESPONSIBLE

Richard Gibson JR

PHONE EXT.

5071

ANALYSIS TO BE PERFORMED

LIST DESIRED
LLD (Optional)

OTHER TYPE OF ANALYSIS (Specify)

LIST DESIRED
LLD (Optional)

GROSS ALPHA

Cobalt-60

GROSS BETA

GAMMA SPEC

TRITIUM

CARBON-14

IODINE-125

REMARKS

Swipes were taken on some containers used for Krypton-85 gas switches, general areas of the facility, and inside of the storage room that is used for storage of Cobalt-60 aqueous solutions and waste.

NOTE: Samples will be discarded after analysis unless reasons are noted above in Remarks.

*** FOR URGENT USE ONLY— Signature Blocks below must be filled out by the Inspector's appropriate Section Chief and by the Chief, Effluents Radiation Protection Section BEFORE submitting this form to the Region I Laboratory.

SIGNATURE — APPROPRIATE NUCLEAR MATERIALS SAFETY SECTION CHIEF

DATE

SIGNATURE — CHIEF, EFFLUENTS RADIATION PROTECTION SECTION

DATE