Glowlite CORP.

September 16, 1982

U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive Suite 1000
Arlington, Tx 76011

ATTENTION: MR. GLEN D. BROWN -CHIEF TECHNICAL PROGRAM BRANCE.

SUBJECT: Licence No. 35-13559-02E

Dear Mr. Brown:

This has reference to your letter dated March 29, 1982 regarding the decontamination of the area previously used for Tritium Storage.

In this connection we are pleased to inform you that we have already effectively decontaminated the area. The area was tested by Dr. Wally on June 26, 1982 and August 26, 1982. The result of the survey as per report dated September 2, 1982 indicated the area has been effectively decontaminated. Copies of both reports are enclosed here with.

In view of the fact that the area has been effectively decontaminated. We request you to permit unrestricted use of the room.

Thanking you & with kindest regards.

Your truly

Vijay Mehan
Tech. Director

Enclosure: Copy of Smear Test Report

cc:

1. Mr. Freeman Barnes
2. Mrs. Sheila Smith
3. Mr. Harris Kruger

The
University of Oklahoma
Health Sciences Center Post Office Box 26901 Oklahoma City, Oklahoma 73190

Department of Radiological Sciences

SEP 08 1982

September 2, 1982

Mr. Vijay Mehan
Director
Technical Operations
Glow Lite Corporation
Highway 77 South
Pauls Valley, Ok 73075

Dear Mr. Mehan,

With reference to Nuclear Regulatory Commission Region IV letter dated March 29, 1982 regarding NRC License number 35-13559-02E for use of tritium at your facility, the smear tests of the area were performed by me on June 21, 1982 and the results were submitted for your record.
The area was decontaminated by you prior to August 26, 1982, and again during my presence on that day. Smear samples were taken after the decontamination, the results of the smear samples are enclosed for your record.

The results indicate that all the area smears counts are well below 1000dpm/100 sq. cm, so the area is well decontaminated.

The results of my report dated Sept. 2, 1982 and that of June 21, 1982, may please be reported to the NRC region IV office for information. I recommend that the area be properly painted with a paint sealer before it is declared to be unrestricted area.

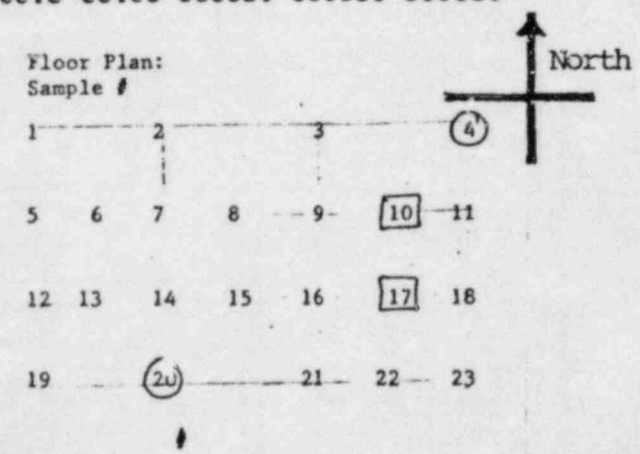
Thank you

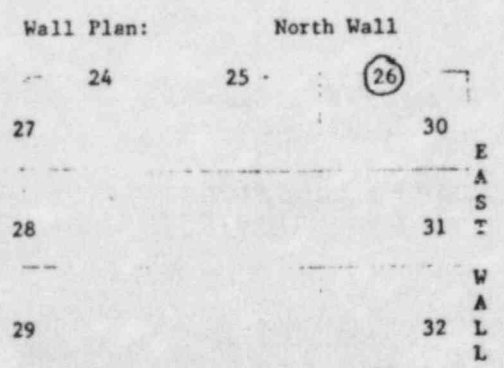
Sincerely yours,

B. Ahluwalia, Ph.D.

B. Wally Ahluwalia, Ph.D.
Radiological Physicist
Diplomat ABSNM

					Sample location on Room plan & Sample Description
00001	00100	000022	000023	000022	Background
00002	00100	142918	142430	141027	Tritium standard
00003	00100	000227	000226	000222	plan location 4
00004	00100	000269	000267	000262	10
00005	00100	000073	000073	000072	17
00006	00100	000081	000082	000079	26
00007	00100	000020	000024	000024	Background
00008	00100	000277	000273	000272	4
00009	00100	000363	000355	000346	20
00010	00100	000181	000180	000178	3
00011	00100	000139	000139	000137	11
00012	00100	000210	000209	000206	7
00013	00100	000181	000181	000177	14
00014	00100	000259	000260	000255	21
00015	00100	000051	000050	000051	29





GLOW LITE COPPORATION
HIGHWAY 77 South
Pauls Valley, Ok 73075

Subject: TRITIUM CONTAMINATED AREA
Samples taken on: AUGUST 26,1982
Final counting: SEPTEMBER 2,1982

H-3 standard:

500,000 dpm on 4-1-72
Approximate dpm on 4-1-82
250,000

250,000 dpm= 142,918 counts per min.
1000 dpm = 571 counts per MIN.

These samples were taken after cleaning the areas at two different occasions.
All of the samples has activity well below 370 counts per minute.

The area has been properly decontaminated, it is further requested to seal the area with proper paint.

RECOMMENDATIONS:

The room formerly used for tritium work has been decontaminated and can be used for other purposes after a proper paint sealer is applied on the walls and floor.

B. Ahluwalia, Ph.D.

B. Wally Ahluwalia, Ph.D.
Radiological Physicist
Diplomat ABSNM

The
University of Oklahoma
Health Sciences Center Post Office Box 26901 Oklahoma City, Oklahoma 73190

Department of Radiological Sciences

June 29, 1982

Mr. Vijay Mehan
Director Technical Operations
Glow Lite Corporation
Highway 77 South
Pauls Valley, Ok 73075

Dear Mr. Mehan,

Enclosed please find the report of the smear samples taken on my visit to your facility on June 21, 1982.

The area is not yet ready for release for general use as some spots are still contaminated. The area may please be decontaminated again. Follow the decontamination procedures which have been introduced on my prior visits.

I shall be requesting you to provide me area smear samples for verification of decontamination. The specific details of the areas will be provided to you after the completion of the decontamination procedures.

A final bill for the professional services will be sent at the completion of the deconatamination and verification assignment.

With best regards

Sincerely yours,

B. Ahluwalia, Ph.D

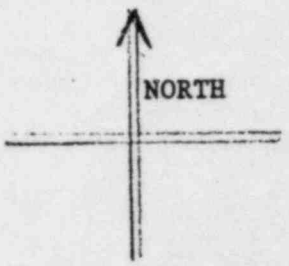
Wally B. Ahluwalia, Ph.D
Radiological Physicist
Diplomat ABSNM

00299	00100	000022	000022	000021
00000	00014	000296	000225	000055
00001	00100	000143	000142	000140
00002	00100	000068	000070	000071
00003	00100	000114	000116	000117
00004	00100	000842	000839	000828
00005	00100	000149	000149	000150
00006	00100	000130	000131	000130
00007	00100	000118	000118	000118
00008	00100	000148	000147	000145
00009	00100	000126	000125	000123
00010	00100	000459	000457	000447
00011	00100	000242	000242	000237
00012	00100	000096	000096	000098
00013	00100	000101	000103	000103
00014	00100	000071	000072	000071
00015	00100	000169	000172	000169
00016	00100	000187	000186	000182
00017	00100	000470	000469	000461

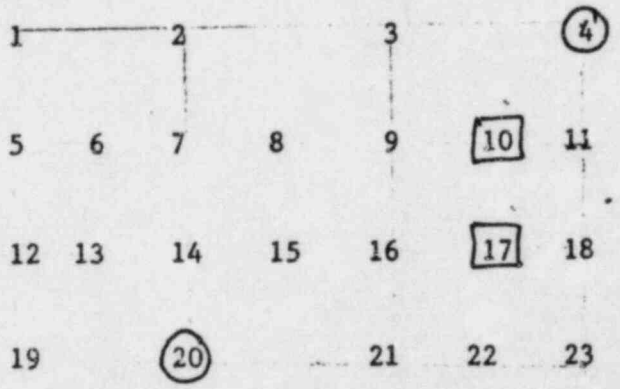
GLOW LITE CORPORATION
Highway 77 South
Pauls Valley,Ok 73075

SUBJECT: TRITIUM contaminated Area

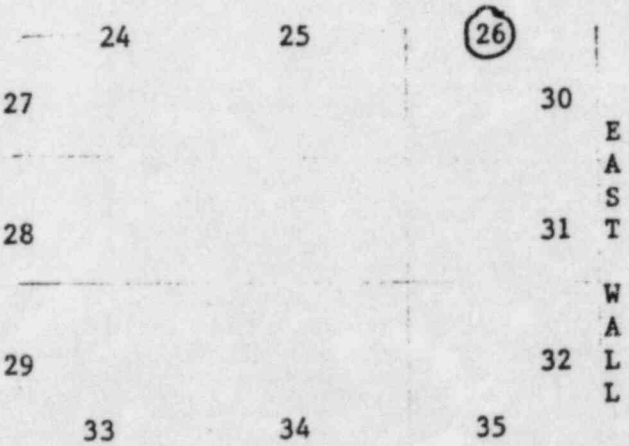
Samples taken on: June 21, 1982
Final Counting: June 23, 1982



Floor Plan:
Sample #



Wall Plan: North Wall



DOORWAY SAMPLES: 37, 38
Electrical Fixture Samples: 39,40

SAMPLE #	Description:
299	Background
000	H-3 Standard
036	Background
041	Background

H-3 Standard:
500,000 dpm on 4-1-72
Approximate dpm on
4-1-82 250,000

250,000 dpm=20296 counts/0.14 MIN.
1000dpm=580 counts per MIN.

Samples of areas giving counts more than 580 counts per minute are considered to be contaminated. These areas are marked on the plan.

These areas are:
4, 10,17,20,26
Areas 10 and 17 are marginally below the contamination limit.

Recommendation:

The above mentioned areas are still contaminated with tritium. These areas be discretely decontaminated. Wipe samples of certain areas will be taken after the decontamination procedure by the Technical Director/ Radiation safety officer for the facility or by me. These area samples will be recounted by me to verify the decontamination.

Wally Ahluwalia

Wally B. Ahluwalia, Ph.D.
Radiological Physicist
Diplomat ABSNM

June 29, 1982

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

S.F. file

4/11/82
Spitzberg

March 29, 1982

Glowlite Corporation
ATTN: Vijay K. Mehan
Director of Engineering
P. O. Box 698
Pauls Valley, OK 73075

License: 35-13559-02E
Expiration Date: May 31, 1981

Gentlemen:

Thank you for your letter of February 10, 1982, in response to our letter and Notice of Expired License dated January 20, 1982. With regard to the contamination survey performed on June 4-5, 1981, we do not agree with your assessment that the contamination levels are less than the recommended levels for release of an area for unrestricted use. Specifically, the survey performed following decontamination shows sample locations 5 and 32 to be in excess of the 1000 dpm/100cm^2 limit specified in the guidelines previously provided.

In order for us to terminate this license, we need additional survey results following further decontamination as may be necessary that will show these areas to be below the contamination limits. Please provide us this information within 20 days of receipt of this letter so that we can continue our review of this matter.

Sincerely,

Glen D. Brown

Glen D. Brown, Chief
Technical Program Branch

8204050348

Glowlite CORP

February 10, 1982

Glen D. Brown
Chief: Tech. Inspection Branch
611 Ryan Plaza Drive
Suite #1000
Arlington, TX 76011

Dear Sir:

Subject: License No. 35-13559-02E.

This is persuant to your letter dated Jan. 20, 1982 concerning License No. 35-13559-02E, disposition of our remains of H^3 and decontamination of facilities following its use. In this context we wish to apprise you as follows:

1) License No. 35-13559-02E: Due to the fact that distribution of our flow lamps tubes containing kr 85 will be to persons exempt from License Requirements persuant to 10, CFR 30.15, we believe it necessary that we maintain a specific license (02E) for this purpose. In this regard, we are in the stage of completing our application either for the renewal of the license #35-13559-02E that expired on May 31, 1981 or for the issuance of a new license that would be adequate for our needs.

Our lack of response in requesting the renewal of the noted 2E license on a timely basis has been primarily due to major changes in personnel which included our responsible users as well as actual loss or misplacement of very important mail communication between our nuclear consultants and our company.

2) Disposal of Hydrogen-3 Stocks: Following discontinuance of our use of H^3 in the manufacture of glow lamps, one cylinder of gas remained in our stock, unused. This cylinder #29025 contained 140 liters of gas to the following composition:

Neon	98%
Argon	2%
H^3	Specific Activity 0.05 Ci/liter

The total amount of H^3 in the cylinder #29025 was 7 curies.

The above material was returned to the suppliers, with its original cylinder

as follows:

Date of Shipment May 5, 1981

Shipped to Cryogenics Rare Gas Lab
46 Liberty St.
Metuchen, N.J. 08840
Attn: Ted Suderlund

3) Decontamination of Production Facilities: Please be advised that the separate facilities used for the manufacture of glow lamps containing H^3 were effectively decontaminated on June 4 & 5, 1981 under the supervision of Mr. Clark. We are enclosing a copy of the report of Mr. Clark for the radiation smear surveys. It is apparent that after decontamination, contamination levels are significantly less than the recommended levels.

1000 dpm / 100 cm²

However, not all of the recommended procedures have been fully complied with and the empty area has not been released for unrestricted use.

In view of the length of time which has transpired since the last clean up of that location, it is our intent to immediately initiate another comprehensive smear survey of that area. This will be done for our assurance that no H^3 previously fixed due to surface porosity has migrated to the surface due to high humidity or other conditions.

Following the above noted survey, and after action is taken, we will supply your office with a complete report on the results and/or action taken.

Mr. Brown, we trust you will find the above adequate for the intended purpose. If further information is required, please advise.

Very truly yours,

Vijay K. Mehan
Director of Engineering

Enc: Copy of radiation smear survey report from Mr. Clark.

H^3 Radiation Smear Survey
Glow Lite Corporation
Pauls Valley, Oklahoma

During R. Clark's visit to the Glow Lite facility June 4-5, 1981, two radiation smear surveys were made. One smear was made prior to facility and item decontamination, and the second survey made following decontamination procedures.

The surveys were conducted by wiping areas of approximately 100 Cm^2 with dry No. 1 Whatman filter paper with the application of moderate pressure and then assessing the amount of H^3 on each wipe using appropriate instrumentation of known efficiency and accuracy. The instrumentation used for this purpose was a liquid scintillation counting system, Model Mark III. Its efficiency and accuracy was determined using standards traceable to the NBS.

The results of the survey are shown below. Column No. 1 shows the amount of observable H^3 contamination in dpm prior to cleaning, and Column 2; following the cleaning procedures.

The guidelines for decontamination of facilities and equipment prior to release for unrestricted use or termination of license for byproduct, source or special nuclear material established by the U. S. Atomic Energy Commission, Division of Materials Licensing, Washington, D.C., dated April [illegible] 1970, have been used for comparison purposes. Table I and Table II show average contamination levels of beta-gamma emitting isotopes are acceptable, provided they do not exceed an average of 1000 dpm beta-gamma/100 Cm^2.

Column of No. 2 of the results shows that after decontamination, contamination levels are significantly less than the recommended levels, and both items and facilities may be released for unrestricted use. However, as a practical and precautionary measure it is recommended that all facility interior surfaces (lamp filling room only) be painted and any residual contamination permanently affixed. This includes the concrete floor which should be sealed prior to painting.

Sample No.	Location	(1) d/m	(2) d/m
1	Top of oven, exhaust	1629	220
2	Base, exhaust	14637	471
3	Top of turret, exhaust	42452	163
4	Top of switch box, gage and exhaust	9268	762
5	Pipe (conduit cover) exhaust	61550	1093
6	Top of power supply	3803	287
7	Inside shelf, P. supply	4010	375
8	Top of transformer, P. supply	132	70
9	Cord, power supply	3651	307
10	Top of bomber	1190	83
11	Inside brass plate, bomber	147	41
12	Inside floor surface, bomber	313	42
13	Top of bakalite, bomber	400	36
14	Stand rungs, bomber	992	72
15	Fan blades, inside	1414	166
16	Fan motor housing	4875	216
17	Fan surface brackets	678	40
18	Inside surface, drip pans	603	40
19	Inside surface, drip pans	1173	96
20	Outside surface, drip pans	4533	263
21	Vacuum pump, #1	0	0
22	Vacuum pump, #2	3566	269
23	Vacuum pump, #3	1850	107
24	Vacuum pump, #4	221	68
25	Vacuum pump, #5	2241	209

Inside Lamp Fill Room

Sample No.	Location	(1) d/m	(2) d/m
26	Ceiling - south exhaust port	47	77
27	Ceiling - north exhaust port	94	96
28	Refrigerator coil - north	2791	185
29	Centr. vntl. flange, outer surface	986	83
30	Centr. vntl. flange, inner surface	4183	296
31	Refrigerator line, top surface	2077	345
32	South refrigerator coil	66362	1560
33	Ceiling, center	4401	855
34	Top surface, coil cover, north	17249	437
35	East wall	2545	397
36	North wall	388	151
37	West wall	66	50
38	South wall	57	30
39	Floor - south side	113	113
40	Floor - north side	124	59
Hallway Outside Lamp Filling Room			
41	Chair outside hallway		100
42	Settled dust: Outer door		168
43	Floor, directly outside room		256
44	Floor, middle, hallway		231
45	Floor, work area beyond hallway		45

1/20182

ELT, Inc.
ATTN: Robert Clark
P. O. Box 698
Pauls Valley, OK 73075

License: 35-13559-02E

Expiration Date: May 31, 1981

Gentlemen:

Subject: Notice of Expired License

This refers to the telephone discussion between Mr. D. B. Spitzberg of this office and Linda Mitchell of your organization on December 21, 1981.

NRC records show that the Byproduct Material License identified above has expired and no renewal application has been filed in accordance with Section 30.37 of Title 10, Code of Federal Regulations, Part 30.

From our discussion with your representative we learned that the authorized activity involving Krypton-85 is now covered by your active License No. 35-13559-01. It was confirmed that all activity involving hydrogen-3 has ceased, you do not have any of this material in your possession, and you do not wish to reactivate this part of your program. Therefore, you must take the following actions:

1. Prepare a statement which explains the method of disposal of the hydrogen-3 stating to whom it was shipped, and when this was done.

2. Decontaminate the facility, equipment and systems wherein materials were used, make a comprehensive radiation survey of the facility for hydrogen-3, and prepare a report showing the results of that survey. The enclosed "Guidelines for Decontamination . . ." provide guidance for the decontamination effort and limits for residual contamination.

A copy of the statement and report of survey in 1. and 2. above, shall be sent, within 15 days of the receipt of this letter, to Region IV, U. S. Nuclear Regulatory Commission, 611 Ryan Plaza Dr., Suite 1000, Arlington, Texas 76011, Attention: G. D. Brown, Chief, Technical Inspection Branch.

The responses directed by this Notice are not subject to the clearance procedures of the Office of Budget as required by the Paperwork Reduction Act of 1980, PL 96-511.

8202160340

TIB	MRPS	IES	RA	TIB
BSpitzberg/dc	JEverett	JCaldwell	JTCollins	GDBrown
1/2/82	1/ /82	1/ /82	1/ /82	1/ /82

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

We request that you give prompt attention to these matters.

Sincerely,

Glen D. Brown, Chief
Technical Inspection Branch

Enclosure: As stated

bcc: c/o DMB
AEOD
IE Files
IE/RSB
NMSS
NRC PDR