

MATERIALS LICENSE

Amendment No. 02

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438) and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

302207

Licensee

In accordance with letter dated
December 30, 1996

1. Advanced Lighting Technologies, Inc.

3. License Number STB-1575 is amended in
its entirety to read as follows:2. 32000 Aurora Road
Solon, OH 44139

4. Expiration Date July 31, 2005

5. Docket or
Reference No. 040-090376. Byproduct, Source, and/or
Special Nuclear Material7. Chemical and/or Physical
Form8. Maximum Amount that Licensee
May Possess at Any One Time
Under This License

A. Natural Thorium

A. Thorium iodide not
exceeding 4% by weight
mixed with
non-radioactive iodide

A. 0.25 Kilogram

B. Natural Thorium

B. Thorium Oxide not
to exceed 4% by weight
alloyed with tungsten
oxide

B. 2.0 Kilograms

9. Authorized Use:

A. and B. To be used in the production and commercial distribution of arc tubes for metal
halide lamps.CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 32000 Aurora Road, Solon, Ohio.
11. Licensed material shall be used by, or under the supervision of, Arthur L. Kaplan or Abbas Lamouri, Ph.D.
12. The Radiation Safety Officer for this license is Arthur L. Kaplan.
13. The licensee is authorized to transport licensed material only in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

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PDR ADOCK 040*****
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MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number

STB-1575

Docket or Reference Number

040-09037

Amendment No. 02

14. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents, including any enclosures, listed below. The U.S. Nuclear Regulatory Commission's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

A. Letters dated June 22, 1995, January 24, 1996, and December 30, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

4/8/97

By

Kevin A. Mee

Nuclear Materials Licensing Branch, Region III

COPY

(FOR LFMS USE)
INFORMATION FROM LTS

S8

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

Program Code: 03214
Status Code: 0
Fee Category: 2C
Exp. Date: 20050731
Fee Comments:
Decom Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: ADVANCED LIGHTING TECHS., INC.
Rec'd Date: 970113
Docket No: 4009037
Control No.: 302207
License No.: 9TB-1575
Action Type: Amendment

2. FEE ATTACHED

Amount: 560
Check No.: 1028

3. COMMENTS

Signed D. Hersey
Date 1-15-97

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered)

1. Fee Category and Amount: 2C \$420

2. Correct Fee Paid. / Application may be processed for:

Amendment ☒
Renewal ☐
License ☐

3. OTHER

Signed SC
Date 1/22/97

FEB 03 1997

Log	Jan 8 III
Remitter	HID Recycling, Inc.
Check No.	1028
Amount	(4560) \$420 Refund \$140
Fee Category	2C
Type of Fee	AMD
Date Check Rec'd	1/22/97
Date Completed	1/22/97
By	SC

1997 JAN 22 PM 1:48

Advanced Lighting Technologies, Inc.
32000 Aurora Road, Solon, Ohio 44139
Phone: (216) 349-7166 Fax: (216) 349-7171

30 December 1996

US Nuclear Regulatory Commission
Region III
801 Warrenville Road
Lisle, Illinois 60532-4351
ATTN: B. J. Holt, Chief
Materials Licensing Branch

REF: Source Material License No. STB-1575

Dear Ms. Holt:

With reference to recent telephone conversations between Mr. John Madera of your Office and Art Kaplan, our Radiation Safety Officer, enclosed are the original and one copy of our application for an amendment to our Source Material License Number STB-1575.

The amendment application consists of our request for a change of name for the license holder, and supporting information pursuant to NRC Information Notice 89-25, Rev.1 dated 7 December 1994, "Unauthorized Transfer of Ownership or Control of Licensed Activities". (Please see Attachment.)

The license is currently owned by Venture Lighting International, Inc. (VLI) at the same address indicated above on the letterhead. VLI is owned by Advanced Lighting Technologies, Inc. (ADLT).

Recently, ADLT became a public corporation traded on the NASDAQ Stock Exchange. Also, administrative changes were made, which resulted in transferring the radiation safety function from VLI to the ADLT staff. Finally, we wish to expand licensed Thorium activities at VLI to other ADLT companies, Specialty Discharge Lighting, Inc. (SDL) and Lighting Resources International, Inc. (LRI), both located at the same building in Bellvue, Ohio. SDL's Thorium activities would be identical to those currently licensed at VLI.

We believe that compliance with license requirements at each location, as well as licensing administration, would be better assured if the licensed activities at each location, which will be identical, were authorized under a single license, rather than multiple licenses.

We understand that after the requested name change has been authorized, we must request a license amendment to establish the Thorium activities at SDL and LRI.

Art Kaplan will continue to be the Radiation Safety Officer at VLI for ADLT. No administrative or operational control, activities, or responsibilities will be changed at VLI, as a result of the requested change of ownership name for the licensed activities.

RECEIVED

JAN 13 1997

REGION III

302207

B. J. Holt
30 December 1996

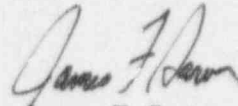
I, representing the transferee, agree to continue to abide by all constraints, conditions, requirements, representations, and commitments previously made to the NRC by VLI and those identified in the existing license.

If you have any questions related to this matter, please contact Art Kaplan at (216) 350-7000, ext. 2376.

Sincerely,



Wayne Hellman
President,
Advanced Lighting Technologies, Inc.



James F. Sarver
President,
Venture Lighting International, Inc.

ATTACHMENT 1: INFORMATION RELATED TO REQUEST FOR TRANSFER OF OWNERSHIP OF LICENSED ACTIVITIES

The following is information related to our request for a change of ownership of licensed activities, pursuant to NRC Information Notice 89-25, Rev.1 dated 7 December 1994, "Unauthorized Transfer of Ownership or Control of Licensed Activities".

01. The new name of the licensed organization.

Advanced Lighting Technologies, Inc.
32000 Aurora Road
Solon, Ohio 44139

02. The new licensee contact and telephone number(s) to facilitate communications

The licensee contact has not changed. Only the name of the company owner of licensed activities has changed. The licensee contact is still:

Arthur L. Kaplan
Radiation Safety Officer
Advanced Lighting Technologies, Inc.
32000 Aurora Road, Solon, Ohio 44139
Phone: (216) 349-7166, ext. 2376
Fax: (216) 349-7171

03. Any changes in personnel having control over licensed activities and any changes in personnel named in the license

The responsible Corporate Officer will change **from** James F. Sarver, President, Venture Lighting International, Inc. (VLI) **to** Wayne Hellman, President, Advanced Lighting Technologies, Inc. (ADLT).

Mr. James F. Sarver, as President of VLI, will continue to have operational control of licensed activities at VLI.

There will be no other changes in personnel having control over licensed activities.

Also, there will be no changes in personnel named in the license.

04. An indication of whether the transferor will remain in non-licensed business without the license

The transferor, VLI, will continue in licensed activities as authorized in the present license in the same manner as that described in the license.

**ATTACHMENT 1: INFORMATION RELATED TO REQUEST FOR TRANSFER OF
OWNERSHIP OF LICENSED ACTIVITIES**

- 05. A complete, clear description of the transaction, including any transfer of stocks or assets, mergers, etc.**

No transactions have occurred. VLI has always been owned by ADLT and its legal corporate predecessors since VLI was founded in 1986. As stated in the cover letter, ADLT recently became a public corporation traded on the NASDAQ Stock Exchange.

- 06. A complete description any planned changes in organization, location, facility, equipment, or procedures**

There are no such plans.

- 07. A detailed description of any planned changes in the use, possession, location, or storage of the licensed materials**

There are no such plans.

- 08. Any changes in organization, location, facilities, equipment, procedures, or personnel that would require a license amendment even without a change of ownership**

There are no such changes.

- 09. An indication of whether all surveillance items and records will be current at the time of transfer. A description of the status of all surveillance items and records should also be provided.**

All surveillance items and records are current at the present time. They will continue to be maintained in a current status at VLI, as administered by the same people.

- 10. Confirmation that all records concerning the safe and effective decommissioning of the facility, pursuant to 10 CFR 30.35(g), 40.36(f), 70.25(g), and 72.30(d); public dose; and waste disposal by release to sewers, incineration, radioactive material spills, and on-site burials, have been transferred to the new licensee, if licensed activities will continue at the same location, or to the NRC for license termination.**

No records transfer is necessary, since no administrative or operational control, activities, or responsibilities will be changed at VLI, as a result of the requested change of ownership name for the licensed activities.

- 11. A description of the status of the facility. Specifically, the presence or absence of contamination should be documented.**

The Appendix to this Attachment contains a survey to demonstrate that there is no significant Thorium contamination present at the facility.

**ATTACHMENT 1: INFORMATION RELATED TO REQUEST FOR TRANSFER OF
OWNERSHIP OF LICENSED ACTIVITIES**

12. A description of any decontamination plans, including financial assurance arrangements of the licensee, as specified in 10 CFR 30.35, 40.36, and 70.25. This should include information on how the transferee and transferor propose to divide the transferor's assets, and responsibility for any cleanup needed at the time of transfer.

No decontamination plans and cleanup are necessary, because:

- o No administrative or operational control, activities, or responsibilities will be changed at VLI, as a result of the requested change of ownership name for the licensed activities.
- o No dividing of assets will occur, since the only change that would occur is the name of the licensee, to the parent corporation.

13. Confirmation that the transferee agrees to abide by all commitments and representations previously made to the NRC by the transferor.

The transferee agrees to continue to abide by all constraints, conditions, requirements, representations, and commitments previously made to the NRC by VLI and those identified in the existing license, as stated in the cover letter to this amendment request.

14. Documentation that the transferor and transferee agree to the change in ownership or control of the licensed material and activity, and the conditions of transfer; and the transferee is made aware of all open inspection items and its responsibility for possible resulting enforcement actions.

Agreement to the change in ownership by both parties is certified by the signature of each party on the cover letter.

There are no open inspection items at this time.

15. A commitment by the transferee to abide by all constraints, conditions, requirements, representations, and commitments identified in the existing license.

Please see Item 13 above.

**ATTACHMENT 1: INFORMATION RELATED TO REQUEST FOR TRANSFER OF
OWNERSHIP OF LICENSED ACTIVITIES**

APPENDIX

THORIUM CONTAMINATION SURVEY

Attached is a contamination survey of the arc tube area, in which thorium materials are used.

As can be seen from the survey results, there were no locations found that exceeded the limits of 22 dpm / 100 cm² for removable contamination or 220 dpm / 100 cm² for non-removable contamination, for an unrestricted area.

THORIUM CONTAMINATION SURVEY

Date: 01/05/97 Name: ART KAPLAN

Ludlum Model 2223 α, β Survey Meter SN 125719 Survey Meter No. 4

Ludlum Model 43-89 α, β Scintillation Detector SN PR126348 Detector No. 4

AREA OF DETECTOR 122 cm²
Battery 80 KCPM Check Source: No. 4 Reading 60 KCPM

Background: 1 2 min α 348 2 min β E 0.1843

Loc. No.	2-min. Scaler Readings				CPM		DPM	DPM
	α	β	Net α	Net β	α	β	α	100 cm ² α
01	4	367	3	19	2	11		9
02	4	336	3	-	2	11		9
03	3	362	2	14	1	6		5
04	4	398	3	50	2	11		9
05	3	359	2	11	1	6		5
06	4	586	3	238	2	11		9
07	4	667	3	319	2	11		9
08	3	473	2	125	1	6		5
09	2	399	1	51	1	6		5
10	0	496	0	148	0	0		0
11	7	411	6	63	3	17		14
12	3	519	2	171	1	6		5
13	0	317	0	-	0	0		0
14a	3	308	2	-	1	6		5
15	1	353	0	5	0	0		0
16	4	789	3	441	2	11		9
17	1	289	0	-	0	0		0
18	1	314	0	-	0	0		0
19	2	311	1	-	1	6		5
20	0	429	0	81	0	0		0

THORIUM CONTAMINATION SURVEY

Loc. No.	2-min. Scaler Readings				CPM		DPM		DPM 100 cm ² α	01/05/97 WIPE TEST RESULTS
	α	β	Net α	Net β	α		α			
* 21	42	410	41	62	21		114		94	0.3
* 22	28	464	27	116	14		76		63	5.2
* 23	9	378	8	30	4		22		18	0.9
* 24	14	599	14	251	7		38		32	0
25	2	470	1	122	1		6		5	
26	3	482	2	134	1		6		5	
27	2	568	1	220	1		6		5	
28	3	584	2	236	1		6		5	
29	2	441	1	93	1		6		5	
30	0	653	0	305	0		0		0	
31	2	448	1	100	1		6		5	
32	1	615	0	267	0		0		0	
* 33	10	512	9	164	5		27		23	1.9
34	3	409	2	61	1		6		5	
* 35	9	542	8	194	4		22		18	7.1
* 36	14	421	13	73	7		38		32	0.9
* 37	6	749	5	401	3		17		14	3.1
* 38	23	495	22	147	11		60		50	0.6
* 39	12	484	11	136	6		33		27	1.2
* 40	8	613	7	265	4		22		18	4.3
* 41	8	499	7	151	4		22		18	2.2
42	1	878	0	530	0		0		0	
* 21A43	61	2878	860	2530	430		2334		1913	
* 22A44	14	352	13	-	7		38		32	
* 21A45	81	526	80	150	40		217		179	

Revision Date: 06/01/96

Page No. 02

Revision No. 01

* WIPE TESTS TAKEN; RESURVEY AFTER CLEANUP 01/07/97 (RXWD-α-1 CP 2M)
0-376 CPM

THORIUM CONTAMINATION SURVEYS / WIPE TESTS

DATE 01/06/96 NAME ART KAPLAN

Page 1

Ludlum Model 2929 Dual Channel Scaler SN 126123
Ludlum Model 43-10-1 α , β Scintillation Detector SN PR130335

Voltage 850 volts | Background (30 min.) α 3 cpm; β 2560 cpm.

Detector Efficiency 0.3250 | Background (cpm) α 0.1 cpm; β 85.3 cpm.

Loc.* No.	Reading counts, α (10 min.)	Reading cpm, α	Bckgnd cpm, α	Net reading cpm, α	Contam. level dpm, α 100 cm ²	Comments
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21	2	0.2	0.1	0.1	0.3	These results demonstrate that meter survey readings are primarily from non-removable contamination
21A	58	5.8		5.7	17.5	
22	18	1.8		1.7	5.2	
22A	5	0.5		0.4	1.2	
23	4	0.4		0.3	0.9	
24	0	0		0	0	
33	7	0.7		0.6	1.9	
35	24	2.4		2.3	7.1	
36	4	0.4		0.3	0.9	
37	11	1.1		1.0	3.1	
38	3	0.3		0.2	0.6	
39	5	0.5		0.4	1.2	
40	15	1.5		1.4	4.3	
41	8	0.8		0.7	2.2	

+ 21A 42 4.2 0.1 4.1 12.7

+ Above limit for removable α contamination in restricted area (222 dpm α / 100 cm²).

++ Above limit for removable α contamination in unrestricted area (22 dpm α / 100 cm²).

SURVWIP12VL

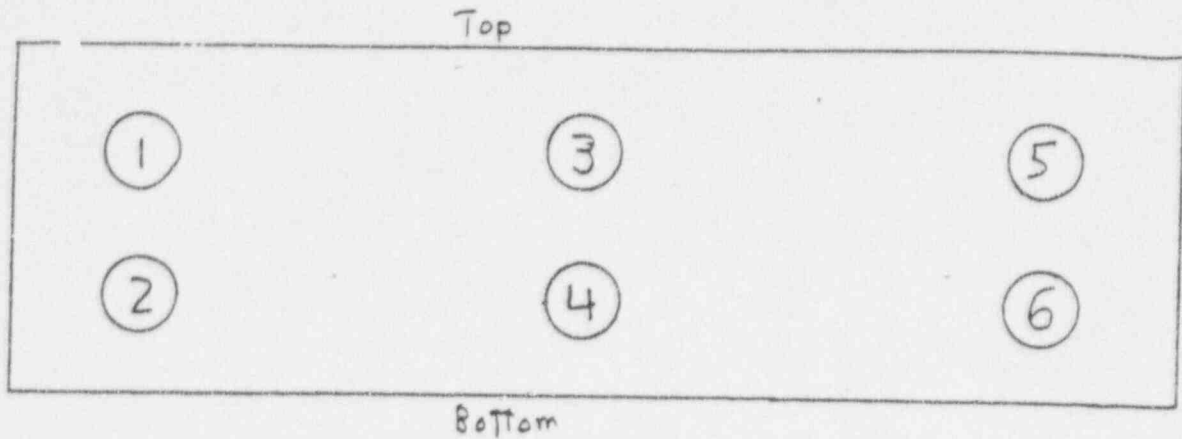
09/19/96

T REMIPED AFTER CLEANUP 01/07/97

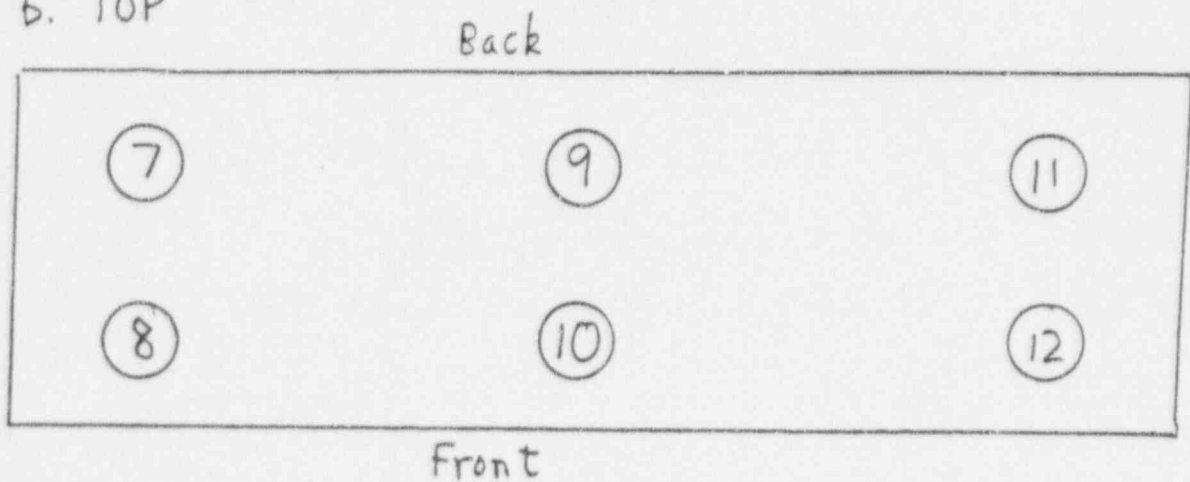
FIGURE 1

Sketches of Glove Box Front, Top, and Sides
Showing Locations of Contamination Wipe Tests or Surveys

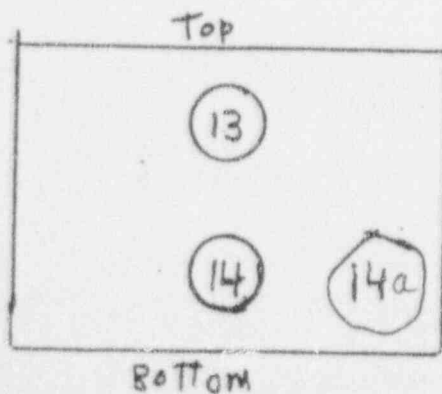
a. FRONT



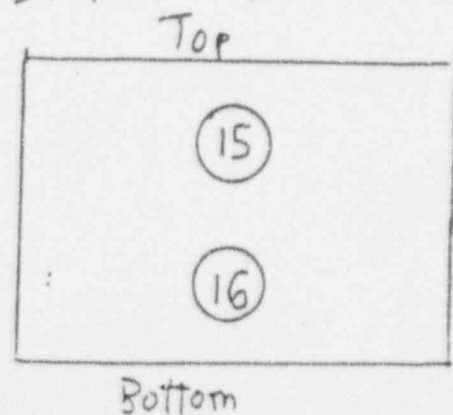
b. TOP



c. LEFT SIDE



d. RIGHT SIDE

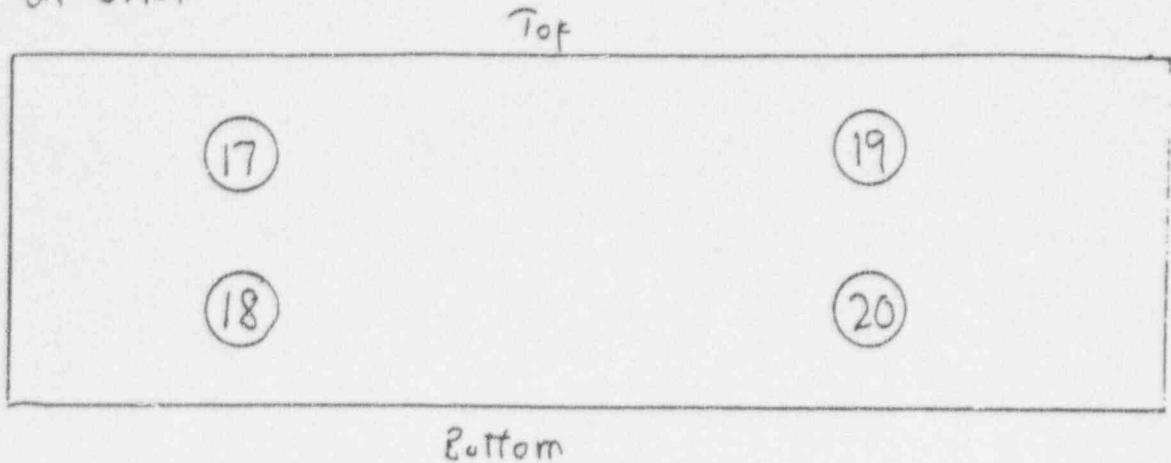


* WITH SURVEY METER

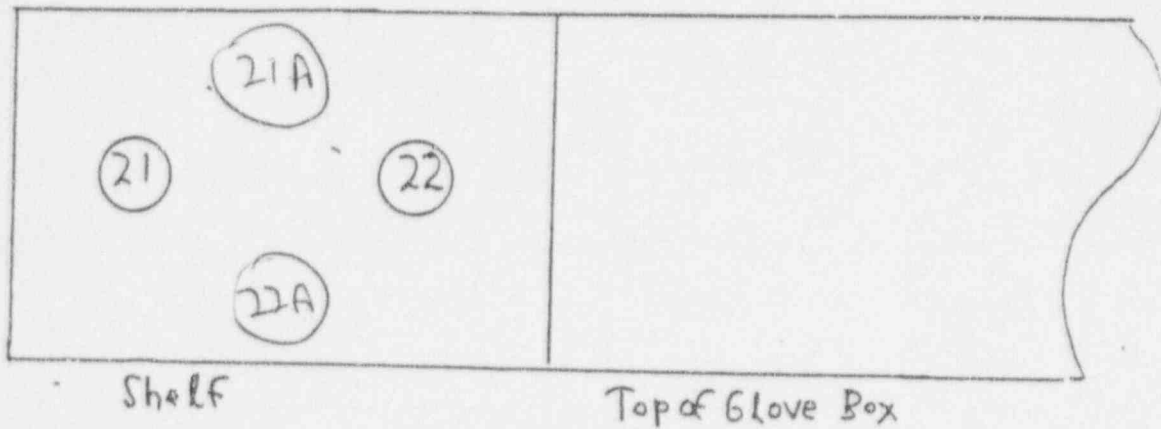
FIGURE 2

Sketches of Glove Box Back and Sides, and Shelf Below Glove Box
Showing Locations of Contamination Wipe Tests or Surveys

d. BACK



e. SHELF AT LEFT SIDE OF GLOVE BOX



f. SHELF BELOW GLOVE BOX

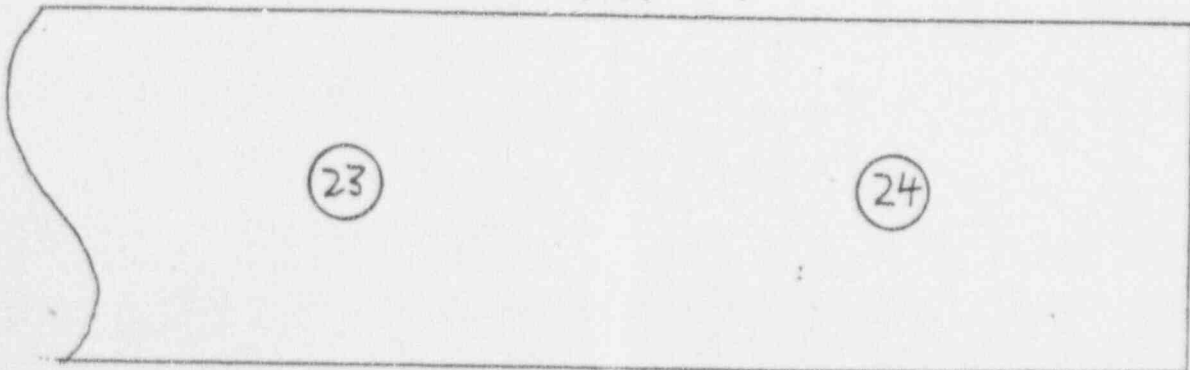
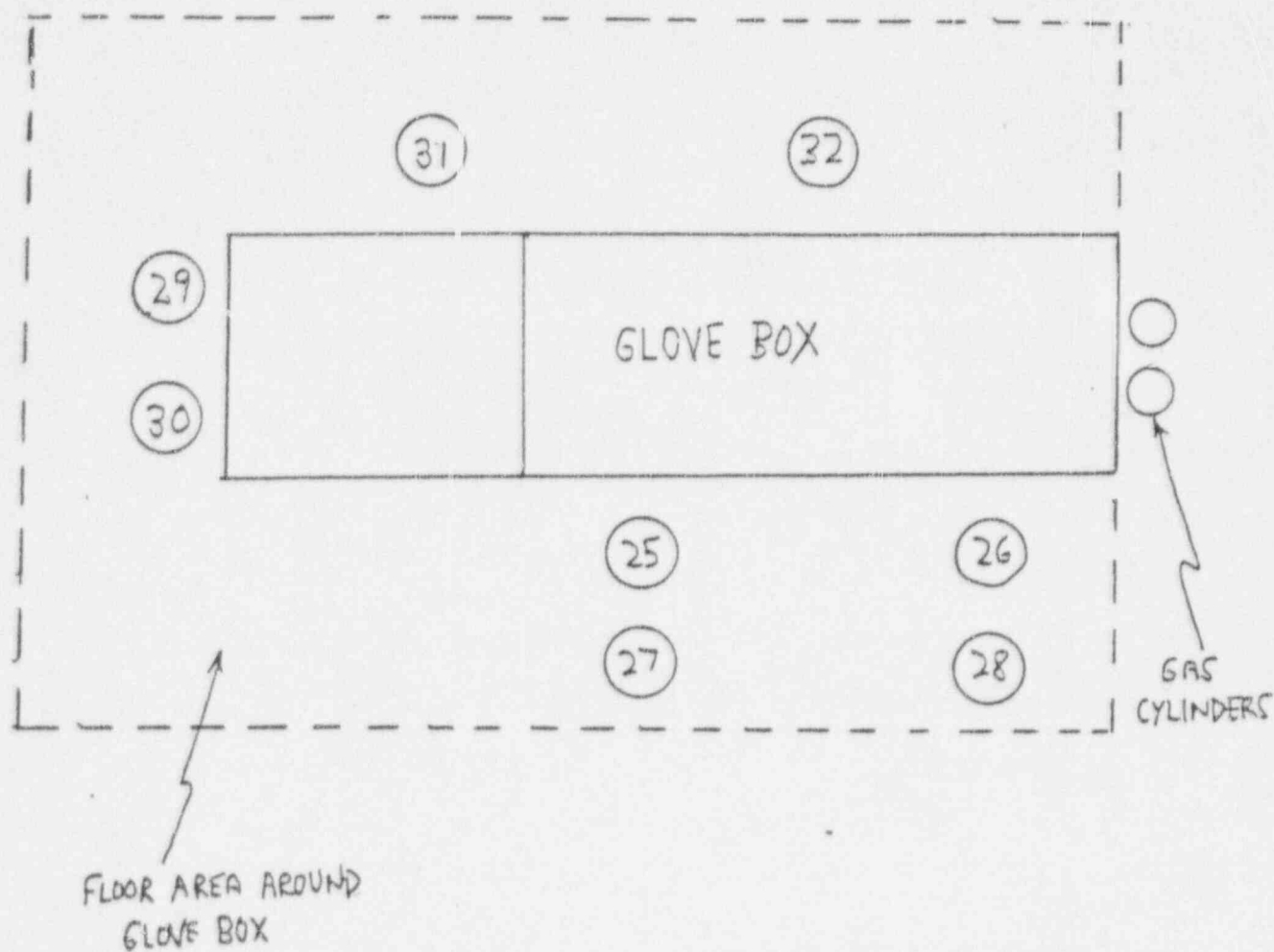


FIGURE 3

Sketch of Floor around Glove Box
Showing Locations of Contamination Wipe Tests



SEE APERTURE CARD FILES

9704140009-01

DIVISION OF ACCOUNTING AND FINANCE REQUEST FOR REFUND TO EMPLOYEE/VENDOR

THE EMPLOYEE/VENDOR IDENTIFIED BELOW HAS OVERPAID THE NUCLEAR REGULATORY COMMISSION FOR GOODS AND/OR SERVICES PROVIDED AND IS DUE A REFUND

EMPLOYEE/VENDOR/PAYEE CODE: _____

NAME: Advanced Lighting Technologies, Inc.

ADDRESS: Attn: Wayne Hellman, President

ADDRESS: 32000 Aurora Rd.

CITY: Solon

STATE: OH ZIP: 44139

TRANS CODE: PX

TRANS TYPE: FE FUND: X5280 JOB CODE: _____ AMOUNT: \$140⁰⁰

TRANS TYPE: IR FUND: R1435 JOB CODE: INTR AMOUNT: _____

TRANS TYPE: IR FUND: R1099 JOB CODE: ADCH AMOUNT: _____

TRANS TYPE: IR FUND: R1099 JOB CODE: FINE AMOUNT: _____

TOTAL REFUND AMOUNT: \$140⁰⁰

COMMENTS: Lic STB-1575/CK 1028/ Rfnd
12/30/96 Rgst

(limit comments to 40 characters, including spaces)

PREPARED BY: Shirley Prutchfield DATE: Jan. 22, 1997

AUTHORIZED BY: Sandra Kimberly DATE: 1/27/97

ORIGINAL INV. NO: _____ DATE PAID: _____ AMOUNT: _____

REFUND ENTERED INTO COLLECT BY: _____

REFUND DETERMINED BY: _____ DATE: _____

PLEASE ATTACH APPROPRIATE SUPPORTING DOCUMENTATION

Jan 8 III
Amo 2C \$420
CK# 1028 \$500
Rtd 12/12/96
302207

APR 08 1997

Arthur L. Kaplan
Radiation Safety Officer
Advanced Lighting Technologies, Inc.
32000 Aurora Road
Solon, OH 44139

Dear Mr. Kaplan:

Enclosed is Amendment No. 02 to your NRC Material License No. STB-1575 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please be advised that your license expiration date has been extended by five years per our letter dated May 7, 1996.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.
2. Notify NRC, in writing, within 30 days:
 - a. When the Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or
 - b. When the mailing address listed on the license changes. (No fee is required if the location of byproduct material remains the same.)
3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license when a decision is made to terminate all activities involving materials authorized under the license.
4. Request and obtain a license amendment before you:
 - a. Change Radiation Safety Officers;

302207

- b. Order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;
 - c. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or
 - d. Change ownership of your organization.
5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or imposition of a civil penalty, or an order suspending, modifying or revoking your license as specified in the General Statement of Policy and Procedure for NRC Enforcement Actions. Since serious consequences to employees and the public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Sincerely,

Original Signed By
Charles F. Gill
Nuclear Materials Licensing Branch

License No.: STB-1575
Docket No.: 040-09037

Enclosure: Amendment No. 02

DOCUMENT NAME: M:\04009037.CL7

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DNMS/RIII	E							
NAME	CFGILL:jaw								
DATE	04/8/97								

OFFICIAL RECORD COPY



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

January 16, 1997

Arthur L. Kaplan
Radiation Safety Officer
Advanced Lighting Technologies, Inc.
32000 Aurora Road
Solon, OH 44139

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE
(Letter Dated 12/30/96)

Dear Licensee:

In response to your request, we have completed the initial processing, which is an administrative review of your application for a(n):

☐ New License ☒ Amendment ☐ Renewal
☐ Termination ☐ Auth User (Amendment not required)
☐ Other _____

No administrative deficiencies were identified during this initial review. However, it should be noted that a technical review may identify omissions in the submitted information.

It appears that your request is routine (see 1-3 below, as applicable).

1. New and amendment actions are normally processed within 90 days, unless we find major deficiencies, or policy issues requiring central program office assistance.
2. Renewal actions are normally processed within 180 days, however, under timely filing (before expiration), you may continue to operate under your existing license.
3. Termination actions are normally processed within 90 days, unless confirmatory surveys following decontamination/decommissioning activities are involved.

A copy of your correspondence has been forwarded to our Licensing Fee and Debt Collection Branch (301/415-6097) for approval of the fee category and amount, if required.

If you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (630) 829-9887. We will try to complete your request as soon as practicable. Any correspondence about this request should reference the control number.

Nuclear Materials Support Branch

Mail Control No. 302207
License No. STB-1575