030-17205

DELTA LIGHTING CORP.

200 HENRY ST
POB 270
STAMFORD, CT 06901
TEL 203/356-0797 FAX 203/356-0058

27JUL01

Licensing Assistant Section
Nuclear Materials Safety Branch
U.S. NUCLEAR REGULATORY COMMISION, REGION 1
475 Allendale Road
King Of Prussia, PA 19406-1415

Subject: Renewal Of License Number 06-19244-01

Gentlemen:

We enclose NRC Form 313. Items 5 through 11 are answered on supplemental sheets.
See table of contents for additional information

We have performed the required additions, amendments and revisions to bring our existing license application data in line with the new Federal Regulations.
Items 5 & 6 remain unchanged. Item 7 has new person added. Item 8 has been revised and added to. It now includes a broader scope of workers & also the role of pregnant women has been added. Item 9 has had revisions in equipment and instructions. Item 10 has been revised to work into NUREG, Vol. 12, bioassay procedures have also been amended. Item 11 has been revised to now included a single source of waste disposal.

There has, however, been no change in the basic nuclear product mission of our company. We have no new products and due to DOD demands the total annual volume of nuclear product production has decreased.

We are also now in the process of formally updating our controls, records and procedures to meet applicable NUREG requirements. At the same time we are installing an ISO 9001 Quality System.

Should you require further information in this matter please contact the undersigned.

Sincerely,

Vincent Clark, Pres.& RSO
Delta Lighting Corp.

NRC FORM 313 (8-2000)
10 CFR 30, 32, 33, 34, 35, 36, 39, and 40

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120 EXPIRES: 08/31/2002

Estimated burden per response to comply with this mandatory collection request: 7.4 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Send comments regarding burden estimate to the Records Management Branch (T-6 E6), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to bjs1@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0000), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW. 030-19205

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

SAM NUNN ATLANTA FEDERAL CENTER
U. S. NUCLEAR REGULATORY COMMISSION, REGION II
61 FORSYTH STREET, S.W., SUITE 23T85
ATLANTA, GEORGIA 30303-8931

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S.NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- [ ] A. NEW LICENSE
- [ ] B. AMENDMENT TO LICENSE NUMBER _____
- [X] C. RENEWAL OF LICENSE NUMBER 06-19244-01

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include ZIP code)*

DELTA LIGHTING CORP.
ATTN: VINCENT CLARK
POB 270
STAMFORD, CT 06904

3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

DELTA LIGHTING CORP
200 HENRY ST
STAMFORD, CT 06902

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

VINCENT CLARK, RSO

TELEPHONE NUMBER

203/356-9797

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number; b. chemical and/or physical form; and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AEAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSE FEES *(See 10 CFR 170 and Section 170.31)*

FEE CATEGORY | AMOUNT ENCLOSED $

13. CERTIFICATION. *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTANED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

WARNING: 18 U.S.C. SECTION 1001 ACT OF JUNE 25, 1948 62 STAT. 749 MAKES IT A CRIMINAL OFFENSE TO MAKE A WILLFULLY FALSE STATEMENT OR REPRESENTATION TO ANY DEPARTMENT OR AGENCY OF THE UNITED STATES AS TO ANY MATTER WITHIN ITS JURISDICTION.

CERTIFYING OFFICER – TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
VINCENT CLARK, PRES./RSO	Vincent Clark	30 JUL 01

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED $	CHECK NUMBER	COMMENTS

APPROVED BY	DATE

NRC FORM 313 (8-2000)

130114

PRINTED ON RECYCLED PAPER

DELTA LIGHTING CORP.

200 HENRY ST
POB 270
STAMFORD, CT 06904
TEL 203/356-9797 FAX 203/356-9708

LICENSE SUBMISSION 30JUL01
TABLE OF CONTENTS

SUPPLEMENTAL INFORMATION

DELTA LIGHTING CORP.

230 HENRY ST
POB 270
STAMFORD, CT 06904
TEL 203/356-9797 FAX 203/356-9298

27JUL01
313/#5
Attachment #5

Element	HYDROGEN H-3
Form	GAS IN SEALED SOURCES
Maximum Amount	30,000 Ci

1. Manufacturers
One or more of the following companies will manufacture sealed sources:
SRD, Canada
MB-MICROTEC, Switzerland
Shurelight, UK
Self-Powered Lighting, USA
NRD, USA

2. Type & Model Number
The type and model and number of sealed sources used will vary depending on application, therefore, a range of activity will be required. See license amendments for other sealed sources.

3. Maximums
a. The maximum activity of a single source will not exceed 15 Ci.

b. Total plant activity in sealed sources not to exceed 30,000 Ci.

DELTA LIGHTING CORP.

200 HENRY ST
P O BOX 270
STAMFORD, CT 06904
TEL [illegible] FAX [illegible]

27JUL01
313#6
Attachment #6

1. Purpose for which licensed material will be used.

a. To fulfill requirements of Army Ordinance Fire Control Contracts.

b. Develop new products through research and development.

25Jul90

ATTACHMENT NO. 7 DELTA LIGHTING CORP.

NRC 313

VINCENT CLARK -
TRAINING AND EXPERIENCE

TRAINING:

University of Conn. - Formal classroom instruction Physics and Math
USAF - Formal classroom instruction Electronics

EXPERIENCE:

Self-Powered Lighting Ltd., Elmsford, New York

Five years experience as Production Manager. This position involved handling raw Tritium Gas, sealed Tritium sources and assemblies containing sealed Tritium sources. In addition to production, I was in charge of Quality Control. Quality Control included performing tests to the following specifications: ANSI 540, Military SQAP'S and special tests directed by State of New York, Department of Labor, Division of Industrial Hygiene Radiological Health Unit.

While at Self-Powered Lighting I received on-the-job training in "The Biological Effects of Radiation" and "The Principles and Practices of Radiation Protection." I became proficient in the setting up and calibration of Scintillation Counters and Room Air Monitors.

I performed contamination wipe tests on Tritium sources, work areas and personnel.

In addition I performed soak testing and urine bioassays. In all three cases I made the required mathematical calculations to find the amount of Tritium removed.

DELTA LIGHTING
7-30-01
ATTACHMENT #7

JAMES WALLIN

TRAINING:
Math and Science major in high school.
Missle fire control radar operator/technician in U.S. Navy six years.

EXPERIENCE:
Delta Lighting Corp. Stamford, Ct.

Eight years experience as Production Manager. This position involves handling sealed Tritium sources and assemblies containing sealed Tritium sources.

While at Delta Lighting, has received on-the-job training on procedures for the set up and calibration of Liquid Scintillation counters and Room Air Monitors. Has also performed contamination wipe tests on Tritium Sources and work areas. In addition, has performed soak testing and urine bioassays. In all phases of testing, has made the necessary calculations to determine the amount of Tritium removed.

DELTA LIGHTING CORP.

[redacted]

27JUL01
313/#8
Attachment #8

Subject: Training for individuals working in or frequenting restricted areas.

Training of the subject worker is carried out on a one on one informal basis. The RSO or Foreman/AU will conduct on the job training for each worker to the degree necessary to insure safe conduct of that worker in the Tritium workplace. The basic safety instructions provided in the Delta "Radiation Safety Manual & Outline Of Training Program, Assemblers" will be reviewed until it is apparent that the new worker has an adequate understanding. The Emergency Procedures will be reviewed with the new worker. All reviews and instructions will be conducted prior to the new worker visiting a controlled area or handling of any products containing Tritium. Supplemental training will be carried out when and where a need is noted. If applicable our program for pregnant woman will be discussed and the required regulations and forms will be reviewed. Observing the actual need of the individual worker will dictate the frequency and method of training. All Tritium workers will be under continual surveillance to insure compliance.

The training program as just described has been in operation for a number of years. It seems to work well without creating a repetition of problems. It has been noted that as a worker invests more time on the job their compliance skills seem to improve steadily.

New compliance information, plant observations and/or new products may require a formal meeting of workers to explain any impact on our system. Any safety concerns will be presented in a meeting of those concerned immediately.

Both of the aforementioned manuals are available at all times to all plant personnel.

DELTA LIGHTING CORP.

27JUL01
313/#9
Attachment #9

FACILITIES & EQUIPMENT

The licensee uses the following Radiation Detection Instruments:

1 each Liquid Scintillation Counter, For Beta Detection , Packard Model 3310.
1 each Air Monitor, For Beta Detection, Overhoff Model 57.
1 each Calibrator, Air Monitor, Johnston Labs. CL-1.

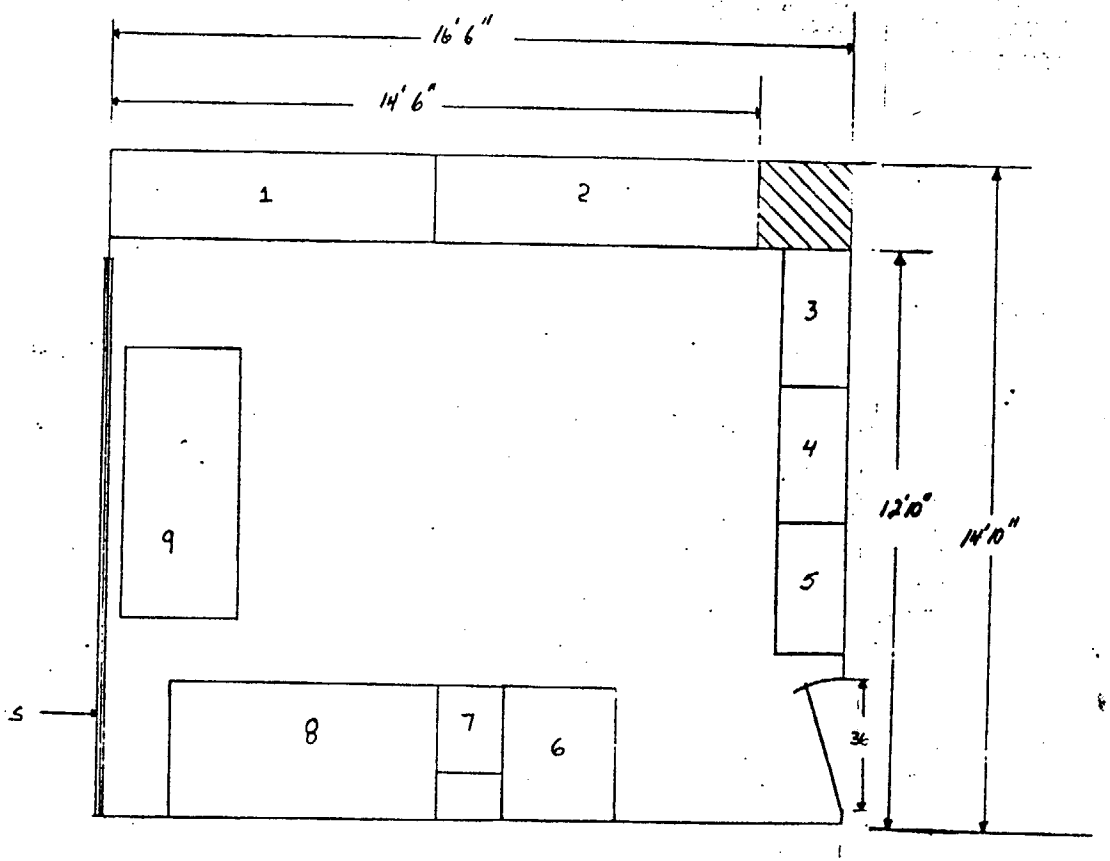
The standard calibration of the above instruments will be performed in house.

The aforementioned equipment is used in the Assembly Facility per the drawing included.

The legend of equipment used in the Assembly Facility indicates the secure storage area #3 and the vented hood/bench, #8, where bare sealed sources are installed into components. Activity inside of the hood is monitored while installation takes place. Air velocity through the hood is held at 100cfm minimum.

ATTACHMENT #10

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED



LEGEND:

1. ASSEMBLY BENCH 24" X 75'
2. ASSEMBLY BENCH 24" X 75"
3. SECURE STORAGE 18" X 36" X 72"
4. SHELVING 18" X 36" X 84"
5. SHELVING 18" X 36" X 84"
6. ENVIRONMENTAL CHAMBER
7. AIR MONITOR
8. VENTED ASSEMBLY BENCH 30" X 72"
9. ASSEMBLY BENCH 30" X 72"

QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION	MATERIAL SPECIFICATION
PARTS LIST				

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE: FRACTIONS ±, DECIMALS .XX ±, .XXX ±, ANGLES ±

MATERIAL

FINISH

NEXT ASSY | USED ON

APPLICATION

DO NOT SCALE DRAWING

CONTRACT NO.

APPROVALS	DATE
DRAWN	
CHECKED	
ISSUED	

DELTA LIGHTING CORP.
STAMFORD, CONNECTICUT

ASSEMBLY FACILITY
200 HENRY ST

SIZE	FSCM NO.	DWG. NO.	REV
B			

SCALE 1"=3' SHEET 1 of 1

130114

DELTA LIGHTING CORP.

200 HENRY ST
[illegible]
STAMFORD CT 06904
TEL 203/356-0027 FAX 203/356-0028

27JUL01
313/#10
Attachment 10

1. AUDIT PROGRAM
Weekly bioassays are performed on all factory personnel.
Other plant personnel are audited as determined by the RSO.
Monthly surveys will be performed on all equipment in the "Assembly Facility" as well as any other areas that the RSO might designate. The RSO will review all documents pertaining to the control of licensed material and the safety of personnel.
Bioassays will be calculated in accordance with the data in attachment #10 titled "Bioassays".
Bioassays will be evaluated and processed in accordance with information in USNRC Guide 8.32
Further information relative to audits found in "Outline of Training Program Assemblers" this application.

2. Radiation Monitoring Instruments

We believe the Radiation Detection Instruments noted in Attachment #9 meet or exceed the specifications provided in Appendix 'K', NUREG-1556, Vol. 12. We reserve the right to upgrade our Detection Instruments.

3. Material Receipt and Accountability.

On receipt of Licensed Material the RSO is notified. In the "Assembly Facility" shipments are opened, counted, inventoried and securely stored in the locked cabinet.
We conduct a total plant inventory of licensed material on a six-month basis.

4. Occupational Dose.

We have monitored all plant personnel for many years and find that the frequency and scope of our current Bioassay Program is adequate to provide safety per the requirements of 10 CFR Part 20.

5. Safe Use of Radionuclides and Emergency Procedures.

We have reviewed our present Safety Program and feel that the contents of our "Radiation Safety Manual, Training Program for Assemblers and Emergency Procedures" provides adequate in house safety procedures to handle the licensed material.

6. Surveys
We feel that our current survey frequency and levels as described in this renewal, are performed in accordance NUREG-1556, Vol. 12, Appendix 'P'.

BIOASSAYS

Since Curie quantities of H-3 are to be used in the form of sealed sources, weekly biassays of the urnine will be performed on all individuals working in the area. Tritium, H-3, is rapidly and uniformly distributed in the body water, urine samples will be cllected on Friday morning. On Friday afternoon, 1 ml of the sample will be placed in 10 ml of liquid scintillation fluid and counted for 10 minutes. The sample will be cooled and kept in a dark area prior to counting.

Calculation of Tritium Dose

Dose is calculated by determining the exposed individual's intake of tritium (Hydrogen-3)and comparing the intake to the ALI for tritium. ALI values are from 10 CFR 20.1001 - 20.2402, Appendix B, Table 1.

ALI = Annual Limit on Intake, regulatory limit from 10 CFR 20 which corresponds to a Committed Effective Dose Equivalent (CEDE) of 5 rem (5000 millirem) in μCi

= 8E+4 μCi for either the inhalation or ingestion pathway

The CEDE is defined by the NRC as "...the dose equivalent to organs or tissues of reference (T) that will be received from an intake of radioactive material by an individual during the 50-year period following the intake." The CEDE is added to the Deep Dose Equivalent (DDE), a measure of external whole-body radiation exposure, to yield the Total Effective Dose Equivalent. Since the beta particles from tritium are not considered to cause an external whole-body exposure (DDE = 0), the CEDE can be reported on NRC FORM 5 as the TEDE.

To calculate intake, CR-4884 recommends several *in vitro* measurements for an individual in order to reduce the propagation of the day-to-day variation associated with a sample measurement. However, CR-4884 gives IRFs for both accumlated urine and 24 hour urine. For a first estimate, a 24 hour urine sample may be used. However, if an overexposure is suspected, several accumulated urine samples should be taken and analyzed under the supervision of a person skilled in evaluating radiological bioassay data.

From CR-4884, page A-2:

I = best estimate of intake in μCi

A_i = sample measurement (urine sample) in μCi per liter

r_i = fraction of intake in accumulated urine (IRF)

$\Delta t_i = t_i - t_{i-1}$

$A_i = \Delta A_1 + \Delta A_2 + \ldots + \Delta A_i$

$\Delta A_i = C_i \times 1.4 \text{ liter/day} \times \Delta t_i$

where:

C_i = concentration of tritium in urine for i^{th} sample

t_i = time post intake for i^{th} sample in days

ΔA_i = tritium in i^{th} urine sample

A_i = tritium in accumulated urine up to t_i in μCi

The best estimate of intake is:

$$I = \frac{\sum_i r_i A_i}{\sum_i r_i^2}$$

If tritium is only nulcide of interest, the dose (TEDE) is :

$$TEDE = \frac{I \times 5 \text{ rem}}{ALI}$$

For routine weekly assays, it is assumed that the intake occurred immediately following the last measurement (7 days). The intake using a single bioassay measurement is calculated by:

$$I = \frac{\sum_i r_i A_i}{\sum_i r_i^2}$$

$$= \frac{r_1 A_1}{r_1^2}$$

$$I = \frac{A_1}{r_1}$$

where: i = 1 (single measurement)

For information purposes, the following is an example dose calculation using a weekly urine sample:

Given: C_1 = 23 μCi tritium per liter, 24 hour urine sample
t_1 = 7 days (weekly assay)
r_1 = 2.66E-2 (from CR-4884)
1.4 liters per day taken to be urine volume for ICRP-26 Reference Man

To calculate activity of tritium in the urine sample,

A_1 = C_1 x 1.4 liters per day x t_1

= 23 μCi/liter x 1.4 liters/day x 7 day

A_1 = 225 μCi tritium

Calculating the intake:

$$I = \frac{A_1}{r_1}$$

$$I = \frac{225\ \mu Ci\ tritium}{2.66E\text{-}2}$$

$$I = 8460\ \mu Ci\ tritium$$

Calculating the TEDE (dose):

$$TEDE = \frac{I \times 5\ rem}{ALI}$$

where:

ALI = 8E+4 µCi (10 CFR 20.1001 - 20.2402, App. B., Table 1)

$$TEDE = \frac{8460\ \mu Ci \times 5\ rem}{8E+4\ \mu Ci}$$

$$TEDE = 0.53\ rem$$

A TEDE of 0.53 rem is over the NRC annual reporting limit. The NRC requires that any dose over 10% of a limit be reported annually on NRC Form 5.

E M E R G E N C Y P R O C E D U R E S

MONITORS ARE SET AT MAXIMUM PERMISSIBLE LEVEL FOR TRITIUM CONCENTRATION. THE MONITORS ARE EQUIPPED WITH AN ALARM.

WHEN THE ALARM SOUNDS:

TURN ON THE CIRCULATING FAN.

LEAVE THE WORK AREA IMMEDIATELY

NOTIFY YOUR SUPERVISOR OR RADIATION SAFETY OFFICER.

IN CASE OF BREAKAGE OF A COMPLETED TRITIUM LIGHT, THE FOLLOWING STEPS SHOULD BE TAKEN:

a. LEAVE AREA IMMEDIATELY, INFORMING ALL OTHER PERSONNEL IN AREA TO DO LIKEWISE.

b. INFORM SUPERVISOR.

c. DO NOT RE-ENTER AREA UNTIL PERMITTED BY SUPERVISOR OR RADIATION SAFETY OFFICER.

d. PROVIDE URINE SAMPLE FOR ANALYSIS.

e. FOLLOWING AUTHORIZATION TO RE-ENTER AREA, CLEAN UP BROKEN COMPONENTS UNDER THE INSTRUCTION AND SUPERVISION OF THE RADIATION SAFETY OFFICER OR SUPERVISOR. USING MEANS OTHER THAN BARE HANDS, TRANSFER ALL MATERIAL TO RADIOACTIVE MATERIAL DISPOSAL BIN LOCATED IN THE TRITIUM LABORATORY.

f. WASH DOWN ALL AREAS IN CONTACT WITH BROKEN PARTS USING RADIACWASH (1 TO 10 CONCENTRATION IN HOT WATER).

g. OBTAIN WIPE TESTS OF IMMEDIATE AREA TO CHECK CLEAN-UP BEFORE CONTINUING OPERATIONS.

*NOTE: ALL BREAKAGES MUST BE REPORTED AT ONCE - DELAY MAY CAUSE OVER-EXPOSURE TO YOU AND OTHER EMPLOYEES.

DELTA LIGHTING CORP.

[illegible]

27JUL01
313/#11
Attachment #11

1. WASTE MANAGEMENT

We will use Appendix 'S' NUREG-1556, Vol. 12 as required. We will also, if required, use "NRD Organization", a professional disposal company for nuclear waste products.

RADIATION SAFETY MANUAL

DELTA LIGHTING CORP.

PREFACE

IN TRITIUM LIGHT MANUFACTURE A RADIOACTIVE GAS IS USED. THIS GAS IS AN ISOTOPE OF HYDROGEN (TRITIUM), A WEAK BETA-EMITTER. THE TRITIUM PARTICLES (ELECTRONS) ARE THE SAME AS IN THE PICTURE TUBE OF A TV, THOUGH TRITIUM LIGHT PARTICLES ARE OF SOMEWHAT LOWER AVERAGE ENERGY AND THEREFORE CAUSE LESS RADIATION EXPOSURE THAN FROM A COLOR TV TUBE.

THE LEVEL OF TRITIUM IN THE BODY IS MEASURED BY URINE ANALYSIS AND BY THIS MEANS, WE ENSURE THAT FEDERAL AND STATE LIMITS HAVE NOT BEEN EXCEEDED. YOUR COMPLIANCE WITH THE SIMPLE SAFETY RULES OUTLINED HERE WILL ENSURE THE LIMITS ARE UNLIKELY EVER TO BE EXCEEDED.

AS A BETA-EMITTER OF LOW ENERGY, TRITIUM DOES NOT CAUSE ANY INTERNAL OR EXTERNAL CHANGES TO PERSONS WORKING WITH IT. THE HAZARD IN HANDLING THIS ISOTOPE IS WHEN IT IS INHALED OR PENETRATES INTO THE BODY.

THE PLANT FOR HANDLING THIS MATERIAL HAS BEEN EQUIPPED TO PREVENT AS FAR AS POSSIBLE THE HAZARDS IN HANDLING RADIOACTIVE MATERIAL. HOWEVER, THERE ARE CERTAIN BASIC SAFETY RULES FOR WORKERS. THESE RULES ARE FOR YOUR SAFETY - READ THEM AND FOLLOW THEM.

I. INDIVIDUAL RESPONSIBILITIES

1. WHEN WORKING REMEMBER TO USE ALL PROTECTIVE EQUIPMENT PROVIDED.
2. WHEN LEAVING WORK AREA, REMOVE PROTECTIVE EQUIPMENT.
3. WASH HANDS UPON LEAVING CONTROLLED WORK AREAS, AND BEFORE HANDLING EQUIPMENT IN UNCONTROLLED AREAS.
4. PROTECTIVE EQUIPMENT AND TOOLS FROM CONTROLLED AREA MUST NEVER BE TRANSFERED TO UNCONTROLLED AREAS.
5. PERSONNEL WILL BE REQUIRED TO HAVE URINE ANALYSIS PERFORMED AT PERIODIC INTERVALS. THESE TESTS ARE PERFORMED FOR YOUR BENEFIT TO ASCERTAIN YOUR EXPOSURE TO TRITIUM.

IF YOU RECEIVE AN EXPOSURE GREATER THAN ALLOWED, YOU WILL BE NOTIFIED AND APPROPRIATE ACTION TAKEN. THE RESULTS OF THESE TESTS ARE AVAILABLE TO YOU AT ALL TIMES.

II. PRECAUTION IN WORK AREAS

THE PLANT IS SECTIONED INTO CONTROLLED AND UNCONTROLLED AREAS, UNCONTROLLED AREAS WHERE TRITIUM LEVELS ARE LOWER (OFFICES AND WAREHOUSE) AND CONTROLLED AREAS WHERE TRITIUM CONCENTRATIONS ARE AT HIGHER LEVELS.

IN CONTROLLED AREAS, AIR MONITORS ARE LOCATED. THESE MONITORS ARE SET AT MAXIMUM PERMISSIBLE LEVEL FOR TRITIUM CONCENTRATION. THE MONITORS ARE EQUIPPED WITH AN ALARM. WHEN THE ALARM SOUNDS, LEAVE THE WORK AREA IMMEDIATELY AND NOTIFY YOUR SUPERVISOR OR RADIATION SAFETY OFFICER.

IN CASE OF BREAKAGE OF A COMPLETED TRITIUM LIGHT, THE FOLLOWING STEPS SHOULD BE TAKEN:

a. LEAVE AREA IMMEDIATELY, INFORMING ALL OTHER PERSONNEL IN AREA TO DO LIKEWISE.

b. INFORM SUPERVISOR.

c. DO NOT RE-ENTER AREA UNTIL PERMITTED BY SUPERVISOR OR RADIATION SAFETY OFFICER.

d. PROVIDE URINE SAMPLE FOR ANALYSIS.

e. FOLLOWING AUTHORIZATION TO RE-ENTER AREA, CLEAN UP BROKEN COMPONENTS UNDER THE INSTRUCTION AND SUPERVISION OF THE RADIATION SAFETY OFFICER OR SUPERVISOR. USING MEANS OTHER THAN BARE HANDS, TRANSFER ALL MATERIAL TO RADIOACTIVE MATERIAL DISPOSAL BIN LOCATED IN THE TRITIUM LABORATORY.

f. WASH DOWN ALL AREAS IN CONTACT WITH BROKEN PARTS USING RADIACWASH (1 TO 10 CONCENTRATION IN HOT WATER).

g. OBTAIN WIPE TESTS OF IMMEDIATE AREA TO CHECK CLEAN-UP BEFORE CONTINUING OPERATIONS.

*<u>NOTE:</u> ALL BREAKAGES MUST BE REPORTED AT ONCE - DELAY MAY CAUSE OVER-EXPOSURE TO YOU AND OTHER EMPLOYEES.

III. <u>GENERAL PRECAUTIONS</u>

1. DO NOT EAT OR SMOKE IN CONTROLLED WORK AREAS.

2. WASH HANDS BEFORE TOUCHING FOOD OR WHEN LEAVING WORK AREAS.

3. DO NOT REMOVE PROTECTIVE EQUIPMENT FROM WORK AREAS.

4. DO NOT CARRY TRITIUM LIGHTS IN YOUR HANDS OR POCKETS, TRAYS AND BINS ARE PROVIDED.

5. DO NOT LINGER IN CONTROLLED AREAS, ENTER ONLY WHEN YOU HAVE A REASON.

6. DO NOT TAKE TRITIUM LIGHTS FOR PERSONAL USE: THIS IS AGAINST COMPANY REGULATIONS AS WELL AS THOSE OF THE REGULATING AGENCIES AND MAY BE SUBJECT TO INVESTIGATION.

IV. CONCLUSION

THE ABOVE PRECAUTIONS ARE FOR YOUR SAFETY AND PROTECTION.

FOLLOW THEM AND REMEMBER THEM.

THIS MANUAL IS AVAILABLE FOR YOUR USE - REFER TO IT OCCASIONALLY TO KEEP THE BASIC PRINCIPALS IN MIND.

DELTA LIGHTING CORP.

OUTLINE OF TRAINING PROGRAM ASSEMBLERS

1. RADIATION SAFETY

A COPY OF THE ATTACHED RADIATION SAFETY MANUAL WILL BE PROVIDED TO ALL PERSONNEL OPERATING IN THE TRITIUM ASSEMBLY AREA, AND EXPLAINED IN DETAIL BY THE RADIATION SAFETY OFFICER, WHO WILL ALSO ANSWER QUESTIONS AT THE TIME AND EXPAND ON ANY POINTS RAISED AS NECESSARY.

THE MANUAL COVERS THE FOLLOWING BASIC TOPICS:

a) INTRODUCTION AND BACKGROUND TO TRITIUM

b) NEED FOR SAFETY PRECAUTIONS

c) CONTROLLED AND UNCONTROLLED AREAS

d) PROTECTIVE EQUIPMENT PROCEDURES

e) URINE ANALYSIS REQUIREMENT

f) NO SMOKING

g) USE OF TRITIUM MONITOR

h) BREAKAGE PROCEDURE

i) DISPOSAL OF BROKEN PARTS

j) GENERAL PRECAUTIONS

2. PROTECTIVE EQUIPMENT

THE RSO WILL DESCRIBE THE FUNCTION OF VENTILATORS NECESSARY TO REMOVE ANY TRITIUM AS RAPIDLY AS POSSIBLE FROM THE WORK AREA IN THE EVENT OF A RELEASE. PROTECTIVE EQUIPMENT WILL BE REQUIRED TO BE USED AT ALL TIMES AND WILL BE REMOVED WHENEVER PERSONNEL LEAVE THE WORK AREA.

3. PRODUCTION PROCEDURES

A DESCRIPTION OF THE ASSEMBLY PROCESS WILL BE GIVEN BY THE PRODUCTION SUPERVISOR IN ASSOCIATION WITH THE RSO.

SPECIFICALLY, THE FUNTION AND PURPOSE OF TRITIUM AIR MONITORS WILL BE EXPLANIED. THE MAXIMUM PERMISSABLE CONTENT LEVEL OF $1 \times 10^{-6} \mu Ci/cc$. DERIVED FROM FEDERAL REGULATIONS, WILL BE ALARM SET SO THAT PERSONNEL WILL BE AWARE IMMEDIATELY OF ANY AIR CONCENTRATION EXCEEDING THE ALLOWABLE LIMIT. PROCEDURES IN THIS EVENT ARE DESCRIBED IN THE SAFETY MANUAL.

THE NEED FOR ACCURATE INVENTORY CONTROL OF EACH PIECE WILL BE STRESSED AND ACCOUNTABILITY OF EACH EMPLOYEE WILL BE AN IMPORTANT PART OF THE SELECTION PROCESS.

4. EMERGENCY PROCEDURES

WHILE EXPERIENCE HAS SHOWN THAT THE PROBABILITY OF AN INDIVIDUAL WORKING IN THIS AREA RECEIVING A DOSE EXCEEDING THE MAXIMUM PERMISSIBLE BODY BURDEN IS NEGLIGIBLE.

PROCEDURES HAVE BEEN ESTABLISHED FOR EMERGENCY SITUATIONS

IN THE EVENT OF THE SOUNDING OF THE ALARM ON THE TRITIUM MONITOR, THE RADIATION PROTECTION OFFICER WILL BE NOTIFIED IMMEDIATELY AND ALL PERSONNEL WITHIN THE SPECIFIED OPERATING AREA WILL LEAVE AT ONCE. NO PERSONNEL WILL BE PERMITTED TO RETURN TO THE AREA UNTIL THE AIR MONITOR INDICATES THE AIR LEVEL AT LESS THAN THE MAXIMUM PERMISSIBLE CONTENT. ALL PERSONNEL IN THAT SPECIFIED AREA WILL SUBMIT URINE SAMPLES WITHIN 2-8 HOURS AFTER THE INCIDENT IF IT HAS BEEN DETERMINED BY THE RADIAION SAFETY OFFICER THAT THE ALARM WAS NOT DUE TO A MALFUNCTION OF THE MONITOR AND THAT THE MPC VALUE WILL BE

EXCEEDED WHEN AVERAGED OVER THE 8 HOUR WORKING DAY. THIS APPROACH IS SUGGESTED ON THE BASIS OF EXPERIENCE WITH MINOR RELEASES OF TRITIUM (SPIKES) WHICH ARE QUICKLY DILUTED AND REMOVED FROM THE SPECIFIED OPERATING AREA. THE URINE SAMPLE SHOULD BE DISPATCHED IMMEDIATELY FOR ANALYSIS AND FURTHER ACTION TAKEN PER USNRC REGULATORY GUIDE 8.32 AND THE FOLLOWING SCHEDULE:

	URINE SAMPLE ANALYSIS	ACTION
1.	EQUAL TO OR GREATER THAN 1080 μ Ci/liter	INDIVIDUAL PLACED UNDER MEDICAL SUPERVISION IMMEDIATELY. IMMEDIATE REPORT TO USNRC OR OTHER GOVERNING BODY. BEGIN IMMEDIATE INVESTIGATION OF THE INCIDENT.
2.	LESS THAN 1080 μ Ci/liter GREATER THAN 212 μ Ci/liter	INDIVIDUAL PLACED UNDER MEDICAL SUPERVISION IMMEDIATELY. REPORT TO USNRC OR OTHER GOVERNING BODY WITHIN 24 Hrs. AFTER RECEIPT OF DATA. BEGIN IMMEDIATE INVESTIGATION OF INCIDENT.
3.	For declared Pregnant Women or Minors: Less than 22 μCi/liter Greater than 4.34 μ Ci/liter and: For individuals who receive multiple exposures for which the total dose exceeds 5 rem.	INDIVIDUAL PLACED UNDER MEDICAL SUPERVISION IMMEDIATELY. USNRC NOTIFIED WITHIN 30 DAYS OF THE INCIDENT. AN INVESTIGATION OF THE INCIDENT BEGUN IMMEDIATELY.
4.	For all other workers: Less than 212 μCi/liter Greater than 21 μ Ci/liter	A report must be filed with the USNRC on NRC Form 5 for the year of ocurance
5.	LESS THAN 21 μCi/liter GREATER THAN 4 μCi/liter	AN ANALYSIS OF THE EMPLOYEE WORK PATTERN, THE PLANT ENVIRONMENT AND ANY OTHER PERTINENT FACTORS WILL BE INITIATED IMMEDIATELY ON RECEIPT OF THE DATA.

THE URINE ANALYSIS VALUES ARE RELATED TO DOSAGE AS FOLLOWS:

25 rem TEDE - equivalent to a single tritium intake of 1086 μCi/liter
5 rem TEDE - equivalent to a single tritium intake of 212 μCi/liter
0.5 rem TEDE - equivalent to a single tritium intake of 21 μCi/liter

DESCRIPTION OF AIR MONITOR OPERATION

THE AIR MONITOR SHOULD BE OPERATED ON THE MAXIMUM SENSITIVITY SCALE (0 - 50 μCi/meter) WITH THE ALARM SET SO THAT THE ALARM WILL SOUND WHEN THE CONCENTRATION IS GREATER THAN: (AMBIENT CONCENTRATION + 1 μCi/meter). SHOULD THE ALARM SOUND, THE RADIATION PROTECTION OFFICER WILL BE NOTIFIED IMMEDIATELY TO DETERMINE IS THE MPC LEVEL HAS BEEN EXCEEDED AND FURTHER ACTION IS REQUIRED.

NOTE: IF THE AIR MONITOR RECEIVES A SPIKE INJECTION OF 10,000 μCi/meter THE MONITOR WILL PURGE TO MPC LEVEL (1 μCi/meter) IN APPROXIMATELY 15 MINUTES.

CONTROLLED AREA WIPE TESTS

MONTHLY WIPE TESTS OF CONTROLLED AREAS WILL BE PERFORMED USING STANDARD WIPE TEST PROCEDURES. THE SAMPLES WILL BE COLLECTED FROM VARIOUS SURFACES IN THE CONTROLLED AREA SO THAT AN ACCURATE ASSESSMENT OF TRITIUM CONCENTRATION ON CONTROLLED AREA SURFACES CAN BE MADE. THE AREA TO BE WIPED ON EACH OF THE SURFACES WILL MEASURE 100 sq.cm., AND THE TRITUM CONCENTRATION IS NOT TO EXCEED 1000 DPM/100 sq.cm. IN THE EVENT THE CONCENTRATION IS GREATER THAN 1000 DPM/sq.cm. THE RADIATION SAFETY OFFICER WILL BE NOTIFIED SO THAT: CLEANING AND DISPOSAL TECHNIQUES WILL BE EMPLOYED TO REDUCE CONCENTRATIONS TO LEVELS BELOW THE TRIGGER LEVEL; ALL PERSONNEL MAY BE MONITORED TO DETERMINE POSSIBLE CONTAMINATION; AND INVESTIGATIONS WILL BE PERFORMED TO PREVENT FUTURE CONTAMINATIONS.

Delta Lighting Corp.

E M E R G E N C Y P R O C E D U R E S

Monitors are set at or below 1 x 10^{-6} micro Ci/CC an approved level for tritium concentration. The monitors are equipped with an audible alarm.

WHEN THE ALARM SOUNDS:

INSURE HOOD FAN IS IN "ON" POSITION

LEAVE THE WORK AREA IMMEDIATELY

CLOSE DOOR(S) TO SEAL OFF AREA OF INCIDENT

NOTIFY YOUR SUPERVISOR OR RADIATION SAFETY OFFICER, RSO

In case of breakage or cracking of a completed tritium light, the following steps should be taken:

a. Leave area immediately follow **"When The Alarm Sounds"** procedures, informing all other personnel in area to do likewise.

b. Inform supervisor.

c. Do not re-enter area until permitted by Radiation Safety Officer or his delegate.

d. Provide urine sample for analysis, as directed.

e. Following authorization to re-enter area, clean up broken components under the instruction and supervision of the Radiation Safety Officer or his delegate. Using means other than bare hands, transfer all material to Radioactive Material Disposal Bin located in the tritium laboratory.

f. Wash down all areas in contact with broken parts using Radiacwash (1 to 10 concentration in hot water). Do not dispose of wash water without RSO approval.

g. Obtain wipe tests of immediate area to check clean-up before continuing operations.

h. Do not resume work in area of incident without individual permission of RSO or his delegate.

NOTE:

1. All breakage must be reported at once - delay may cause over-exposure to you and other employees.

2. Your RSO - Vincent Clark. His delegate - Jim Wallin.

Information for Pregnant Women
Who Work with Radioactive Material

Delta Lighting Corporation (Delta Lighting) has been granted a license by the United States Nuclear Regulatory Commission (NRC) to use radioactive material in the research environment. In concurrence with this license, Delta Lighting endeavors to maintain radiation exposure to employees *as low as reasonably achievable* (ALARA) through the combination of an NRC approved radiation protection program and routine audits. In addition, Delta Lighting must adhere to NRC regulations governing radiation protection which contain a series of radation exposure limits. The NRC yearly dose limit for occupationally exposed adults is 5.0 REM[1]. If a person were exposed to 5.0 REM every year over a standard working lifetime, no clinical evidence exists indicating that the individual would be harmed. The NRC requires that Delta Lighting report any worker exposure that is over 10% of the annual limit (0.5 REM)[1].

The doses to persons who work with radiation at Delta Lighting have been significantly below 0.5 REM. As of January 1, 1994, no person had a yearly radiation exposure in excess of 0.5 REM. In a typical year, the majority of monitored persons receives no measurable radiation exposure and only 10% are expected to receive above 0.1 REM. However, different limits have been promulgated for unborn children being carried by women who work in a radiological environment.

The embryo/fetus develops very rapidly. It is known that rapidly reproducing cells, such as the cells that produce hair or blood in adults, are more sensitive to radiation than cells that do not reproduce rapidly, such as muscle or brain cells. There is also direct evidence that the embryo/fetus is radiosensitive. Scientific advisory boards have recommended that a special dose limit be applied to the mother and/or the unborn child during gestation.[2,3] Consequently, the NRC has established a dose limit of 0.5 REM for the embryo/fetus of a declared pregnant woman over the entire gestation period.[1] The NRC also limits the deep-dose to the expectant mother (generally taken to be the measurement of the external gamma dose) to 0.5 REM.[1,2] If the dose to the embryo/fetus is found to be over 0.5 REM at the time of the declaration of the pregnancy, an additional dose of 0.05 REM[1,2] to the embryo/fetus over the remainder of the pregnancy is allowed by the NRC. This will allow the woman to continue working in a radiological environment as "the risk posed by this incremental dose to the embryo/fetus is small."[5]

The NRC has defined a declared pregnant woman as follows: "...a woman who has voluntarily informed her employer, in writing, of her pregnancy and the estimated date of conception."[1] The declaration will be kept on file by the Radiation Safety Officer to calculate any dose that may be received by the embryo/fetus and for legal significance. To emphasize the voluntary nature of the declaration, the NRC has also stated the following: "It is the fundamental responsibility of the pregnant worker to decide when or whether she will formally declare her condition to her employer.... Having a woman formally declaring (*sic*) her pregnancy to her employer derives from legal, not health protection, considerations. If she chooses not to declare her pregnancy, the licensee will not be

required under the Commissions regulations to limit her dose to 0.5 REM."[5] If a woman chooses not to declare her pregnancy, the Radiation Safety Officer is required to treat her no differently than any other person who works in a radiological environment at Delta Lighting. Subsequently, since Radiation Safety Officer can claim no knowledge of pregnancy, only the undeclared pregnant woman is considered to be potentially exposed to radiation and she alone is "protected by the NRC regulations applicable for non-pregnant workers"[5]. Dosimetry cannot be done for the unborn child.

The attached form must be completed and forwarded to the Radiation Safety Officer to declare a pregnancy. When the Declaration of Pregnancy document is received by the Radiation Safety Officer, or designated specialist, will evaluate the radiological environment in which the woman is working and consult with the declared pregnant woman. Recommendations will then be made on an individual basis and reviewed with the expectant mother. Questions may be asked at any time and active participation in the evaluation process is welcomed. The Radiation Safety Officer should be contacted if there are questions about any phase of this evaluation.

Records are required to be maintained of the Declaration of Pregnancy as well as the dose to the embryo/fetus. Due to the personal nature of a pregnancy, these records will be kept confidential. The declared pregnant woman has the right under NRC regulations[6] to view her dose records or the records of her unborn child. She also has the right to rescind her declaration of pregnancy at any time by filling out the attached form and forwarding it to the Radiation Safety Officer.

As the first trimester of pregnancy is when the embryo/fetus is thought to be most vulnerable, any woman who is pregnant, or considering becoming pregnant, and who works in a radiological environments is strongly urged to contact the Radiation Safety Officer. NRC Regulatory Guide 8.13 "Instruction Concerning Prenatal Radiation Exposure" is available from the Radiation Safety Officer.

REFERENCES

1. Code of Federal Regulations, "Energy", Title 10, Part 20, Revised January 1, 1993.
2. USNRC, "Instructions Concerning Prenatal Radiation Exposure", Regulatory Guide 8.13, Revision 2, December, 1987
3. National Council on Radiation Protection, "Review of Radiation Dose Limit for Embryo and Fetus in Occupationally Exposed Women," NCRP Report No. 53, 1977.
4. International Commission on Radiolgical Protection (ICRP), "Recommendations of the ICRP," ICRP Report No. 26, Vol. 1., No. 3, 1977.
5. "Standards for Protection Against Radiation; Final Rule," *Federal Register*, p.23373, May 21, 1991.
6. Code of Federal Regulations, "Energy", Title 10, Part 19, Revised January 1, 1993.

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"Federal Radiation Protection Guidance for Occupational Exposure," *Federal Register*, p.2822, January 27, 1987.

International Commission on Radiological Protection, "Developmental Effects of Irradiation on the Brain of the Embryo/Fetus," Annals of the ICRP, Vol. 16, No. 4. (1987)

Mole, R.H., "Radiation Effects on Pre-Natal Development and Their Radiological Significance," *The British Journal of Radiology*, Vol. 52, No. 614, pp. 89-101 (1979).

National Council on Radiation Protection, "Review of Radiation Dose Limit for Embryo and Fetus in Occupationally Exposed Women," NCRP Report No. 53 (1977).

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Robe, L.B., "Alcohol and Pregnancy," The American Medical Association, Box 10946, Chicago, 1984.

"Standards for the Protection Against Radiation; Final Rule", *Federal Register*, pp. 23373 - 23374, May 21, 1991.

USNRC, "Instruction Concerning Prenatal Radiation Exposure," Regulatory Guide 8.13, Rev. 2., December 1987.

Vaughan, T.L., *et al*, "Fetal Death and Maternal Occupation," *Journal of Occupational Medicine*, Vol 26, No. 9, pp. 676-678, 1984.

Young, J.L., Miller, R.W., "Incidence of Malignant Tumors in U.S. Children," *Journal of Pediatrics*, pp. 254-258, 1975.

DECLARATION OF PREGNANCY

I hereby inform Delta Lighting Corporation (Delta Lighting) that I am voluntarily declaring myself to be pregnant. My estimated date of conception is _____.
Date

Delta Lighting's Radiation Safety Officer (or designee) has explained to me and this is to acknowledge that I understand the biological risks of radiation to my unborn child. I have read and understand Delta Lighting's precautions, procedures and practices that pertain to radiation safety. I have received and read U.S. Nuclear Regulatory Commission (USNRC) Regulatory Guide 8.13 (Instruction Concerning Prenatal Radiation Exposure, including Appendix A and Appendix B). I understand that the USNRC regulatory limit for radiation exposure to the embyro/fetus for the entire gestation period is 0.5 REM. I have met with the Radiation Safety Officer and had an opportunity to ask questions about the instructions, information and radiation limits given in the above mentioned guides, manuals and regulations.

I hereby voluntarily decide to continue working while I may be occupationally exposed to ionizing radiation during my pregnancy. I understand that I may reconsider this declaration at any time by notifying the Radiation Safety Officer in writing.

_____
Social Security Number

_____ _____
Signature Date Name (Printed)

_____ _____
Radiation Safety Officer Date Principle Radiation User Date

WITHDRAWAL OF DECLARATION OF PREGNANCY

I hereby voluntarily rescind my Declaration of Pregnancy dated _____.
Date

_____
Social Security Number

_____ _____
Signature Date Name (Printed)

_____
Radiation Safety Officer Date

DECLARATION OF PREGNANCY

I hereby inform Delta Lighting Corporation (Delta Lighting) that I am voluntarily declaring myself to be pregnant. My estimated date of conception is _____.
Date

Delta Lighting's Radiation Safety Officer (or designee) has explained to me and this is to acknowledge that I understand the biological risks of radiation to my unborn child. I have read and understand Delta Lighting's precautions, procedures and practices that pertain to radiation safety. I have received and read U.S. Nuclear Regulatory Commission (USNRC) Regulatory Guide 8.13 (Instruction Concerning Prenatal Radiation Exposure, including Appendix A and Appendix B). I understand that the USNRC regulatory limit for radiation exposure to the embyro/fetus for the entire gestation period is 0.5 REM. I have met with the Radiation Safety Officer and had an opportunity to ask questions about the instructions, information and radiation limits given in the above mentioned guides, manuals and regulations.

I hereby voluntarily decide to continue working while I may be occupationally exposed to ionizing radiation during my pregnancy. I understand that I may reconsider this declaration at any time by notifying the Radiation Safety Officer in writing.

_____
Social Security Number

_____ _____
Signature Date Name (Printed)

_____ _____
Radiation Safety Officer Date Principle Radiation User Date

This is to acknowledge the receipt of your letter/application dated

07-27-01, and to inform you that the initial processing which includes an administrative review has been performed.

☒ RENEW There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

_____.

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 130114
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (RI)
(6-96)

Sincerely,
Licensing Assistance Team Leader

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 03214
Status Code: 2
Fee Category: 3B
Exp. Date: 20010930
Fee Comments: _____
Decom Fin Assur Reqd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: DELTA LIGHTING CORP.
   Received Date: 20010802
   Docket No: 3017205
   Control No.: 130114
   License No.: 06-19244-01
   Action Type: Renewal

2. FEE ATTACHED
   Amount: /
   Check No.: /

3. COMMENTS

Signed R. J. Brown
Date 8/6/01

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

1. Fee Category and Amount: _____

2. Correct Fee Paid. Application may be processed for:
   Amendment _____
   Renewal _____
   License _____

3. OTHER _____
   _____

Signed _____
Date _____