SHARP
Sharp Electronics Corporation
Sharp Plaza
Mahwah, NJ 07495

March 21, 2011

California Department of Public Health
Radiologic Health Branch
Licensing Section, MS 7610
P.O. Box 997414
Sacramento, CA 95899-7414

State of California Radioactive Material License Application

Please find attached two copies of our Radioactive Material License Application along with all of our support materials.

Sharp recently learned that there were very sight traces of radioactivity in the small amount of Krypton 85 gas in our projector replacement lamps (bulbs) stored in our new warehouse in Rancho Cucamonga. Therefore we have prepared an application for the above License.

Sharp always strives to be compliant with all State and Federal Regulations and would be grateful to the State of California for expediting this License request so we can meet our obligations.

Please feel free to contact me if you need any further information at 201-760-3897 or at Alex.Pellerito@SharpUSA.com.

Sincerely,

Alexander Pellerito, Jr.
Associate General Counsel – Trade Relations

RADIOACTIVE MATERIAL LICENSE APPLICATION

Instructions: (1) Refer to Guide for Applicants (RH 2051). (2) Where space provided on this form is insufficient, attach supplemental sheets referencing the part being expanded. (3) Submit **ALL** material **in duplicate** to: California Department of Public Health, Radiologic Health Branch, Licensing Section, MS 7610, P.O. Box 997414, Sacramento, CA 95899-7414. For more information, go to www.dhs.ca.gov/rhb or phone (916) 327-5106. (4) Medical applicants should request other forms if in-vivo use is involved.

1. Name of applicant	Telephone number, including area code	Extension
Sharp Electronics Corp.	(201) 529-8200	

Mailing address/street address (number, street, suite/apartment number/letter, P.O. box, etc.)

One Sharp Plaza

City	State	ZIP code
Mahwah	NJ	07495

2. Type of business

☐ Individual ☐ Partnership or association ☑ Corporation

List all addresses at which radioactive material will be used or stored

Address (number, street)	City	ZIP code
9050 Hermosa Ave	Rancho Cucamonga	91730
Address (number, street)	City	ZIP code
Address (number, street)	City	ZIP code

Will radioactive material be used at temporary job sites? ☐ Yes ☑ No

Type of application

☑ New radioactive material license

☐ Renewal of radioactive material license number: _____

☐ Amendment to radioactive material license number: _____

3. a. Nuclide	b. Chemical and/or physical form	c. Possession limit
Krypton 85	Gas	<27 uCi (50k lamps of 0.02 kBq each)

4. Describe the proposed use of this radioactive material

Storage, distribution and disposal of sealed source projection lamps, each containing 0.02 kBq of Kr85

5. Radiation Safety Officer and Individual Users

List radiation Safety Officer first. Attach Statement of Training and Experience (RH 2050 A) for each individual who will use radioactive material.

Radiation Safety Officer is Wayne Myrick (RH2050 is attached)

6. Radiation Detection Instruments

Make and Model Number	Description	Number Available	Purpose for Which Used
N/A			

7. Method, frequency, and standards used in calibrating instruments listed above

N/A

8. Personnel monitoring and bioassay procedures

N/A

9. Facilities and equipment

A warehouse layout is attached with locations of lamp storage.

10. Radiation safety program

Procedures have been provided to the warehouse and all on site personnel have been trained.

11. Effluent and environmental monitoring

N/A - The amount of trace radiation levels of a lamp is so miniscule no air born contamination is feasible.

12. Waste disposal

A licensed commercial waste disposal service will be employed.

13. Decommissioning and decontamination plans

No decontamination required. All waste will be disposed of as in 12 above.

14. Certificate

The applicant and any official executing this certificate on behalf of the applicant named in item 1 certify that all information contained herein, including any supplements attached hereto, is true and correct. The individual executing this certificate has authority to commit the applicant relative to matters involved in this application.

3/21/2011
Date

By: Wayne M Myrick

Radiation Safety Manual for Sharp Electronics Corporation Facilities

Index

1) Policy

Sharp Electronics Corporation's Policy Towards Exposure to Radiation

It is the policy of Sharp Electronics Corporation, that the release of radioactive material and the exposure of people to ionizing radiation be kept **A**s **L**ow **A**s **R**easonably **A**chievable (**ALARA**). The **ALARA** policy is based on the following three principles:

1. Exposures of personnel to radiation or the release of radioactive material to the environment may not exceed the limits in the federal and state regulations.

2. Unplanned exposure of personnel or uncontrolled releases to the environment that could exceed 10% of permissible limits will be investigated to determine whether the exposures or releases were ALARA and whether action is required to limit future exposures or releases.

3. Exposures and releases that do not exceed 10% of the permissible limits are low enough that no further consideration of ALARA is necessary.

2) Radiation Safety Officer (RSO)

Corporate Radiation Safety Officer

The Corporate Radiation Safety Officer (RSO) is responsible for ensuring the safe use of radioactive material at all Sharp Electronics Corp. locations. The Corporate RSO is responsible for managing the radiation safety program; identifying radiation safety problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; and ensuring compliance with all applicable regulations .

The responsibilities of the Corporate RSO include, but are not limited to, the following:

- Read, be familiar with, and comply with all sections of these Rules and Procedures.
- Ensure that all Facility RSOs complete all required radiation safety training.
- Arrange for proper storage and disposal of radioactive material waste.
- Maintain copies of inventory records of radioactive materials for each licensed facility as provided by each of the Facility RSOs.
- Arrange for termination of licenses when no longer required.
- Coordinate with warehouse personnel to ensure:
    - personnel exposure to radioactive material as low as reasonably achievable.
    - all persons using radioactive material have completed all required radiation safety training.
    - that notification be given to the Corporate RSO immediately in the event of any radiological emergency, fire, contamination, flood, etc. and must provide all possible assistance with regard to prevention of hazards from radiation exposure.
    - all current records of the radioactive materials are maintained at the facility.
    - proper storage of all radioactive materials.

- classification of radioactive waste, as required by these rules prior to the collection of the waste for disposal.

- prompt response to requests for an itemized inventory of the facility's store of radioactive material.

- immediate initiation of cleanup of any broken sources and dispose of radioactive waste in an approved manner.

- that storage of sources, the area and containers for waste are properly labeled.

3) Sources and Source Material (Krypton 85)

Krypton-85 is a radioactive gas found in the atmosphere and produced by nuclear explosions, nuclear power plants, volcanoes and earthquakes. Krypton-85 is odorless, colorless and tasteless and emits low level radiation levels of both gamma and beta rays. Krypton-85 is usually produced in gas mixtures with argon or xenon to improve the ionization in light bulbs by reducing their starting voltage. It also is used in plasma displays, spark gaps and for leak detection.

Krypton-85 decays by beta decay into rubidium-85, with a half life of 10.756 years and a maximum decay energy of 0.687 MeV.

The subject of this license is an electron tube. The tube is within the class of products specifically exempted from certain licensing requirements by operation of § 330.40 (c) (1) (G) (iii) because it contains less than 30 microcuries of Krypton-85 (Kr-85) and radiation levels do not exceed 1 millirad per hour at a distance of 1 centimeter when measured through 7 milligrams per square centimeter of absorber.

The electron tube is designed to function as a projection lamp in a front video projector. Each tube contains approximately 0.02 kBq/0.54 nCi of Kr-85. The outer envelope of the electron tube consists of quartz glass which is fused to close each end to form a cylinder approximately 52mm long, and 10.5mm in diameter. The electron tube will not operate if the seal is imperfect or the glass envelope is cracked or otherwise compromised.

This license encompasses possession, temporary storage and distribution of the electron tube itself and front projection units containing the tube.

The inventory of lamps varies as incoming and outgoing orders are filled. The facility's total inventory will never exceed 50 microcuries.

4) Waste Storage

The only waste generated by SEC is defective lamps that may be occasionally returned by servicers and lamps damaged at SEC during handling. The defective lamps are stored in a labeled container. When a lamp is placed in the container, a log is filled out documenting the date and number of lamps deposited. The number of discarded lamps are taken into consideration when determining the total number of lamps and the possession limits of the license.

Radioactive Waste Drum Deposit

DATE	# OF LAMPS	INITIALS		DATE	# OF LAMPS	INITIALS

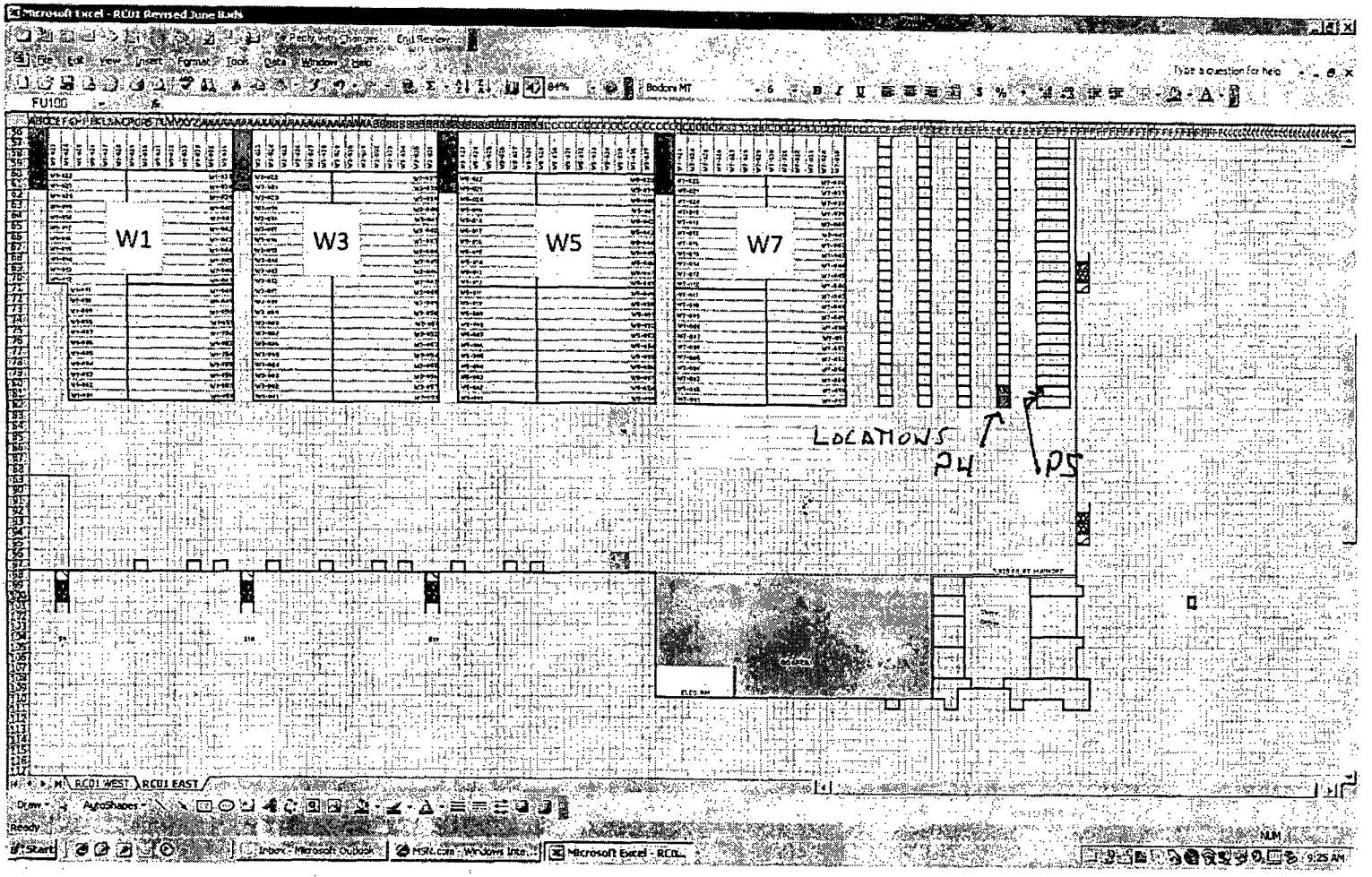
5) Waste Disposal

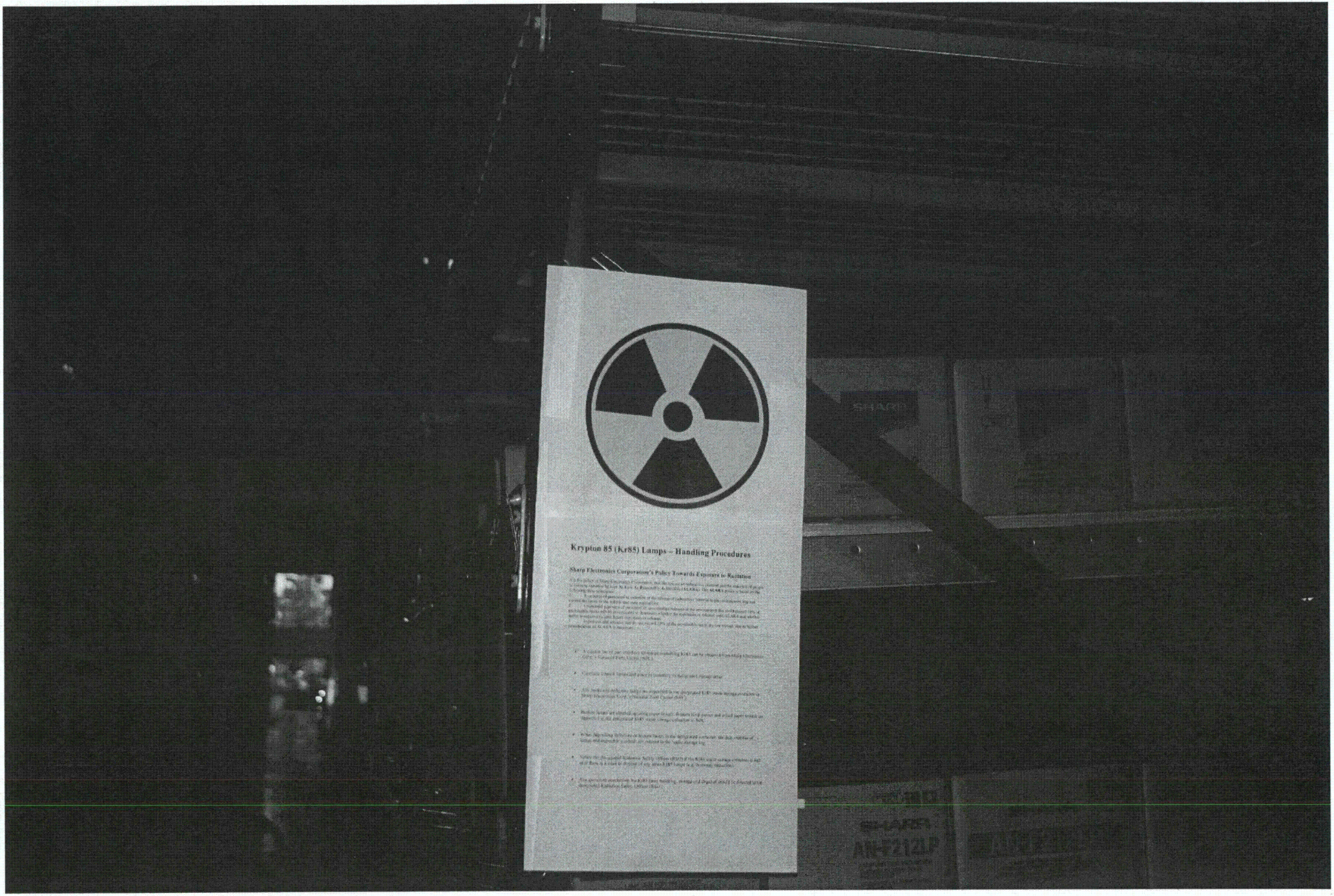
Defective lamps are stored in a labeled container. The number of discarded lamps are taken into consideration when determining the total number of lamps and the possession limits of the license.

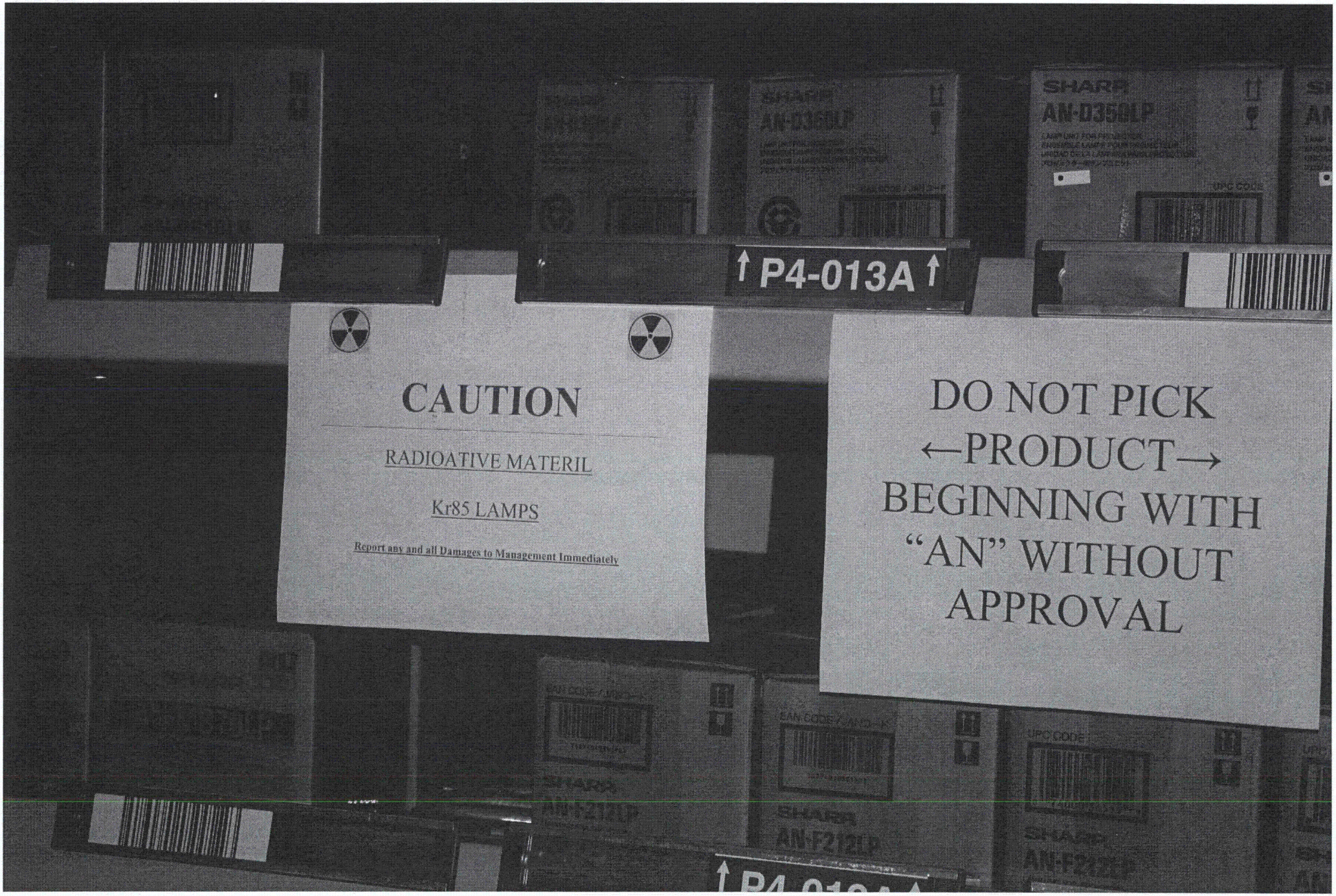
The lamps will require disposal when:

- the container is near capacity or
- the total number of lamps in the facility (including inventory and defective lamps) is approaching the possession limits or
- the possession license is terminated.

If disposal is necessary, the Corporate RSO will contact a licensed waste management company to make arrangements for proper disposal.


W1
W3
W5
W7
LOCATIONS
P4
P5


Krypton 85 (Kr85) Lamps – Handling Procedures
Sharp Electronics Corporation's Policy Towards Exposure to Radiation
SHARP
AN-F212LP


SHARP
AN-D350LP
P4-013A
CAUTION
RADIOATIVE MATERIL
Kr85 LAMPS
Report any and all Damages to Management Immediately
DO NOT PICK
←PRODUCT→
BEGINNING WITH
"AN" WITHOUT
APPROVAL
SHARP
AN-F212LP

STATEMENT OF TRAINING AND EXPERIENCE

(Use additional sheets as necessary.)

Instructions: Each individual proposing to use radioactive material is required to submit a Statement of Training and Experience (RH 2050 A) **in duplicate** to: California Department of Public Health, Radiologic Health Branch, MS 7610, Licensing Section, P.O. Box 997414, Sacramento, CA 95899-7414. Physicians should request form RH 2000 A when applying for human-use authorizations. Radiographers should request form RH 2050 IR. For more information, go to www.dhs.ca.gov/rhb or phone (916) 327-5106.

1. Name of proposed user: Wayne Myrick
   Position title: Associate Director, Product Safety
   Employer address (number, street): One Sharp Plaza
   City: Mahwah | State: NJ | ZIP code: 07495
   Radioactive materials license number: N/A
   Radioactive materials license name: N/A

2. **Training**

   a. College or university ☑ Yes ☐ No

   Name of college or university: Rutgers
   City: New Brunswick | State: NJ
   Years completed: | Degree: | Course of study: See attached course list and certificates

   b. Education specifically applicable to use of radioactive material

   See attached course list and certificates

3. **Experience**

   a. List experience with use of radioactive materials beginning with most recent:

   (1) Dates From: 1994 To: 1997 | Employer: Sharp Electronics Corp.
   Title(s) and duties: Manager, Product Safety and Radiation Safety Officer
   Radioactive materials license number: NRC 29-23702-01e & 29-23702-02, IL-01151-02 | Date: March 2011
   Employer address (number, street): One Sharp Plaza | City: Mahwah | State: NJ | ZIP code: 07495

   (2) Dates From: To: | Employer:
   Title(s) and duties:
   Radioactive materials license number: | Date:
   Employer address (number, street): | City: | State: | ZIP code:

   (3) Dates From: To: | Employer:
   Title(s) and duties:
   Radioactive materials license number: | Date:
   Employer address (number, street): | City: | State: | ZIP code:

   (4) Dates From: To: | Employer:
   Title(s) and duties:
   Radioactive materials license number: | Date:
   Employer address (number, street): | City: | State: | ZIP code:

b. Indicate the facilities and operations where training was received and refer to Part 3.a. when answering the following:

☐ Laboratories using radiochemicals	☐ (1)	☐ (2)	☐ (3)	☐ (4)
☐ Restricted area laboratories	☐ (1)	☐ (2)	☐ (3)	☐ (4)
☐ Glove boxes	☐ (1)	☐ (2)	☐ (3)	☐ (4)
☐ Field operations	☐ (1)	☐ (2)	☐ (3)	☐ (4)
☐ Environmental applications	☐ (1)	☐ (2)	☐ (3)	☐ (4)
☑ Other (please describe) Warehouse & Parts Center	☑ (1)	☐ (2)	☐ (3)	☐ (4)

c. Radioactive materials previously used. Identify typical radioisotopes in appropriate box and refer to Part 3.a. on page 1:

	QUANTITIES HANDLED			
	(a) Microcuries	(b) Millicuries	(c) Curies	(d) Kilocuries
(1) Sealed sources		< 20 of Ni63		
(2) Unsealed Alpha emitters				
(3) Unsealed beta-gamma emitters				
(4) Neutron sources				

d. Describe the procedures similar to those proposed in which you have had experience. Indicate months or years for each and refer to Part 3.a. on page 1.

Approximately 2 years managing storage, distribution and disposal.

4. **Certificate**

The information you are asked to provide on this form is requested by the California Department of Public Health, Radiologic Health Branch. This notice is required by Section 1798.17 of the Information Practices Act of 1977 (Code of Civil Procedure, Section 1798–1798.76) and the Federal Privacy Act to be provided whenever an agency requests personal or confidential information from any individual. It is mandatory that you furnish the information requested on this form. Failure to furnish the requested information may result in an inaccurate determination of statements and/or disapproval of your application.

I hereby certify that all information contained in this statement is true and correct.

Signature of proposed user	Date
Wayne M Myrick	3/21/2011

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Mahwah, NJ 07495

March 21, 2011

State of California Radiation Safety Officer Course List

Below is the Course List for Sharp's RSO, Wayne Myrick along with attached Certificates issued from Rutgers University in Newark, NJ:

1) Radioactive Waste Management
2) 10 CFR – Part 20
3) Radiation Protection Program Management
4) Health Effects of Ionizing Radiation
5) Basic Radioisotope Theory

Sincerely,

Alexander Pellerito, Jr.
Associate General Counsel – Trade Relations

RUTGERS

The New Jersey Agricultural Experiment Station
Office of Continuing Professional Education

Presents this certificate to

Wayne Myrick

For successfully completing the requirements of

Radioactive Waste Management

October 27, 1994

00.6 CEUs

Edward V. Lipman, Jr.
Director
Office of Continuing Professional Education

Mark G. Robson, PhD, MPH
Dean for Agricultural and Urban Programs

RUTGERS

The New Jersey Agricultural Experiment Station
Office of Continuing Professional Education

Presents this certificate to

Wayne Myrick

For successfully completing the requirements of

10 CFR – Part 20

October 25, 1994

00.6 CEUs

Edward V. Lipman, Jr.
Director
Office of Continuing Professional Education

Mark G. Robson, PhD, MPH
Dean for Agricultural and Urban Programs

RUTGERS

The New Jersey Agricultural Experiment Station
Office of Continuing Professional Education

Presents this certificate to

Wayne Myrick

For successfully completing the requirements of

Radiation Protection Program Management

October 21, 1994

00.6 CEUs

Edward V. Lipman, Jr.
Director
Office of Continuing Professional Education

Mark G. Robson, PhD, MPH
Dean for Agricultural and Urban Programs

RUTGERS

The New Jersey Agricultural Experiment Station
Office of Continuing Professional Education

Presents this certificate to

Wayne Myrick

For successfully completing the requirements of

Health Effects of Ionizing Radiation

October 18, 1994

00.6 CEUs

Edward V. Lipman, Jr.
Director
Office of Continuing Professional Education

Mark G. Robson, PhD, MPH
Dean for Agricultural and Urban Programs

RUTGERS

The New Jersey Agricultural Experiment Station
Office of Continuing Professional Education

Presents this certificate to

Wayne Myrick

For successfully completing the requirements of

Basic Radioisotope Theory

October 17, 1994

00.6 CEUs

Edward V. Lipman, Jr.
Director
Office of Continuing Professional Education

Mark G. Robson, PhD, MPH
Dean for Agricultural and Urban Programs