

VOID SHEET

TO: License Fee Management Branch
FROM: Widjet Watson
SUBJECT: VOIDED APPLICATION

Control Number: 395827

Applicant: LIME-O-SOL Company

Date Voided: December 16, 1993

Reason for Void: _____

Specific license is not needed, this is a generally licensed device. Recommend full refund to licensee.

Widjet Watson 12/16/93
Signature Date

Attachment:
Official Record Copy of
Voided Action

FOR LFMB USE ONLY

Final Review of VOID Completed:

- Refund Authorized and processed
- No Refund Due
- Fee Exempt or Fee Not Required

240095

Comments: _____

9401270285 931216
PDR ADOCK 03033341
C PDR

Log completed
Processed by: _____

sc
1/14/94
ML
3P
DH

BETWEEN:
LICENSE FEE MANAGEMENT BRANCH, ARM
AND
REGIONAL LICENSING SECTIONS

PROGRAM CODE:
STATUS CODE: 3
FEE CATEGORY:
EXP. DATE: 0
FEE COMMENTS:
DECOM FIN ASSUR REQDT

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
APPLICANT/LICENSEE: LIME-O-SOL COMPANY
RECEIVED DATE: 930929
DOCKET NO: 3033341
CONTROL NO.: 395827
LICENSE NO.:
ACTION TYPE: NEW LICENSEE

2. FEE ATTACHED
AMOUNT: \$570.00
CHECK NO.: 78526

3. COMMENTS

SIGNED P. Mitchell
DATE 9-30-93

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED / __ /)

1. FEE CATEGORY AND AMOUNT: 30 \$570

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:
AMENDMENT _____
RENEWAL _____
LICENSE ✓

3. OTHER _____
SIGNED SC
DATE 10/1/93

RECEIVED
OCT 08 1993
REGION III

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 3.25 HOURS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MN88 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555. AND TO THE PAPERWORK REDUCTION PROJECT (3150-0120), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

APPLICATION FOR MATERIAL LICENSE

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.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

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

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:

NUCLEAR MATERIALS SAFETY SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARHETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323

IF YOU ARE LOCATED IN:

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

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, IL 60137

ARKANSAS, COLORADO, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, SOUTH DAKOTA, TEXAS, UTAH, OR WYOMING. SEND APPLICATIONS TO:

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

ALASKA, ARIZONA, CALIFORNIA, HAWAII, NEVADA, OREGON, WASHINGTON, AND U.S. TERRITORIES AND POSSESSIONS IN THE PACIFIC. SEND APPLICATIONS TO:

NUCLEAR MATERIALS SAFETY SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION V
1450 MARIA LANE
WALNUT CREEK, CA 94596-5368

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 _____
- C. RENEWAL OF LICENSE NUMBER _____

2. NAME AND MAILING ADDRESS OF APPLICANT (Includes Zip Code)

LIME-O-SOL COMPANY
101 SOUTH PARKER DRIVE
ASHLEY IN 46705

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED:

LIME-O-SOL COMPANY
101 SOUTH PARKER DRIVE
ASHLEY IN 46705

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

ALVIN E. MARQUIS V.P. OPERATIONS

TELEPHONE NUMBER

(219) 587 9151

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 AND EXPERIENCE.

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

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSEE FEES (See 10 CFR 170 and Section 170.37)

FEE CATEGORY: 3-P AMOUNT ENCLOSED: \$ 570.00

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

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, AND 40 AND THAT ALL INFORMATION CONTAINED 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.

SIGNATURE - CERTIFYING OFFICER

TYPED/PRINTED NAME

TITLE

DATE

Alvin E. Marquis

ALVIN E MARQUIS

V P OPERATIONS

9-17-93

FOR NRC USE ONLY

TYPE OF FEE FEE LOG FEE CATEGORY COMMENTS

Appl. Oct 4 ^{III} 3P

Refunded \$570.00 1/14/94

RECEIVED

AMOUNT RECEIVED \$570.00

CHECK NUMBER 18506

SEP 29 1993

APPROVED BY

SC

DATE 10-5-93 REGION III

CONTROL NO. 395827

5. Name and Model of Machine -----GAMMA 101F
Radioactive Material (Special Form)-----Americium 241
Sealed SOURCE Model no.-----AMC 17
Quantity of Radioactive Material-----100 Millicuries
Use-----Measuring Gauge
Peco Controls Corporation
License Number-----3823-43GL

6. Fill Height Detector Installation.

7. (RSO) Jeff Shire and Dan Parker of Lime-O-Sol Company
trained by Ray Babb, Radiation Safety Officer, of the
Peco Controls Corporation.

8. Instruction of other personell who will work in the area
will be conducted by the RSO.

9. (1) Unit is separately mounted, parallel to the conveyor
that moves the filled container to the packing area.

(2) Standard In-Plant Atmosphere which meets all OSHA
standards for personell.

(3) The Ambient Temperature is 68° - 85° F depending on
season.

(4) N/A

(5) Peco Controls Corporation is contracted to provide
quality assurance that Lime-O-Sol Co. maintains
proper maintenance.

The trained Lime-O-Sol RSO will assure the gauge will
be kept in a safe condition and records maintained.

(6) Evacuate Area.

Notify: Dan Parker (219)587-3906
(RSO) Jeff Shire (219)587-3324

10. Lime-O-Sol will utilize the services of Peco Controls
Corporation for the Radiation Safety Program.

11. Lime-O-Sol will utilize the services of Peco Controls
Corporation for the Waste Management Program.

J.W.R.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF SEALED SOURCE

(Amended Pages 2 and 10 - December 19, 1991) *K2P/BK*
(Amended Pages 8 and 9 - March 9, 1990)
(Amended in its entirety, October 17, 1985)

NO.: CA 533D104G

DATE: June 25, 1985

PAGE: 1 of 10

DEVICE TYPE: Gamma Gauge

MODEL: GAMMA 101-P

MANUFACTURER/DISTRIBUTOR: Peco Controls Corporation
450 Montague Expressway
Milpitas, CA 95035

SEALED SOURCE MODEL DESIGNATION: Amersham Corporation
AMC.36 or AMC.17

ISOTOPE: Americium 241
Americium 241

MAXIMUM ACTIVITY: 100 millicuries (AMC.36)
300 millicuries (AMC.17)

LEAK TEST FREQUENCY: Six months

PRINCIPAL USE: Gamma Gauges

CUSTOM DEVICE: ___ YES X NO

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)
(Amended Pages 8 and 9 - March 8, 1990)
(Amended in its entirety, October 17, 1985)

NO.: CA533D104G

DATE: June 25, 1985

PAGE: 2 of 10

DEVICE TYPE: Gamma Gauge

DESCRIPTION: The Peco Gamma 101-P is a device used for detecting the fill level of packaged goods, such as beer, soda water, oil, etc.

The Americium-241 sealed source is contained as follows: The Americium-241 is secured inside a rectangular or cylindrical steel block via tamper-proof screws and a wire/lead tamper seal (see figures 4 and 5). A steel shutter is actuated via a linear or rotational solenoid for the AMC.36 (100mCi) or the AMC.17 (300 mCi) respectively. The shutter is POWER-TO-OPEN, SPRING-TO-CLOSE. The combination source holder/shutter assembly is secured into a stainless steel housing using two tamper-proof screws (see Figure 2). The source holders can be fixed to between 1.0 and 3.0 inches as measured from the center of the beam to the bottom edge of the source housing. This range will allow for measuring of products of varying height through the product line. In operation, the Gamma 101-P straddles the package conveying device (roller, belt, slide conveyer, etc.). The highly-collimated Americium-241 source is located on one side of the conveying device, and the NaI (TI) detection package is located on the other side (see figure 1). As a package passes through the gamma beam, the NaI (TI) detection system accumulates counts for a preset time duration. If, at the end of this preset counting time, the measured count varies from a preset value, the Gamma 101-P signals that that the passing, container is less that adequate.

LABELING: The GAMMA 101-P is labeled in accordance with provisions of the specific license which authorizes distribution of this device and with requirements of 17 CAC 30278.

DIAGRAM: (See Pages 3, 4, 5, 6 and 7)

- Figure 1 - Simplified drawing with radiation levels and indicator locations
- Figure 2 - Side view of source shutter in housing (AMC.36, 100 mCi)
- Figure 3 - Side view of source shutter in housing (AMC.17, 300 mCi)
- Figure 4 - Source holder/shielding (AMC.36, 100 mCi)
- Figure 5 - Source holder/shielding (AMC.17, 300 mCi)

CONDITIONS OF NORMAL USE: This device is used for the detection of either over or under-fill of packaged goods. The normal usage location would be the production line of a cannery or packaging plant.

Temperature: 18 deg. C to 43 deg. C

Vibration: Minimal to none

Pressure: Atmospheric

Corrosion: Minimal to none

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)

(Amended Pages 8 and 9 - March 8, 1990)

(Amended in its entirety October 17, 1985)

NO.: CA533D104G

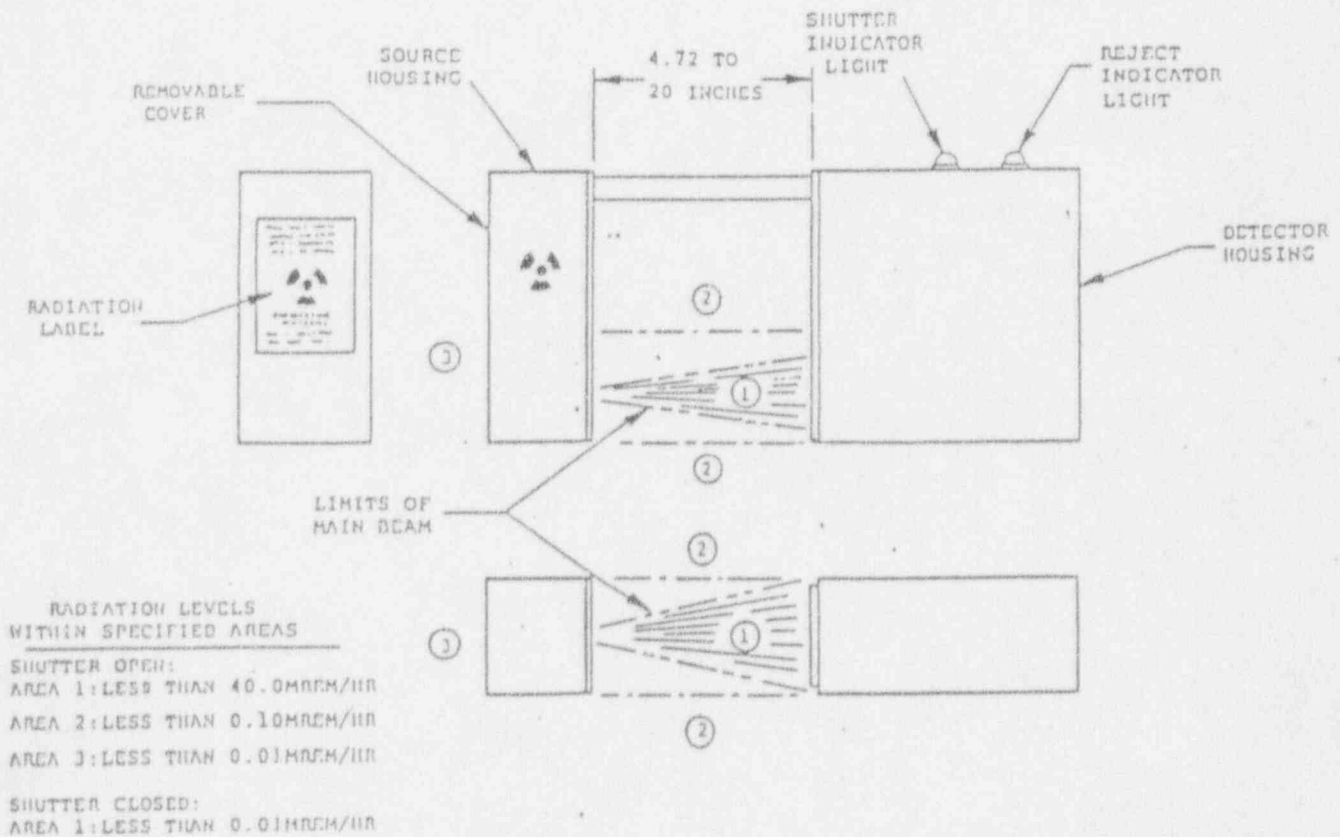
DATE: June 25, 1985

PAGE: 3 of 10

DEVICE TYPE: Gamma Gauge

FIGURE 1

RADIATION LEVELS FOR THE AMC.36* (100 mCi).



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)

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NO.: CA533D104G

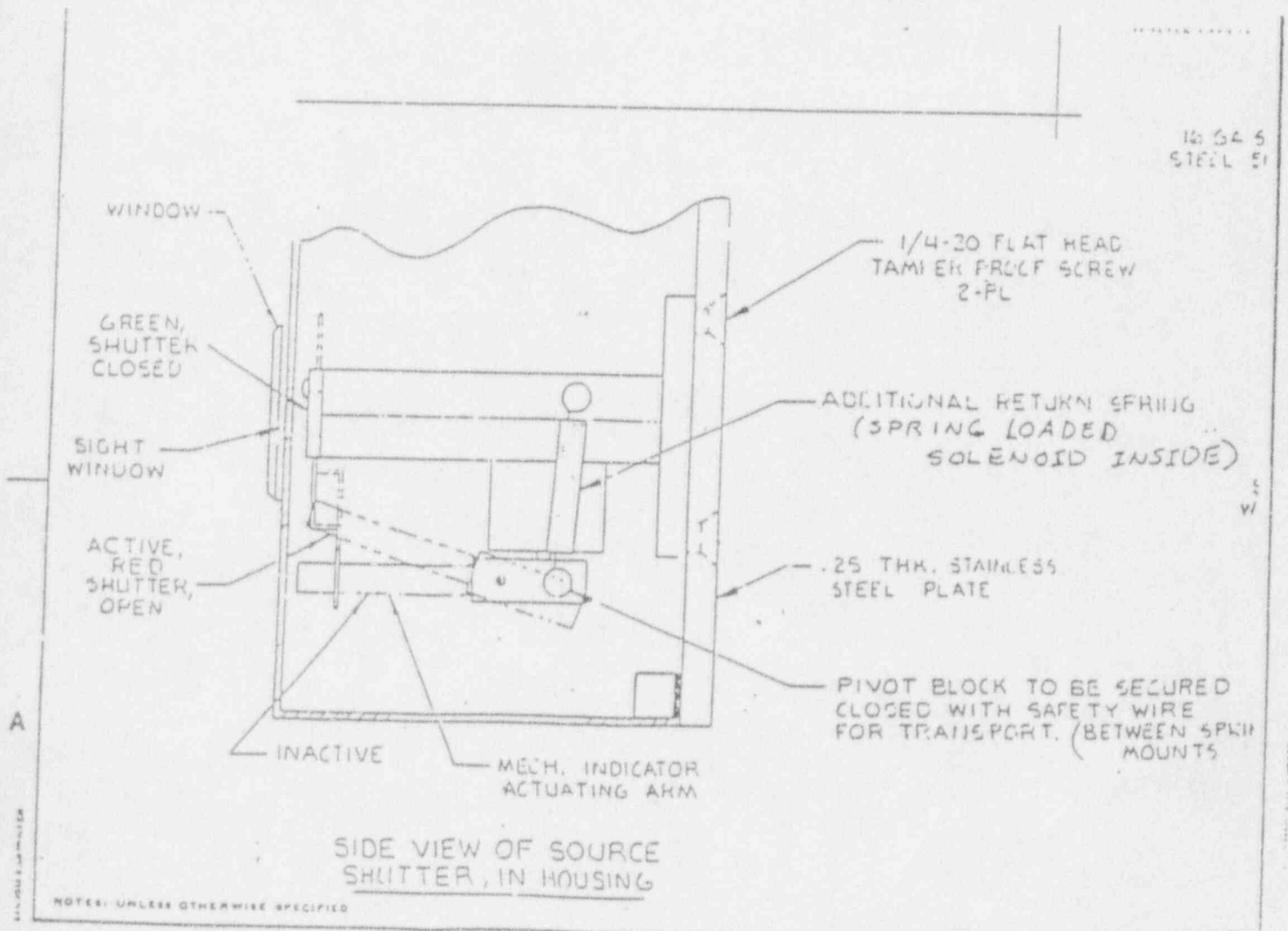
DATE: June 25, 1985

PAGE: 4 of 10

DEVICE TYPE: Gamma Gauge

FIGURE 2

SOURCE SHUTTER IN HOUSING (AMC.36 100 mCi)
(Linear Solenoid)



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)

(Amended Pages 8 and 9 - March 8, 1990)

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NO.: CA533D104G

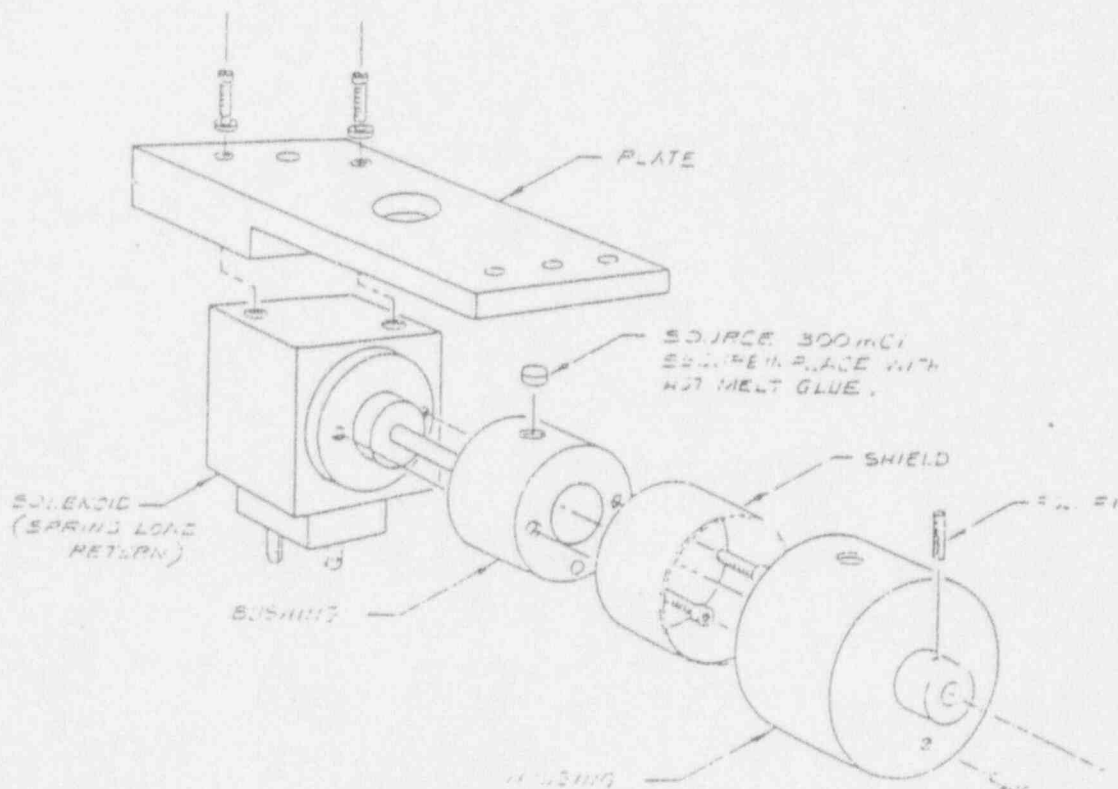
DATE: June 25, 1985

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DEVICE TYPE: Gamma Gauge

FIGURE 3

Source shutter in Housing (AMC.17, 300 mCi)
(rotational solenoid)



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)
(Amended Pages 8 and 9 - March 8, 1990)
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NO.: CA533D104G

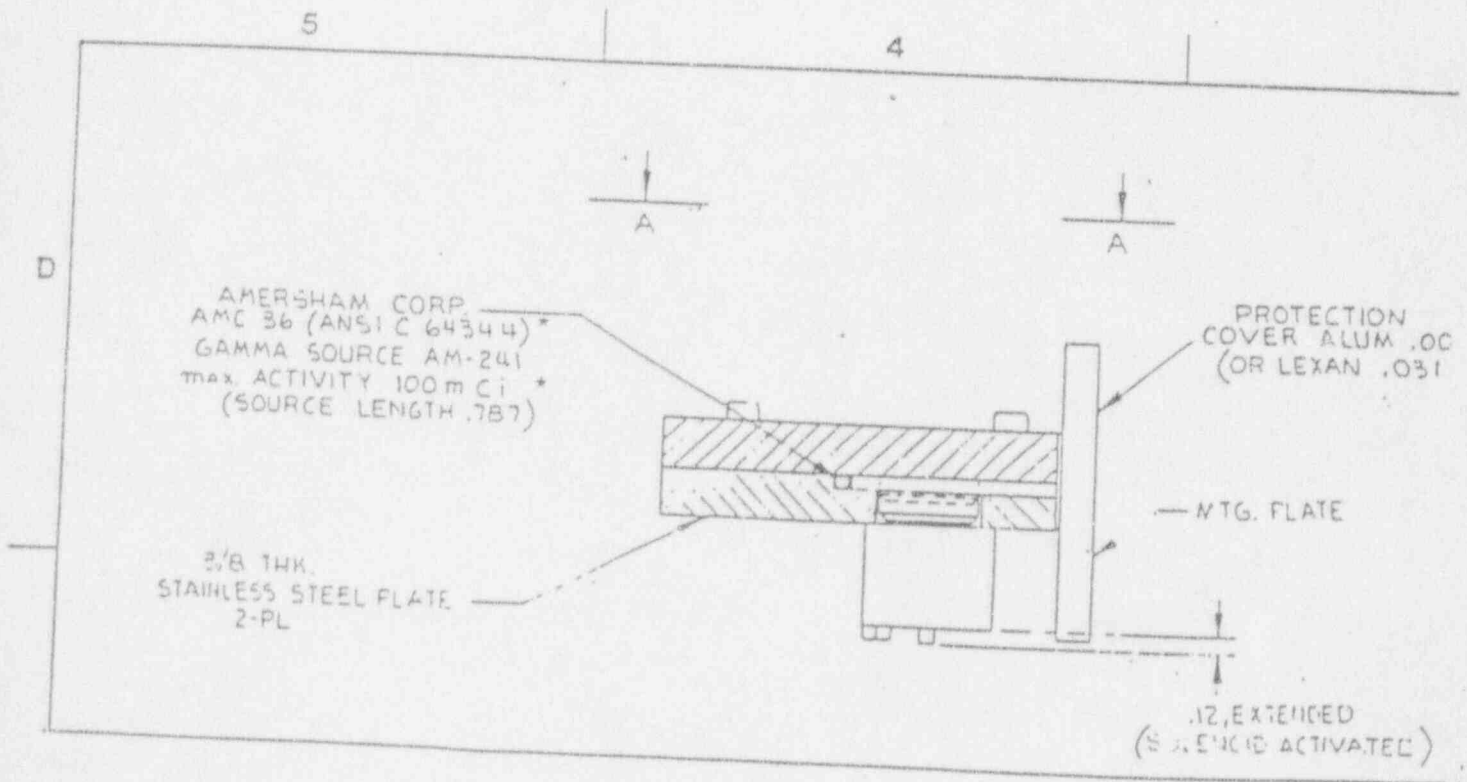
DATE: June 25, 1985

PAGE: 6 of 10

DEVICE TYPE: Gamma Gauge

FIGURE 4

SOURCE HOLDER/SHIELDING



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)
(Amended Pages 8 and 9 - March 8, 1990)
(Amended in its entirety October 17, 1985)

NO.: CA533D104G

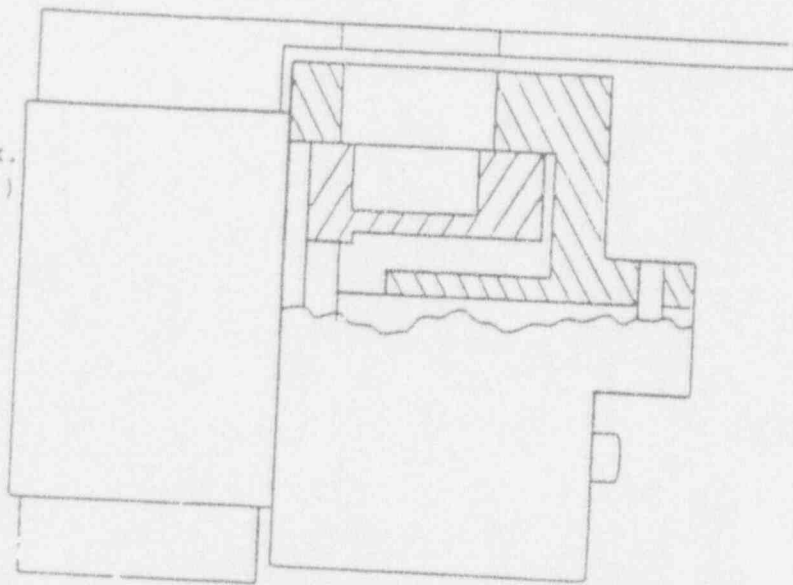
DATE: June 25, 1985

PAGE: 7 of 10

DEVICE TYPE: Gamma Gauge

Figure 5
Source Holder/Shielding

Amersham Corp.
AMC.17 (ANSI
C64334 Gamma
source AM-241 Max.
activity 300 mCi.)



REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)
(Amended Pages 8 and 9 - March 8, 1990)
(Amended in its entirety October 17, 1985)

NO.: CA533D104G

DATE: June 25, 1985

PAGE: 8 of 10

DEVICE TYPE: Gamma Gauge

PROTOTYPE TESTING:

Shutter solenoids used in this device are manufactured by G.W. Lisk Company, (Part No. S-2161 for the AMC.36 and Kuhnke Part No. 3256957 for the AMC.17). The manufacturer claims that Part No. S-2161 has a life expectancy of 5,000,000 operations, while Part No. 3256957 has been tested in excess of 100,000,000 operations. The source holder/shutter configuration has been in use on similar gauges without any failures. The ANSI classification was determined by engineering evaluation and radiation survey to be ANSI-33-985-985-R2.

EXTERNAL RADIATION LEVELS:

The external radiation level is 0.1 mR/hr with the exception of the aperture-end of the source housing. The maximum exposure rate, at a distance of 30 cm (12 inches) in direct contact with the beam aperture plate, is 150 mR/hr. All external radiation levels, with the shutter closed, are 0.1 mR/hr or less.

QUALITY ASSURANCE AND CONTROL:

Peco maintains a quality control program to inspect all parts before and after assembly to insure proper fit and operation. The shutter assembly is cycled a minimum of 100 times before and after radioactive source installation. Additionally, the entire gauging system is operated for 10 hours prior to shipment from the plant. Visual inspection is made for correct attachment of all labels, and each unit is surveyed for stray radiation after the source is loaded. A leak test is performed prior to shipment (or copy of current certificate).

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

- A. The Gamma 101-P may be distributed to general licensees of the NRC or Agreement States.
- B. Installation, initial testing, training and repair shall be performed by the manufacturer or by other persons specifically licensed to do so by the NRC or Agreement States.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)
(Amended Pages 8 and 9 - March 8, 1990)
(Amended in its entirety October 17, 1985)

NO.: CA533D104G

DATE: June 25, 1985

PAGE: 9 of 10

DEVICE TYPE: Gamma Gauge

LIMITATIONS AND/OR OTHER CONSIDERATION OF USE: (continued)

- C. Relocation, disposal, source replacement or transfer shall be performed only by persons specifically licensed to perform such services by the NRC or Agreement States.
- D. The device shall be leak tested at six (6) months intervals using techniques capable of detecting 0.005 microcuries of removable contamination.
- E. This device shall not be subjected to conditions exceeding ANSI-33-985-985-R2.
- F. This registration sheet and the information contained within the reference shall not be changed without the written consent of the California Department of Health Services.

SAFETY ANALYSIS SUMMARY:

The Peco Gamma 101-P uses a source/shutter assembly which includes both an electrical (red light) and physical (red or green shutter status label visible through a port in the source housing) to indicate shutter status. If the solenoid actuated shutter is in the open-shutter configuration, the red light will be ON. The shutter is POWER-TO-OPEN and SPRING-TO-CLOSE (see Figures 2 and 3). Therefore, should power be interrupted, the shutters will automatically return to the closed position. The system also incorporates a body barrier to hinder a person entering the primary gamma beam on all wide-gap systems (gap > 14 inches). As shown in Figure 1, the highly collimated/shielded source assembly limits the peripheral radiation levels to extremely low values.

REGISTRY OF RADIOACTIVE SEALED SOURCES AND DEVICES
SAFETY EVALUATION OF DEVICE

(Amended Pages 2 and 10 - December 19, 1991)

(Amended Pages 8 and 9 - March 8, 1990)

(Amended in its entirety October 17, 1985)

NO.: CA533D104G

DATE: June 25, 1985

PAGE: 10 of 10

DEVICE TYPE: Gamma Gauge

REFERENCE:

The following supporting documents for the GAMMA 101-P are hereby incorporated by reference and are made a part of this registry documents:

1. Peco Controls letter with attachments dated February 25, 1985 (including QC procedures).
2. Peco Controls letter dated March 15, 1985, (ANSI Classification).
3. Peco Controls letter with attached labels, dated March 21, 1985.
4. Peco Controls letter with attached revision (blueprint) dated April 23, 1985.
5. NBS Handbook No. 129 "Classification of Industrial Ionizing Radiation Gauging Devices", N538-1979.
6. Peco Controls letter dated October 8, 1985.
7. Peco Controls letters dated December 18, 1979 and February 5, 1990 regarding replacement of solenoid.
8. Peco Controls letter dated November 5, 1991, regarding readjustment of source height from 2.63 inches to 1.0 to 3.0 inches.

DATE: October 17, 1985

REVIEWED BY: Stuart Rosenberg

DATE: October 17, 1985

CONCURRED BY: Gerard C. Wong

ISSUING AGENCY: California Department of Health Services

1/14/94

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

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

EMPLOYEE/VENDOR/PAYEE CODE: * _____

NAME: Lime-O-Sol Company

ADDRESS: Attn: Alvin E. Marguis, VP Operations

ADDRESS: 101 South Parker Drive

CITY: Ashley STATE: IN ZIP: 46705

TRANS CODE: PX TRANS TYPE: _____ FUND: _____

JOB CODE: _____ (FOR FE TRANS TYIF) REFUND AMOUNT: \$570⁰⁰

COMMENTS: App Dtd 9/17/93 Fee Rfnd
CK 18506

(limit comments to 40 characters, including spaces)

PREPARED BY: Shirley Crutchfield DATE: 1/14/94

AUTHORIZED BY: Cheryl Phillips TITLE: 1/14/94

OFFICE: _____ DATE: _____

ORIGINAL INVOICE #: _____ DATE PAID: _____ AMOUNT: \$ _____

REFUND ENTERED INTO COLLECT BY: _____

REFUND DETERMINED BY: _____ DATE: _____

PLEASE ATTACH APPROPRIATE SUPPORTING DOCUMENTATION.

* AN ADDRESS MUST BE PROVIDED FOR VENDORS NOT FOUND ON THE VEND TABLE.

Oct 4 III App 3P \$570⁰⁰ 18506