

January 4, 1994

J. L. Shepherd & Associates  
1010 Arroyo Avenue  
San Fernando, California 91340

Attention: Les Weiss  
Contract Administrator

This will acknowledge the receipt of NRC Form 241 dated December 29, 1993, in which you report proposed use of radioactive materials at various temporary job sites under NRC jurisdiction for up to 180 days during the period of January 1 through December 31, 1994.

Since your work is over an extended period of time, we request that you notify us at least three days prior to a specific job. The notification can be by either telephone or facsimile and should include a description of the material to be used, the name of the person conducting the work, the exact work location, and the dates. Telephone notifications should be made to Jim Montgomery (510) 975-0249 of my staff. Our telefacsimile number is (510) 975-0350 or 0351.

Your cooperation is appreciated.

Sincerely,

Gregory P. Yuhas, Chief  
Radioactive Materials Safety  
Branch

bcc w/copy of license & Form 241:  
State of California  
Regions I, II, III, and IV

bcc w/copy of Form 241: D. Skov

bcc (ltr only): Central Files  
M. Smith

RV/gmd  
REQUEST COPY  
YES/NO *BAP*  
BPRANGE  
1/4/94

REQUEST COPY  
YES/NO *GPX*  
GYUHAS  
1/4/94

SEND TO PDR  
YES/NO

SEND TO DCS  
YES/NO

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PDR

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**REPORT OF PROPOSED ACTIVITIES  
 IN NON-AGREEMENT STATES**

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 18 MIN. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0013), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

(Please read the instructions on the cover sheet before completing this form.)

<p>1. NAME OF LICENSEE (Person or firm proposing to conduct the activities described below)</p> <p>J. L. Shepherd &amp; Associates</p>	<p>2. ADDRESS OF LICENSEE (Mailing address or other location where licensee may be located)</p> <p>1010 Arroyo Avenue                  San Fernando, CA 91340</p>
<p>3. NAME OF PERSON AUTHORIZED BY LICENSEE TO PERFORM ACTIVITY</p> <p>To Be Notified at Time of Activity</p>	

4. DESCRIPTION OF ACTIVITIES TO BE CONDUCTED IN NON-AGREEMENT STATES UNDER THE GENERAL LICENSE GIVEN IN 10 CFR 150.20

Use of Radioactive Materials at Temporary Job Sites -  
 Installation of Devices - Repair & Calibration & Decommissioning  
 of Calibrators & Irradiators

5. LOCATIONS AT WHICH THESE ACTIVITIES WILL BE CONDUCTED AND DATES SCHEDULED.

STREET AND NUMBER OR OTHER LOCATION (Give as complete an address as possible)	CITY AND STATE	DATES SCHEDULED		NO. OF DAYS
		FROM	TO	
Various Temporary Job Sites To Be Scheduled As Required		1-1-94	12-31-94	180

6. LIST SEALED SOURCES, OR DEVICES CONTAINING SEALED SOURCES, WHICH WILL BE POSSESSED, USED, INSTALLED, SERVICED OR TESTED IN NON-AGREEMENT STATES. (Include description of type and quantity of radioactive material contained in each sealed source or device.)

7. NUMBER OF SPECIFIC LICENSE AND NAME OF STATE ISSUING SUCH SPECIFIC LICENSE WHICH AUTHORIZES THE UNDERSIGNED TO CONDUCT ACTIVITIES WHICH ARE THE SAME, EXCEPT FOR LOCATION OF USE, AS THOSE SPECIFIED IN ITEM 4 ABOVE. (Four copies of the specific license must accompany this report.)

State of California Radioactive Materials License No. 1777-70, Amend # 60 & 61

**CERTIFICATION**

<p>8. I, THE UNDERSIGNED, HEREBY CERTIFY THAT:</p> <p>a. All information in this report is true and complete.</p> <p>b. I have read and understand the provisions of the general license 10 CFR 150.20 reprinted on the cover sheet of this form set; and I understand that I am required to comply with these provisions as to all byproduct, source, or special nuclear material which I possess and use in non-Agreement States under the general license for which this report is filed with the U.S. Nuclear Regulatory Commission.</p> <p>c. I understand that activities, including storage, conducted in non-Agreements under general license 10 CFR 150.20 are limited to a total of 180 days in any calendar year.</p>	<p>DATE</p> <p>12-29-93</p> <p>LICENSEE'S NAME (TYPE OR PRINT)</p> <p>J. L. Shepherd &amp; Associates</p> <p>CERTIFYING OFFICIAL</p> <p>SIGNATURE</p> <p>TITLE</p> <p>President</p>
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WARNING: FALSE STATEMENTS IN THIS CERTIFICATE MAY BE SUBJECT TO CIVIL AND/OR CRIMINAL PENALTIES. NRC REGULATIONS REQUIRE THAT SUBMISSIONS TO THE NRC BE COMPLETE AND ACCURATE IN ALL MATERIAL RESPECTS. 18 U.S.C. SECTION 1001 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.

RECEIVED DEC 27 1993

RADIOACTIVE MATERIAL LICENSE

SUPPLEMENTARY SHEET

License No. 1777  
Amendment No.61

SHEPHERD J I. AND ASSOCIATES  
1010 ARROYO AVENUE  
SAN FERNANDO, CA 91340

Attn: J L SHEPHERD

License Number 1777 is hereby amended in part as follows:

To read:

Condition 13.

(i) Provisions of Title 17, CCR, Group 3, §§ 30250-30358 (California Radiation Control Regulations) that establish standards for protection against radiation resulting from activities under this license or otherwise subject to provisions of California Radiation Control Regulations remain in full force and effect until December 31, 1993.

(ii) Provisions of California Radiation Control Regulations to the contrary notwithstanding, the licensee shall, on and after January 1, 1994, implement standards for protection against radiation resulting from activities under this license or otherwise subject to provisions of California Radiation Control Regulations as follows:

(a) The regulations governing standards for protection against radiation in the U.S. Government Code of Federal Regulations (CFR), Title 10, Code of Federal Regulations, Part 20, §§ 20.1001-20.2402 and associated appendices as published in the special Edition of the Federal Register dated January 1, 1993<sup>1</sup> are hereby incorporated by reference as terms and conditions of this license with the following exceptions:

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<sup>1</sup> 10 CFR 20 §§ 20.1001-20.2402 in Title 10 Code of Federal Regulations, Parts 0 to 50 Revised as of January 1, 1993, Containing a Codification of Documents of General Applicability and Future Effect with Ancillaries. Published by the Office of the Federal Register, National Archives and Records Administration as a Special Edition of the Federal Register.

(1) The Department of Health Services shall be substituted in all cases where the U.S. Nuclear Regulatory Commission is cited.

(2) The following sections are deleted: §§ 20.1001, 20.1002, 20.1006, 20.1007, 20.1008, 20.1009, 20.2302, 20.2401 and 20.2402.

(b) The term, "User," as defined in § 30100, Definitions, shall be substituted in all cases for the term, "Licensee".

(c) As used in the provisions of Part 20 with respect to dose limits and reporting requirements that are incorporated by reference herein, the terms, "Byproduct Material" and "Licensed Material", are to be construed broadly in context to mean any source of ionizing radiation subject to the requirements of California Radiation Control Regulations.

(d) The intent of subparagraphs 13(i) and 13(ii) is to require the orderly implementation by the licensee of a radiation safety program for all uses of radiation under the control of the licensee based on the above specified provisions of 10 CFR 20. These provisions of 10 CFR 20 entirely displace and supplant provisions of Group 3 to the contrary except as tabulated and noted in subparagraphs 13(ii)(d)(1) and (d)(2).

(1) Provisions of 17 CCR Group 3 are retained as follows: Article 1. General. §§ 30252(a), and 30254; Article 3. Dose Limits, Permissible Levels and Concentrations. §§ 30278(a)(5), 30279(a)(1), and 30280; Article 6. Records, Reports and Notifications. §§ 30298 and 30299; Article 7. Special Requirements for the Use of X-ray in the Healing Arts. All sections are retained without change; Article 8. Special Requirements for Use of Radioactive Material in the Healing Arts. All sections are retained without change; Article 9. Special Requirements for Radiographic Operations Other Than in the Healing Arts. All sections are retained without change; Article 10. Radiation Safety Requirements for Well Logging Operations. All sections are retained without change; Article 11. Enforcement. All sections are retained without change.

(2) Provisions of subparagraph 13(ii) become effective on January 1, 1994 and remain in effect until such time as amendments to 17 CCR Group 3 that implement the above specified provisions of 10 CFR 20 become effective.



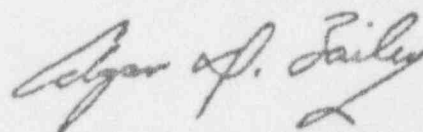
(e) A user may apply to the department for authorization to operate up to an annual dose limit for an individual member of the public of 0.5 rem (5 mSv) pursuant to provisions of 10 CFR §§ 20.1301 and 20.1302 on department Form RH 500.

(iii) Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in this license in accordance with statements, representations, and procedures contained in the documents listed below.

Condition 13, subparagraphs (a) .... (through end of series). *Text not changed.*

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For the Department of Health Services



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Edgar D. Bailey, CHP, Chief  
Radiologic Health Branch

Date: December 17, 1993

## RADIATION SAFETY ADVISORY 93-4

December 17, 1993

To: Radioactive Material Licensees

Subject: Radiation Protection Standards Revised

Basic standards for protection of radiation workers and the public from sources of ionizing radiation were revised in a recent rule issued by the Nuclear Regulatory Commission (NRC). Your Radioactive Material License is being amended to incorporate these changes.

The NRC adopted the first major overhaul of U.S. radiation protection standards in more than 30 years in amendments to regulations issued in May 1991. These regulations are currently effective for NRC licensees on a voluntary basis. January 1, 1994, has been set for implementation of the revised standards by all users of radiation under both NRC and state jurisdictions. California will adopt these new radiation protection standards as changes to California Radiation Control Regulations. The enclosed amendment to your license is designed to assure application of these new national standards to California licensees for the protection of California workers and the public.

### Need for Change

The revisions in the radiation protection standards incorporate updated scientific information and reflect changes in the basic philosophy of radiation protection.

California will be required to adopt the revised standards by January 1, 1994.

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Good radiation protection practice continues to result in radiation exposures for most activities that are less than 10 percent of the current limits and well under the revised limits.

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California and the NRC have generally followed the basic radiation protection recommendations of the International Commission on Radiological Protection (ICRP) and its U.S. counterpart, the National Council on Radiation Protection and Measurements (NCRP), in formulating basic standards. In 1977, the ICRP

issued revised recommendations for a system of radiation dose limitation. These recommendations were published in ICRP Publication 26 and included several other important concepts:

- Dose limitation when combined with the principle of keeping all radiation exposure as low as reasonably achievable results in better protection than from relying upon the dose limits alone;
- There is a linear relationship, without threshold, between dose and probability of stochastic health effects (such as latent cancer and genetic effects) occurring;
- The severity of each type of stochastic health effect is independent of dose; and
- Non stochastic (non random) radiation induced health effects (such as radiation induced cataracts of the eyes) can be prevented by limiting exposures so that doses are below the thresholds for their induction.

## What is Changing

- **Greater emphasis on numerical risks**

The new limits are based on numerical estimates of risk associated with exposure to radiation. Organs and tissues are assigned a risk weighting factor. This weighting factor when multiplied by the organ or tissue radiation absorbed dose gives an estimate of the dose equivalent.

- **"Effective dose" concept adopted**

Dose equivalents from all radiation exposures can be summed to give an effective dose equivalent for the whole body. While not of particular concern to users of x-ray, this method also permits greater equality in treatment of external radiation exposure and internal doses from radionuclides deposited in the body.

- **Occupational dose limits annualized and simplified**

The current rule permits whole body exposure of 1.25 rem per calendar quarter or 3.0 rem per calendar quarter if the lifetime dose (with prior history) does not exceed  $5(N-18)$  rem where N is the age in years.

The revised rule will permit 5.0 rem total effective dose equivalent per year.

Organ dose limits are currently set at 1.25 rem per quarter for the whole body and blood-forming organs, 7.5 rem per quarter for the thyroid and skin and 3.75 rem per quarter for other organs.

The revised rule will set the dose limit at 5.0 rem per year as the stochastic limit and 50 rem per year as the non stochastic limit.

The dose limit for the lens of the eye is currently set at 1.25 rem per quarter. The revised rule will set the limit at 15 rem per year. The current limit for extremities is set at 18.75 rem per quarter. The revised rule will set the limit for extremities at 50 rem per year.

The dose limit for occupational exposure of minors continues at 10 percent of the limits for adult workers.

- **Explicit limit for dose to embryo/fetus**

The revised rule will limit the dose to the embryo/fetus over the entire period of gestation to 0.5 rem delivered at a fairly uniform rate. The limit applies to the embryo/fetus of a woman who has declared the pregnancy to her employer.

- **Dose limits to public reduced to 0.1 rem per year**

The current limits for radiation doses in uncontrolled areas are 0.002 rem in any hour, 0.1 rem in any week, and 0.5 rem in any year. The revised rule will retain the hourly limit, eliminate the weekly limit and reduce the annual limit to 0.1 rem in any year. This is a factor of five reduction.

Backfitting of existing facilities will not be required to meet the reduced annual limit if the annual dose to the maximally exposed member of the public is  $\leq 500$  mrem and the average annual dose to members of the public with significant exposure is  $\leq 100$  mrem. Significant exposure is defined as an annual dose  $\geq 10$  mrem. A Radiation Safety Advisory will be issued as the new limits become effective in California. This advisory will provide for "grandfathering" of existing facilities that do not meet the  $\leq 100$  mrem annual limit. "Grandfathering" will be granted on filing of a survey report with the department showing that the alternative limits ( $\leq 500$  mrem/year maximum and  $\leq 100$  mrem/year average) are satisfied.

## What Is Not Changing

Good radiation protection practice and the maintenance of radiation exposures as low as reasonably achievable continues to result in radiation exposures for most operations that are less than 10 percent of the current limits and well under the revised limits.

Ed Bailey, CHP  
Chief, Radiologic Health Branch  
California Department of Health Services  
PO Box 942732  
Sacramento, CA 94234-7320  
Phone (916) 445 0931

## RADIOACTIVE MATERIAL LICENSE

Pursuant to the California Administrative Code, Title 17, Chapter 5, Subchapter 4, Group 2, Licensing of Radioactive Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, use, possess, transfer, or dispose of radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations, and orders of the Department of Health Services now or hereafter in effect and to any conditions specified in this license.

1. Licensee	J. L. Shepherd & Associates	3. License No.	1777-70	Amendment No.	60
2. Address	1010 Arroyo Avenue San Fernando, CA 91340	4. Expiration date	October 11, 1995		
Attention:	J. L. Shepherd Radiation Safety Officer	5. Inspection agency	Radiologic Health Branch Los Angeles		

In response to the letter with attachment dated July 27, 1993, signed by J.L. Shepherd, License Number 1777-70 is hereby amended as follows:

- |  |  |  |
|--|--|--|
| 6. <u>Nuclide</u>                                      | 7. <u>Form</u>   | 8. <u>Possession Limit</u>   |
| A. Any radionuclide with atomic numbers 3-83 inclusive | A. -O. Sealed sources manufactured, labeled packaged, and distributed in accordance with a specific license issued to the manufacturer by the U. S. Nuclear Regulatory Commission or an Agreement State. | A. Not to exceed possession limit specified in customer's radioactive materials license. |
| B. (1) Cobalt 60<br>(2) Cesium 137                     |  | B. Not to exceed possession limit specified in customer's radioactive materials license. |
| C. Cobalt 60   |  | C. Not to exceed 1,000 curies for any one source; total not to exceed 2,000 curies.      |
| D. Cobalt 60   |  | D. Not to exceed 50,000 curies total.  |
| E. Cesium 137  |  | E. Not to exceed 50,000 curies total.  |

For the State Department of Health Services

Date August 17, 1993 by \_\_\_\_\_ 1  
 Radiologic Health Section  
 744 P Street, Sacramento, CA 95814



RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

Supplementary Sheet

Amendment Number: 60

F. Californium 252

F. Not to exceed 80 millicuries for any one source; total not to exceed 537 millicuries.

G. Americium 241: Be

G. Not to exceed 25 curies for any one source; total not to exceed 60 curies.

H. Plutonium 238: Be

H. Not to exceed 25 curies for any one source; total not to exceed 60 curies.

I. Americium 241

I. Not to exceed 20 curies total.

J. Radium 226

J. Not to exceed 120 millicuries for any one source; total not to exceed 1 curie.

K. Strontium 90/  
Yttrium 90

K. Not to exceed 1.2 curies for any one source; total not to exceed 10 curies.

L. Promethium 147

L. Not to exceed 10 millicuries total.

M. Thallium 204

M. Not to exceed 10 millicuries total.

N. Radium 226

N. Not to exceed 1 curie for any one source; total not to exceed 5 curies.

O. Cobalt 60

O. 1 source not to exceed 20 curies.

For the State Department of Health Services

Date: August 17, 1993

By: \_\_\_\_\_  
Radiologic Health Branch  
P.O. Box 942732  
Sacramento, CA 94234-7320

## RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

## Supplementary Sheet

Amendment Number: 60

- |  |   |  |
|--|---|--|
| P. Any radionuclide with atomic numbers 3-83 inclusive | P. Irradiated electronic components   | P. Not to exceed 2 millicuries total.  |
| Q. Depleted uranium                                    | Q. Coated metal   | Q. Not to exceed 3,000 pounds total.   |
| R. Cobalt 60   | R. Sealed sources (U.S. Nuclear Type 362)   | R. 1 source not to exceed 50 curies.   |
| S. (1) Cobalt 60<br>(2) Cesium 137                     | S. Sealed sources manufactured, labeled, packaged and distributed in accordance with a specific license issued to the manufacturer by the U.S. Nuclear Regulatory Commission or an Agreement State. | S. Not to exceed possession limit specified in customer's radioactive materials license. |

9. Authorized Use

- A. To be used for installation, relocation, maintenance, repair, sealed source removal and/or replacement, and preparation for shipment of beam and self-contained calibrators and irradiators manufactured by J. L. Shepherd and Associates and U. S. Nuclear Corporation. (See Condition 20 for limitations.)
- B. To be used in the removal of teletherapy heads containing sealed sources from Keleket, Picker, and Westinghouse teletherapy units and preparation of heads for shipment in accordance with Department of Transportation regulations. Removal of sealed sources from head of teletherapy units is not authorized.
- C. To be used for dismantling, reinstallation, and preparation for shipment of Automation Industries (Budd Company) projectors Models 1060 and 1061.
- D.-M. To be used for research and development; survey instrument calibration; maintenance, repair, sealed source removal and/or replacement, manufacture, and distribution of devices to specific licensees of the NRC or Agreement States.
- N. To be received as radioactive waste and used incidental to reencapsulation of "normal form" sealed sources into "special form" sealed sources and transferred to specific licensees of Agreement States for disposal.
- O. To be used in a Tech/Ops projector Model 471 for storage only.

For the State Department of Health Services

Date: August 17, 1993

By: \_\_\_\_\_

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Radiologic Health Branch  
P.O. Box 942732  
Sacramento, CA 94234-7320

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## RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

Supplementary Sheet

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- P. To be used for storage and subsequent irradiation with gamma radiation pursuant to radiation hardness testing.
- Q. To be used for shielding in calibrators, irradiators and shipping containers and distribution to specific licensees of the NRC or Agreement States.
- R. To be used in the removal of teletherapy heads containing sealed sources from Bar-Ray teletherapy units (used for medical purposes) and preparation of heads for shipment in accordance with Department of Transportation regulations. Removal of sealed sources from heads of teletherapy units is not authorized.
- S. To be used for installation, removal and transfer of sealed sources at customer's wet well facilities.

10. Radioactive material shall be used only at the following locations:

(a) 1010 Arroyo Avenue, San Fernando, CA

(b) Customer's facilities at temporary job sites of the licensee in areas not under exclusive federal jurisdiction throughout the State of California (See Conditions 20, 22, 23, and 35 for limitations).

11. This license is subject to an annual fee for sources of radioactive material authorized to be possessed at any one time as specified in Item 8 of this license. The annual fee for this license is required by and computed in accordance with Sections 30230-30232 of the California Radiation Control Regulations and is also subject to an annual cost-of-living adjustment pursuant to Section 113 of the California Health and Safety Code.

12. (a) Radioactive material used in all Allied Cave operations and removal and/or replacement of sealed sources (containing greater than one curie of Cobalt 60 or three curies of Cesium 137) from devices at temporary job sites may be used by, or under the direction supervision, and in the physical presence of, the following individuals:

- (1) J. L. Shepherd
- (2) Richard N. Donelson
- (3) Ralph Jacobs
- (4) James D. Fuzzell
- (5) David G. Cadena, Jr.

(b) Radioactive material used in operations at the licensee's facility other than described in Condition 12(a) may be used by, or under the supervision of, the following individuals:

For the State Department of Health Services

Date: August 17, 1993

By: \_\_\_\_\_  
 Radiologic Health Branch  
 P.O. Box 942732  
 Sacramento, CA 94234-7320

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## RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

Supplementary Sheet

Amendment Number: 60

## 12. (Continued)

- (1) J. L. Shepherd
- (2) Richard N. Donelson
- (3) Ralph Jacobs
- (4) James D. Fuzzell
- (5) David G. Cadena, Jr.

- (c) Radioactive material used in removal and/or replacement of sealed sources (containing less than one curie of Cobalt 60 or three curies of Cesium 137) from devices, and for device maintenance and/or repair at temporary job sites may be used by, or under the direct supervision and in the physical presence of, individuals who have satisfactorily completed the licensee's personnel training program described in Condition 13 (a) of this license.
- (d) Radioactive material used in the installation and/or relocation of devices, not involving source removal and/or replacement, at temporary job sites may be used by, or under the direct supervision and in the physical presence of individuals who have satisfactorily completed the licensee's personnel training program described in Condition 13(a) of this license.

13. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in the documents listed below. The Department's regulations shall govern unless the statements, representations, and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- (a) The letters with attachments dated May 23, 1986 and April 22, 1987, and October 24, 1988, all signed by J. L. Shepherd, regarding the radioactive materials license renewal, including the Quality Assurance Procedures, Number QA-RM-001-A, Revision 2 and the J. L. Shepherd and Associates Radiological Safety Control Manual dated October 24, 1988, Revision Number 1 (excluding Appendices F and F-1), modified by the letter dated January 30, 1989.
- (b) The letters dated May 18, 1988, and August 5, 1988, both signed by J. L. Shepherd, regarding irradiation of electronic components.
- (c) The application with attachments dated March 31, 1988, the letter with attachments dated May 16, 1988, and the letter dated July 15, 1988, all signed by J. L. Shepherd, regarding reencapsulation of radium sources for disposal.

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For the State Department of Health ServicesDate: August 17, 1993

By: \_\_\_\_\_ 1

Radiologic Health Branch  
P.O. Box 942732  
Sacramento, CA 94234-7320



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## RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

Supplementary Sheet

Amendment Number: 60

## 13. (Continued)

- (d) The letter dated August 21, 1987, November 23, 1987, and January 27, 1988, with attached hot cell design specifications, modified by the letter with attached hot cell diagrams dated November 8, 1988, all signed by J. L. Shepherd.
- (e) The letters with attachments dated January 20, 1987, and June 10, 1987, both signed by J. L. Shepherd, regarding installation, servicing, source removal and/or replacement of calibrators and irradiators at temporary job sites (customer's facilities).
- (f) The letter dated June 11, 1975, signed by J. L. Shepherd, regarding teletherapy head removal.
- (g) The letter dated June 10, 1975, signed by Joe Shepherd, regarding dismantling Automation Industries projectors Models 1060 and 1061.
- (h) The letter with attachments dated March 23, 1989, signed by J. L. Shepherd.
- (i) The letters with attachments dated April 12, 1989 and June 1, 1989, both signed by J. L. Shepherd.
- (j) The letters with attachments dated January 12, February 24 and March 30, 1989, all signed J. L. Shepherd, regarding commitments in the manufacture of devices.
- (k) The letter with attachments dated June 15, 1989, signed by J. L. Shepherd.
- (l) The letter with attachments dated March 13, 1990, signed by J. L. Shepherd regarding shipment from G.E.
- (m) The letters with source removal/replacement procedures for wet wells dated March 6, 1991 and March 28, 1991, both signed by J. L. Shepherd.
14. The radiation safety officer in this program shall be J. L. Shepherd.
15. Sealed sources described in this license shall be tested for leakage and/or contamination at intervals not to exceed six (6) months, following the test method described in Condition 13 (a). The periodic leak test required by this condition does not apply to sealed sources that are stored and not being used. The sources excepted from this test shall be tested for leakage prior to any use or transfer to another person unless they have been leak tested within six (6) months prior to the date of use or transfer.

For the State Department of Health Services

Date: August 17, 1993

By: \_\_\_\_\_ 1

Radiologic Health Branch  
 P.O. Box 942732  
 Sacramento, CA 94234-7320

## RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

Supplementary Sheet

Amendment Number: 60

16. Notwithstanding the periodic leak test required by Condition 15 of this license, any licensed sealed source is exempt from such leak tests when the source contains 100 microcuries or less of beta and/or gamma emitting material or 10 microcuries or less of alpha emitting material.
17. The following individuals are authorized to collect wipe test samples of sealed sources possessed under this license using leak test kits acceptable to the California Department of Health Services.
- (a) The Radiation Safety Officer  
(b) Qualified individuals designated by the Radiation Safety Officer
18. Records of leak test results shall be kept in units of microcuries and maintained for inspection. Records may be disposed of following Department inspection. Any leak test revealing the presence of 0.005 microcuries or more of removable radioactive material shall be reported to the Department of Health Services, Radiologic Health Branch, 744 P Street, P.O. Box 942732, Sacramento, CA 94234-7320, within five days of the test. This report shall include a description of the defective source or device, the results of the test, and the corrective action taken.
19. The licensee shall conduct a physical inventory every six (6) months to account for all sealed sources that are excepted from periodic leak testing as described in Condition 15 of this license. Records of the inventories shall be maintained for inspection by the Department.
20. The licensee is authorized to perform the following operations at customer's facilities (dry well facilities only) as temporary job sites of the licensee throughout the State of California except those areas under exclusive federal jurisdiction:
- (a) For removal and/or replacement of sealed sources containing 10 curies throughout 1,000 curies of Cobalt 60 or 30 curies through 3,000 curies of Cesium 137, the licensee shall comply with the following provisions:
- (1) A detailed written plan, including operating and emergency procedures based on the nature of the facility, source sizes, and operations to be performed shall be prepared prior to initiating the operation. The plan shall be maintained for inspection by the Department.
- (2) The licensee shall submit written notification such as to reach the Department's Compliance Section (Radiologic Health Branch - Sacramento for Northern California, Radiologic Health Branch - Berkeley for Central California, and Radiologic Health Branch, - Los Angeles for Southern California) at least 3 days prior to engaging in such operation. The notification shall indicate the date, time, and location of the operation.

For the State Department of Health Services

Date: August 17, 1993By: \_\_\_\_\_ 1  
Radiologic Health Branch  
P.O. Box 942732  
Sacramento, CA 94234-7320

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## RADIOACTIVE MATERIAL LICENSE

License Number: 1777-70

Supplementary Sheet

Amendment Number: 60

## 20. (Continued)

- (3) No individual shall be allowed to act as an assistant during any operation until that individual has been instructed in, and has demonstrated understanding of, the procedures required for the operation, as well as the fundamentals of radiation safety as set forth in Section 30335(a) of the California Radiation Control Regulations.
  - (4) No operation shall be initiated unless the licensee has in his possession detailed blueprints and written instructions for the operation, such blueprints and instructions being specific for the manufacturer and model number of the device and for the type of operation involved.
  - (5) The licensee shall notify the Department by telephone and confirming telegram should any malfunction occur, unsafe conditions be discovered, or difficulty arise which might lead to the radiation exposure of any individual above the limits specified in Section 30265 of the California Radiation Control Regulations.
  - (6) Sealed sources shall be transported only in DOT/NRC-approved shipping containers.
- (b) For maintenance and/or repair of devices containing more than 1000 curies of Cobalt 60 or Cesium 137, the licensee shall comply with the following provisions:
- (1) No individual shall act as an authorized supervisor during any operation described in Condition 20(b) until that individual has been instructed in, and has demonstrated understanding of, the procedures required for the operation, as well as the fundamentals of radiation safety as set forth in Section 30335(a) of the California Radiation Control Regulations in accordance with the licensee's personnel training program described in Condition 13(a) of this license.

For the State Department of Health Services

Date: August 17, 1993

By: \_\_\_\_\_

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20. (Continued)

- (2) No individual shall be allowed to act as an assistant during any operation until that individual has been instructed in, and has demonstrated understanding of, the procedures required for the operation, as well as the fundamentals of radiation safety as set forth in Section 30335(a) of the California Radiation Control Regulations.
- (3) No operation shall be initiated unless the licensee has in his possession detailed blueprints and written instructions for the operation, such blueprints and instructions being specific for the manufacturer and model number of the device and for the type of operation involved.
- (4) The license shall notify the Department by telephone and confirming telegram should any malfunction occur, unsafe conditions be discovered, or difficulty arise which might lead to the radiation exposure of any individual above the limits specified in Section 30265 of the California Radiation Control Regulations.
- (5) Sealed sources shall be transported only in DOT/NRC-approved shipping containers.
- (6) Records of such operations shall be maintained for inspection by the Department.
21. The licensee is authorized to use the Allied Cave Model S-4040 limited to handling up to 15 curies of Cobalt 60, up to 1,000 curies of Cesium 137, and up to 5 curies of Radium 226 in accordance with procedures described in Condition 13(a) of this license.
22. The licensee is authorized to perform installation, relocation, maintenance, and repair operations of calibrators and irradiators only. No operation shall be initiated unless the licensee had in his possession detailed blueprints and instructions being specific for the manufacturer and model of the device and for the type of operation involved.
23. The licensee is authorized to perform removal and/or replacement of sealed sources contained in shipping containers, calibrators, and irradiators only. No operation shall be initiated unless the licensee has in his possession detailed blueprints and written instructions for the operation, such blueprints and written instructions being specific for the manufacturer and model of the device and for the operation involved.

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24. The licensee is authorized to perform renovations (refurbishments and repairs that modify devices) on only calibrators and irradiators under the following provisions:

- (a) No operations shall be initiated unless the licensee has in his possession detailed blueprints and written instructions for the operation, such blueprints and instructions being specific for the manufacturer and model number of the device and for the type of operation involved.
- (b) There shall be no reduction in the original safety systems of any device.
- (c) Records of all modifications shall be maintained for inspection by the Department and include manufacturer and model number of device, source manufacturer, model number, and activity, age of device and source, and detailed blueprints and written engineering specifications describing the modification.
- (d) The licensee shall not distribute/transfer any device to a customer until the customer has received authorization to receive such modified device by the NRC or Agreement State.

25. The licensee shall provide written notification to customers informing them of the following:

- (a) ANY modification made by the licensee to any device; and
- (b) the requirement of the customer to notify the appropriate regulatory agency of the modification for licensing purpose.

Records of such notifications shall be maintained for inspection by the Department.

26. The license is authorized to remove sealed sources from one device and install such sources in another device provided:

- (a) Such operations involve irradiators and calibrators only;
- (b) Sealed sources shall be compatible with these devices as specified in the USNRC Registry of Sealed Sources and Devices; and
- (c) The licensee shall maintain records documenting all sealed sources and devices involved in these operations including:
  - (1) manufacturer and model number of all sealed sources and devices;
  - (2) dates of source transfers;
  - (3) quality assurance tests performed on sealed sources;
  - (4) age of all sealed sources removed and/or installed.
- (d) The licensee shall notify customers in writing when a "recycled" sealed source is placed into their device.

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27. The license is authorized to calibrate radiation detection instruments for his own use. Each calibration of a radiation detection instrument shall include not less than 2 points other than zero (separated by 50 percent of full scale), for each scale of the instrument certified by the licensee. Records of calibrations shall be maintained for inspection by the Department.
28. The licensee shall distribute only sealed sources and/or devices for which a Sealed Source and Device Registry Sheet (SS&D sheet) has been issued or otherwise approved by the California Department of Health Services, the U. S. Nuclear Regulatory Commission, or other Agreement State. Sealed sources and/or devices distributed must adhere to the design specifications described in the SS&D and/or devices require the manufacturer to apply for and receive an amendment to the SS&D sheet prior to distribution.
29. This license does not authorize distribution of radioactive material pursuant to Sections 30180 and 30192 through 30192.6 the California Radiation Control Regulations or equivalent provisions of the NRC or Agreement States.
30. The licensee shall transport licensed materials or deliver licensed materials to a carrier for transport in accordance with the provisions of Section 30373 of the California Radiation Control Regulations.
31. Except for plutonium contained in a medical device designed for individual human application, no plutonium, regardless of form, shall be transported in an aircraft unless contained in packages the design of which the NRC has specifically approved for transport of plutonium by air.
32. The licensee shall have quarterly internal audits of his radiation safety program performed by a qualified individual subject to the Department's approval to include, but not limited to, the following:
- (a) Radioactive material inventory
  - (b) Incoming and outgoing package surveys
  - (c) Leak tests
  - (d) Radiation surveys
  - (e) Personnel dosimetry
  - (f) Equipment and instrument calibrations
  - (g) Operating and emergency procedures
  - (h) Initial and refresher employee training
  - (i) Customer training
  - (j) Q. A. Program

Records of these audits shall be maintained for inspection by the Department.

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33. The license is authorized to use the "recycled" sealed sources described in the attached list of sealed sources removed from gauges of the letter dated June 1, 1989 and install such sources in another device provided:
- (a) Such operations involve irradiators and calibrators only;
  - (b) Sealed sources shall be compatible with these devices as specified in the USNRC Registry of Sealed Sources and Devices;
  - (c) Sealed sources shall not be older than 20 years from the date of manufacturing; and
  - (d) The licensee shall maintain records documenting all sealed sources and devices involving in these operations including:
    - (1) manufacturer and model number of all sealed and devices;
    - (2) dates of source transfers;
    - (3) quality assurance tests performed on sealed sources;
    - (4) age of all sealed sources removed and/or installed.
  - (e) The licensee shall notify customers in writing when a "recycled" sealed source is placed into the device.
34. The licensee shall not remove any sealed sources from any gauges which are not manufactured by the licensee.
35. Notwithstanding Condition 23 of this license, the licensee is authorized to remove teletherapy heads containing sealed sources. No operation shall be initiated unless the licensee has in his possession detailed blueprints and instructions for the operation, such blueprints and instructions being specific for the manufacturer and model of the device and for the type of operation involved.
36. The license is hereby granted an exemption to 17 CCR 30373 under the following provisions:
- (a) The exemption only applies to transport of J. L. Shepherd Irradiator Model 81-24 contained in DOT-7A Container (Overpack - COC 6280) from GE Vallecitos, Pleasanton, California to J. L. Shepherd, 1010 Arroyo Avenue, San Fernando, and to Rockwell International Corporation, 3370 Miraloma Avenue, Anaheim, California.
  - (b) The shipment shall be under the supervision and escorted by a J. L. Shepherd and Associate CRP in accordance with Radioactive Material License Number 1777-70.

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36. (Continued)

(c) The licensee shall perform the transport in accordance with the procedures described in the letter dated March 13, 1990, signed by J. L. Shepherd.

(d) This authorization expires April 15, 1990.

37. The licensee is authorized to perform removal, replacement and transfer of sealed sources containing less than 30,000 curies of Cobalt 60 and/or Cesium 137 at the customer's facilities (wet well facilities only) as temporary job sites of the licensee throughout the State of California except those areas under exclusive federal jurisdiction with the following provisions:

- (1) A detailed written plan, including operating and emergency procedures, based on the nature of the facility, source sizes, and operations to be performed shall be submitted to the Department of Health Services, Radiologic Health Branch for approval and authorization prior to initiation of operations.
- (2) At least three (3) days prior to the initiation of such operations, the licensee shall inform the Department of the date, time, and location of the operation.
- (3) No individual shall be allowed to act as an assistant during any operation until that individual has been instructed in, and has demonstrated understanding of, the procedures required for the operation, as well as the fundamentals of radiation safety as set forth in Section 30335(a) of the California Radiation Control Regulations.
- (4) No operation shall be initiated unless the licensee has in his possession detailed blueprints and written instructions for the operation, such blueprints and instructions being specific for the manufacturer and model number of the device and for the type of operation involved.
- (5) The licensee shall notify the Department by telephone and confirming telegram should any malfunction occur, unsafe conditions be discovered, or difficulty arise which might lead to the radiation exposure of any individual above the limits specific in Section 30265 of the California Radiation Control Regulations.
- (6) Sealed sources shall be transported only in DOT/NRC-approved shipping containers.

For the State Department of Health Services

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