

*VOID SHEET

TO: License Fee Management Branch

FROM: RIII - James R. Mullauer

SUBJECT: VOIDED APPLICATION

Control Number: 305054

Applicant: Abele Educational Foundation

License Number: 34-32171-01

Docket Number: 030-34999

Date Voided: 4/29/99

Reason for Void: The applicant informed the reviewer that due to funding problems, he has decided to retract the application. I informed the applicant that I would void out the application and he agreed to that solution.

Jim Mullauer
Signature

4/29/99
Date

Attachment:
Official Record Copy of
Voided Action

FOR LFMB USE ONLY

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

Comments: _____

Log completed ☒

Processed by: SAC 7/9/99

270114

9907280010 990429
PDR ADOCK 03034999
C PDR

ML38
JAW

BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: _____
Status Code: 3
Fee Category: _____
Exp. Date: 0
Fee Comments: _____
Decom Fin Assur Req'd: _____

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: ABELE EDUCATIONAL FOUNDATION
Received Date: 19990316
Docket No: 3034999
Control No.: 305054
License No.:
Action Type: New Licensee

2. FEE ATTACHED

Amount: _____
Check No.: Ø

3. COMMENTS

Signed
Date

D. Hersey
3-20-99

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

Log	<u>Mar 10 1999</u>
From/To	
Check No.	
Amount	
Fee Category	<u>30</u>
Type of Fee	<u>App</u>
Date Check Rec'd	
Date Completed	
By:	

*Returned
4/23/99
for Void
e.*

*Not in this educational
listings as an educational
Inst.
NOT EXEMPT*

LICENSE FEE REQUIREMENTS

ATTN: SHIRLEY CRUTCHFIELD (310) 415-6097
U.S. Nuclear Regulatory Commission
License Fee and Accounts Receivable Branch
P. O. Box 954514
St. Louis, MO 63195-4514ABELE EDUCATIONAL FOUNDATION
ATTN: MR. ALAN C. ABELE, DIRECTOR
340 N. WORTHY
MARBLEHEAD, OH 43440

TYPE OF ACTION

- ☒
- NEW LICENSE
-
- ☐
- RENEWAL OF LICENSE
-
- ☐
- AMENDMENT TO LICENSE

REQUESTED DATE

03/12/1999

LICENSE NUMBER

CONTROL NUMBER

305054

I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of 10 CFR Part 170. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

FEE CATEGORY	APPLICATION	RENEWAL	AMENDMENT
3P	\$ 730.00	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$

FEE(s) DUE	\$	730.00
PAYMENT RECEIVED	\$	0.00
AMOUNT DUE	\$	730.00

☒ Your request was received without the prescribed application fee.☐ We received your check listed below. Payment of the additional fee noted above is required.
Check Number
\$ 0.00 Amount☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

II. FEE NOT REQUIRED

- ☐ Check Number Enclosed is your check which accompanied your request. The fee is not required because:
- ☐ Check Number We received your check listed in payment of the fee.
- ☐ Date of Request The Licensing staff has informed us that your request is to be considered as a continuation of the request listed.
- ☐ Control Number
- ☐ Date of Request Your request was combined, prior to review, with the request listed.
- ☐ Control Number

III. CHECK RETURNED

- ☐ Check Number Enclosed is your check which was returned to us by the bank for:
- ☐ INSUFFICIENT FUNDS
- ☐ ACCOUNT CLOSED
- ☐ OTHER

MAIL THE REPLACEMENT CHECK TO THE ADDRESS LISTED AT THE TOP OF THIS FORM AND REFERENCE THE ABOVE CONTROL NUMBER.

IV. LICENSE ISSUED WITHOUT THE REQUIRED FEE

- ☐ License Number The listed license was issued without the required fee being collected. The fee required is noted in Section I of this form.
- ☐ Amendment Number
- ☐ Date Issued
- ☐ The scope of your licensed program was increased. Therefore, your request is subject to the application fee(s) noted in Section I of this form. Refer to Section 170.31 and Footnote 1(d)(2).
- ☐ Because of the urgency of your request, the license was issued without remittance of the prescribed fee noted in Section I of this form.

SIGNATURE -- LICENSE FEE ANALYST

LFDCB

LFDCB

SHIRLEY CRUTCHFIELD

5/14/99

Distribution:
OC/DAF/LFARB S/F
(LF-3 & 7)
OC/DAF/LFARB RF
OC/DAF R/F

Pending Cy

REGION 3

DATE

05/14/1999

LICENSE FEE REQUIREMENTS

ATTN: SHIRLEY CRUTCHFIELD (301) 415-6097
U.S. Nuclear Regulatory Commission
License Fee and Accounts Receivable Branch
P. O. Box 954514
St. Louis, MO 63195-4514ABELE EDUCATIONAL FOUNDATION
ATTN: MR. ALAN C. ABELE, DIRECTOR
340 N. WORTHY
MARBLEHEAD, OH 43440PER 10 CFR 170.11(A)(4), YOU MUST BE AN ACCREDITED
INSTITUTION, OFFERING DEGREES TO THE PUBLIC TO BE
QUALIFIED FOR THE EXEMPT STATUS FOR EDUCATION.

TYPE OF ACTION

- ☒ NEW LICENSE
☐ RENEWAL OF LICENSE
☐ AMENDMENT TO LICENSE

REQUESTED DATE

03/12/1999

LICENSE NUMBER

CONTROL NUMBER

305154

I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of 10 CFR Part 170. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

FEE CATEGORY	APPLICATION	RENEWAL	AMENDMENT
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	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
	\$	\$	\$
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PAYMENT RECEIVED	\$	0.00
AMOUNT DUE	\$	730.00

☒ Your request was received without the prescribed application fee.☐ We received your check listed below. Payment of the additional fee noted above is required.
Check Number \$ 0.00 Amount☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

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- ☐ OTHER

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- ☐ Because of the urgency of your request, the license was issued without remittance of the prescribed fee noted in Section 1 of this form.

SIGNATURE -- LICENSE FEE ANALYST

LFDCB

LFDCB

SHIRLEY CRUTCHFIELD

3/31/99

Distribution:
OC/DAF/LFARB S/F
(LF-327)
OC/DAF/LFARB R/F
OC/DAF R/F

Pending Cy

REGION 3

DATE

03/31/1999

§ 170.11 Exemptions.

(a) No application fees, license fees, amendment fees, renewal fees, approval fees, or inspection fees shall be required for:

- (1) [Deleted 56 FR 31472.]
 (2) [Deleted 56 FR 31472.]

(3) [Reserved]

(4) A construction permit or license applied for by, or issued to, a non-profit educational institution for a production or utilization facility, other than a power reactor, or for the possession and use of byproduct material, source material, or special nuclear material. This exemption does not apply to those byproduct, source or special nuclear material licenses which authorize:

- (i) Human use;
 (ii) Remunerated services to other persons;
 (iii) Distribution of byproduct material, source material, or special nuclear material or products containing byproduct material, source material, or special nuclear material; and
 (iv) Activities performed under a Government agency contract.

(5) A construction permit, license, certificate of compliance, or other approval applied for by, or issued to, a Government agency, except where the Commission is authorized by statute to charge such fees.

- (6) [Deleted 38 FR 18443.]
 (7) [Deleted 38 FR 18443.]
 (8) [Deleted 56 FR 31472.]

(9) State-owned research reactors used primarily for educational training and academic research purposes. For purposes of this exemption, the term *research reactor* means a nuclear reactor that—

(i) Is licensed by the Nuclear Regulatory Commission under section 104c. of the Atomic Energy Act of 1954 (42 U.S.C. 2134(c)) for operation at a thermal power level of 10 megawatts or less; and

(ii) If so licensed for operation at a thermal power level or more than 1 megawatt, does not contain—

- (A) A circulating loop through the core in which the licensee conducts fuel experiments;
 (B) A liquid fuel loading; or
 (C) An experimental facility in the core in excess of 16 square inches in cross-section.

(10) Activities of the Commission undertaken, pursuant to Part 75 of this chapter, solely for the purpose of implementation of the US/IAEA Safeguards Agreement.

(11) Materials portable gauge licenses issued in accordance with NUREG-1556, Volume 1, that are amended to change only the name of the Radiation Safety Officer. This exemption does not apply to those materials portable gauge licenses that also authorize possession and use of nuclear materials for other activities.

(b) (1) The Commission may, upon application by an interested person, or upon its own initiative, grant such exemptions from the requirements of this part as it determines are authorized by law and are otherwise in the public interest.

(2) Applications for exemption under this paragraph may include activities such as but not limited to, the use of licensed materials for educational or noncommercial public displays or scientific collections.

(3) [Deleted 43 FR 7210.]

APPLICATION FOR MATERIAL LICENSE

Estimated burden per response to comply with this information collection request: 7 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. Forward comments regarding burden estimate to the Information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0120), Office of Management and Budget, Washington, DC 20503. NRC may not conduct or sponsor, and a person is not required to respond to, an information collection unless it displays a currently valid OMB control number.

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 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:

ATLANTA FEDERAL CENTER
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
61 FORSYTH STREET, S.W., SUITE 23T85
ATLANTA, GEORGIA 30303-3415

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
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 _____

C. RENEWAL OF LICENSE NUMBER _____

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

ALAN Abele
Abele Educational Foundation
340 N. WORTHY
MARBLEHEAD OH 43440

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

340 N. WORTHY
MARBLEHEAD OH 43440

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

ALAN Abele

TELEPHONE NUMBER

419 732 3636/Fax 6363

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 AREAS

9. FACILITIES AND EQUIPMENT

10. RADIATION SAFETY PROGRAM

11. WASTE MANAGEMENT

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

FEE CATEGORY EXEMPT 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.

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 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.

CERTIFYING OFFICER - TYPED/PRINTED NAME AND TITLE

Alan C. Abele / Director

SIGNATURE

Alan C. Abele

DATE

MAR 12 1999

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
EXEMPT			\$		
APPROVED BY				DATE	

RECEIVED

MAR 16 1999

305054

REGION III

PRINTED ON RECYCLED PAPER

MAR 16 1999

Alan C Abele

#8

Qualified with over 350 hours Training and Formal Studies in Nuclear Medicine and nuclear materials handling.

Qualified process design engineer with 14 years experience,
producer of process systems for construction of nuclear
reactor vessels for Navy submarine applications

Qualified producer of materials handling equipment for
hazardous waste remediation facilities

Designer / propulsion systems / TRW nuclear fitted Torpedo program,
extensive Training / TRW for site equipment evaluation + performance.

Abele Educational Foundation Charity is a non-profit
fee-exempt organization IRS #25-1426998 registered

your item #5 (CESIUM 137 HALF LIFE 30.2Y)
Principal gamma (keV) 662 (85% from
BA 137M), BA X-rays 27-3170
Radiochemical purity > 99%
Active element Cs (L in ceramic matrix
R/h/Ci/1M .033 (0.0033 Gy)
Quantity 100 mCi / MBR 3700
Isotope Products Inc part # Hg 137-100
Housed in DOT 7A storage container.

#6 Purpose/ To Test and calibrate our survey equipment.
We survey Toxic waste dumps to assure that no radioactive
materials are present.

#7 Only one person is involved (ALAN Abele) to both
conduct surveys and to manage and calibrate equipment.

#8 By equipment supplier and source supplier.

#9 1ea Mod 828 BOAD GAMMA GUARD AREA MONITOR/CONTINUOUS OPERATION.
1ea Victoreen Mod 190 Survey Meter w. Mod 425-200 probe
1ea " " 290 Thyrac Survey Meter w. Mod 425-200 probe

#10 Source material is used twice en year for calibration of equipment
and is housed in a high security Ficht 4LTL X60 Fixed with custom
double redundant entry lock system. Safe is further lined with 2in
lead on 6 sides. Source is further housed within a double-locked
DOT 7A housing. Source material is managed and handled by only
one person in accordance with procedures provided by supplier, to
assure exposure levels are measured by Mod Victoreen 885 personal
Digital Dosimeter, and to be used during calibration.

#11 Source material to be returned to supplier when program is completed.
We have no materials which will be requiring remediation or disposal.

#12 fee exempt / non profit - educational charity



ABELE RESEARCH LABORATORY

In order to enhance the condition of man, Abele Research Laboratory is dedicated to the development of new knowledge through advanced studies and research. Each new discovery in the human and physical sciences is for us the great adventure.

Contract and sponsored research is the method used at Abele Research Laboratory to provide user groups such as government agencies, institutions and commercial firms access to sophisticated facilities, instrumentation and skills that would be uneconomical for these organizations to acquire permanently.



Selected on the basis of merit and potential for new knowledge, research projects are oriented toward both theoretical and practical achievements, resulting in new products, materials and processes as well as the development of scientific theory.

Areas of Research

- ☐ Contract Research
- ☐ Theoretical and Applied Mathematics
- ☐ Physics, Astrophysics
- ☐ Geology, Meteorology
- ☐ Materials Evaluation
- ☐ Mechanical Engineering
- ☐ Specialized Instrumentation and Optics

* Abele Research Laboratory is a fully tax exempt institution as recognized by the U.S. Internal Revenue Service.

CONVERSATION RECORD

| TIME | DATE

| 1p.m. 4/29/99

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☐ INCOMING

☒ OUTGOING

NAME OF PERSON(S) CONTACTED OR IN CONTACT

ORGANIZATION (OFFICE, DEPT. ETC.)

TELEPHONE NO.

Alan Abele, of Abele Educational Foundation

SUBJECT

Application for license

SUMMARY

Mr Abele called to inform the reviewer that due to funding problems, he decided to retract the application for an NRC license. I informed the applicant that I would void out the application and he agreed to that solution.

This action is certified by

Ding Mulloney 4/29/99

ACTION REQUIRED

Response due in 20 days.

April 22, 1999

N.R.C.

Att. Mr James R. Mullauer

Memo:

Subject: Confirming telecon of April 21, 1999.

I will now be in a position to respond comprehensively with this licensing requirement, based on the helpful information you have provided.

I also appreciate your comment that we perhaps team up with a University or Commercial entity already set up to handle the type of project we are now planning. Currently we have research and development projects underway at both Ohio State and Cleveland State for the purpose of examining a new class of materials for use in high temperature industrial process systems. These are well funded, planned and staffed programs. They are also programs in which the principal sponsors have lost virtually all proprietary rights of information as well as the right to own the derived patents. I suppose that is the price of partnership.

In any event I am quite aware of the ultimate need to transfer this program of ours into a format which includes the technical resources and funding needed to take it beyond the very first indications that our concepts are viable.

At this stage, however, I have to fund this project myself, and therefore am communicating with you directly.

My concept for this project is the result of some years work trying to configure a better way to produce clear images through multiple walls of aircraft fuel and hydraulic aluminum pump housings, as a means of detecting metallurgical faults, cracks, draws, shrinkage etc. Precisely how I configure the proposed series of tests remains to be seen, and may require the projection of more than one source of radiation on the subject. That will be my job to determine. That we do this safely is your job.

We do have some quality input on this project. The gentleman designing the scintillation probe for this experiment was a designer involved in producing the sensors on the Compton Gamma Ray Observatory satellite.

I have to do some traveling for the next few days to take care of projects which are actually paying my bills. I can attend to the materials you requested next week.

Sincerely,
Alan Abele
Abele Educational

Isotope Products Laboratories
1800 N. Keystone Street
Burbank, CA. 91504 U.S.A.
Phone: 818-843-7000
Fax: 818-843-6168
e-Mail: sales@isotopeproducts.com

facsimile transmittal

To: Alan Abele Fax: 216-274-0529

From: Keith Ho Date: 04/05/99

Re: A3011 capsule registration Pages: 6

CC:

☐ Urgent

☐ For Review

☐ Please
Comment

☐ Please
Reply

☐ Please
Recycle

Enclosed, please find a copy of the sealed source registry on our A3011 capsule. If you have any questions, please contact me. Thank you.

Hand Copy & other letter is coming
Addressing 2nd Round of
Questions. 4/21/99

Abele Research, Inc.
Scientific Concepts and Solutions for Industry

Control
305054

Alan Abele
Chief Corporate Scientist
Director of Research and Development

TRANSMITTED TO: NRC

ATTENTION: MR James R. Millauer

NUMBER OF PAGES (INCLUDING HEADER): 8

DATE OF TRANSMITTAL: AP 20/99

NOTE: This is all the data I can get from Isotope Prod.
Re. The source material. Sketch, as well of the lab.
best to reach me at my FAX in Marblehead Ohio
Fx 419 732 6363

Please contact our offices if you do not receive all pages as noted above, or if you have any questions.

Thank you.

Alan Abele

CONFIDENTIALITY NOTICE: Unless otherwise indicated or obvious from the nature of the transmittal, the information contained in this facsimile message is privileged and confidential information intended for the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify the sender immediately by telephone and return the original message to Abele Research, Inc. at the address listed below via the U.S. Postal Service at our expense. Thank you.

QUALITY HAS NO EQUAL

SUITE 1255 526 SUPERIOR AVENUE CLEVELAND, OHIO 44114

(216) 902-8041 FAX (216) 274-0529

United States
Nuclear Regulatory Commission
Region III
801 Warrenville Rd.
Lisle, Illinois 60532-4351

Attn. Mr. James R. Mullauer, M.H.S.
Materials Licensing Branch

Dear Mr Mullauer;

Abele Educational Foundation.....Control Number 305054

Thank you for the opportunity of speaking with you earlier today and discussing the nature of our projects at Abele Educational Foundation.

Our primary function is to assist and encourage young people to consider careers in science , to appreciate natural history and to understand the means for long term care of the environment. A practical example of an activity we would conduct involving radiation measurement is the periodic survey of land fill sites. I also am conducting studies to examine the distribution of naturally occurring radiation and the spectra from the byproducts of Human activity.

I am also working on concepts to improve non destructive testing of track for the Rail Industry, and measurement of ice on aircraft wings. These industrial projects will not involve any other personnel other than myself, and the use of source materials to be confined to my laboratory.

Your letter of March 26, 1999 requests some information:

- 1, Material to be Possessed.....Cesium 137 See pages 1-7 Isotope Products Laboratories.
We likely will purchase 100-200 millicuries source (one only) mounted in Isotope Products shielded beam calibrator. This will provide safe, locked permanent housing, which in turn will be locked inside our high security Fichet safe.
2. Training and Experience.....Dr. James McGannon D.D.S./tutorials 150 hrs. Studies in radiation and health related effects, in preparation for experiments in genetics, (Cle. Ohio).
Lear Siegler Corp. 40 hours studies, non destructive testing procedures/industrial aerospace, aluminum alloy components, x-ray applications, (Cle. Ohio).
T.R.W. Corp. 40 hours studies, non destructive practices, radiation lab procedures for industrial Applications, aerospace aluminum castings examinations, (Cle. Ohio)
C.B.I. Services, Nuclear industry applications Mfg. Studies in non destructive examination and Safety procedures, 75 hours, (Birmingham Alabama).
3. Training for Individuals Frequenting Restricted Areas.....Our lab is limited to quite restrictive Activities involving only myself. There would not be frequenting the lab or otherwise handling or manipulating materials. Because this is a somewhat unique situation there will be procedures in place to assure that source materials which are exposed during testing procedures will remain within stable shielding of appropriate construction. This will assure the safety of anyone who may have to assist in the remote event of a medical emergency. The area will be fixed with clearly marked directions to notify appropriate emergency personnel; names, telephone numbers

Etc. We are at this time working on an emergency/safety plan involving Ottawa County safety planning personnel, and are in contact with various people at Davis Besse Nuclear Power Plant which is located a few miles from us, for input and coordination of safety plans.

4. Facilities and Equipment.....Please see sketch to be sent under separate fax.

Lead shielding to be constructed suitable for each experimental set-up to assure min exposure Levels and monitored for records-keeping with the following equipment:

Victoreen, Mod 190 digital survey and count rate meter s.n.2620, used as an area meter with Scintillation Probe 489120, s.n. 330, 2x2 in Nal (Ti) gamma. And mod. 45-200 Alpha Beta probe, s.n.171. Victoreen mod. 290 survey meter s.n. 2545 with mod.45-200 Alpha Beta probe. S.n. 170. Bieron Delta 5B digital survey/dose/ rate meter with Nal (Ti) 3x3 in gamma probe. Bieron1063000 analyst rate meter with Nal (Ti) 3x3 in gamma probe. One Bieron prm300 Personal radiation monitor. One TDS 420A Tektronix digitizing oscilloscope (maintenance Equipment).

5. Personal monitoring Equipment.....Sec 4 above. The survey meters are suitable as area monitors, Bieron delta5 in particular is suited for area monitoring on a long term basis. Calibration will be on factory recommended schedule and checked each month with our Equipment to assure that any changes or "drift" is noted in performance.

I suggest more will be needed to move things along. This at least will get us started.

Best to contact me at tel. 216-272-1153/fax 419-732-6363.

Alan Abele

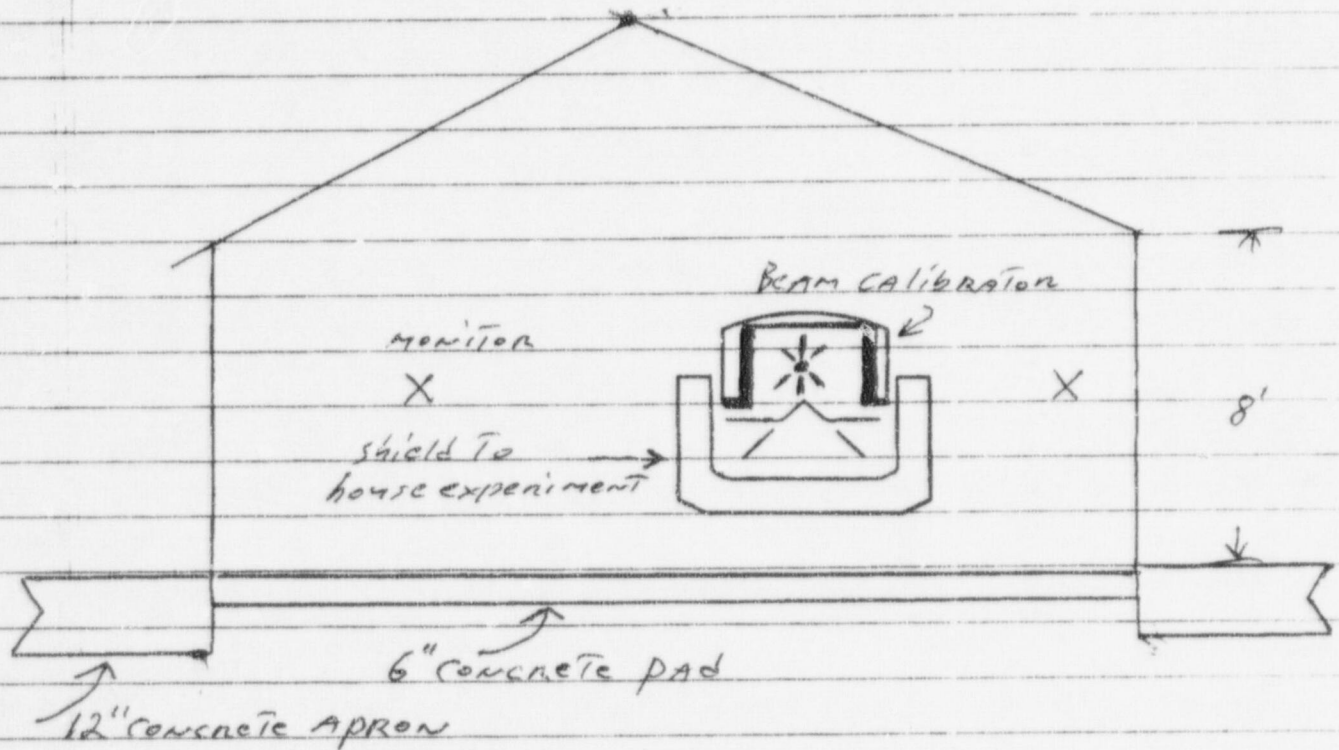
Abele Educational Foundation

340 N. Worthy

Marblehead, Ohio 43440

Thanks

FACILITIES 20' X 20'

FRAME Bldg / Free Standing
All sides

Typical set up is to maintain source within
locked beam calibration and to expose beam
within shielded housing during experimental use.

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

(AMENDED IN ITS ENTIRETY)

NO.: CA406S126SDATE: June 21, 1995PAGE: 1 of 7SEALED SOURCE TYPE: Gamma Source for Gauging and CalibrationMODEL: 193MANUFACTURER/DISTRIBUTOR:Isotope Products Laboratories
1800 North Keystone Street
Burbank, California 91504
(818) 843-7000ISOTOPE:MAXIMUM ACTIVITY:

Sodium 22	100 millicuries
Cobalt 57	300 millicuries
Cobalt 58	300 millicuries
Cobalt 60	300 millicuries
Germanium 68	50 millicuries
Barium 133	100 millicuries
✓ Cesium 137	300 millicuries
Radium 226	50 millicuries
Actinide Series	50 millicuries
(Ac, Th, Pa, U, Am, Cm)	

MAXIMUM NOT TO exceed

LEAK TEST FREQUENCY: Six (6) monthsPRINCIPLE USE: Gamma Gauges (D)CUSTOM SOURCE: _____ YES _____ X NO

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

(AMENDED IN ITS ENTIRETY)

NO.: CA406S126S

DATE: June 21, 1995

PAGE: 2 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

DESCRIPTION:

The source is doubly encapsulated and constructed of Type 304 or Type 304L Stainless Steel and is sealed by fusion welding. The minimum combined wall thickness is 1 mm (0.040"). The source has an overall length of 36.5 mm (1.437") and consists of a 9.53 mm (3/8") hexagonal portion that tapers to a cylindrical portion. The cylindrical portion of the source has a diameter of 6.35 mm (0.25") and is approximately 20.7 mm (0.813") long. The hexagonal portion measures 9.53 mm (0.375") across the flats and is 7.92 mm (0.312") long. A threaded eyelet with a 1.59 mm (0.063") hole projects 6.35 mm (0.25") from the center of the hexagonal end. The active element resides in the cylindrical portion of the capsule. The Model 193 has four variants that differ only in active element and inner capsule construction.

The chemical form of the active elements in the 193 are chlorides or nitrates in ceramic, oxides in gold or aluminum, or metal plated onto substrate. Radium sources can also be in the form of sintered radium sulfate (RaSO_4).

These sources are designated "Special Form" and have been issued Special Form Cert. No. USA/0353/S.

LABELING:

The source is engraved with "IPL", the nuclide, activity, and serial number.

DIAGRAM:

See pages 6 and 7 (Drawing numbers A-3001 & 3011).

CONDITIONS OF NORMAL USE:

These sources are normally installed and used in industrial gauging devices. Environmental conditions are expected to be normal occupational conditions in a manufacturing and/or R & D facility.

PROTOTYPE TESTING:

Prototype sources have been tested according to ANSI N542-1977 and have been assigned a classification of 77C66545.

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

(AMENDED IN ITS ENTIRETY)

NO. CA406S126S

DATE: June 21, 1995

PAGE: 3 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

EXTERNAL RADIATION LEVELS:

The radiation level of the source will vary with the contained radionuclide and the activity level. Listed below are radiation levels in mR/hr for the Model 193 source. Data has been taken, where available, from the table of gamma factors on page 131 of the "Radiological Health Handbook". For nuclides not listed in the referenced table, measurements were taken at measured distances with an ionization chamber type survey meter and the radiation levels in the following table calculated using the inverse square law.

<u>Nuclide</u>	<u>Activity</u>	<u>5 cm</u>	<u>30 cm</u>	<u>100 cm</u>
Sodium 22	100 mCi	48,000 mR/hr	1333 mR/hr	120 mR/hr
Cobalt 57	300 mCi	8,400	231	21
Cobalt 58	300 mCi	66,000	1833	165
Cobalt 60	300 mCi	158,400	4400	396
Germanium 68	50 mCi	10,000	280	25
Barium 133	100 mCi	7,700	215	20
Cesium 137	300 mCi	39,600	1100	99
Radium 226	50 mCi	16,400	456	41
Actinide Series	50 mCi	28,000	778	70

(Th-228 is the dose rate basis)
(Ac, Th, Pa, U, Am, Cm)

QUALITY ASSURANCE AND CONTROL:

Program: The IPL Quality Assurance Manual (current copy on file with this issuing agency) details the quality control of these sources from raw materials to finished product. This program is designed to satisfy 10CFR Part 50 (B) and meets the requirements of ISO 9001. The program entails pre-production design review, drawing control, purchasing, training, calibration records, source numbering, incoming raw materials, assay quality control, leak testing, document control, and confirming orders. Specific elements are listed below:

Activity: Held to $\pm 15\%$ of nominal activity

Assay procedures: A calibrated ionization chamber is used to measure the activity of the source.

Radiopurity: Determined by gamma or alpha spectrometry of the source or the radionuclide batch.

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

(AMENDED IN ITS ENTIRETY)

NQ: CA406S126S

DATE: June 21, 1995

PAGE: 4 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

QUALITY ASSURANCE AND CONTROL: (cont'd)

Leak test procedures: Sources are either leak tested according to the "Immersion With Boiling Test" taken from ANSI N.542 (1977) Appendix A A2.1.3, or the immersion test from Appendix to ANSI N44.2-1973 "American National Standard for Leak Testing Radioactive Brachytherapy Sources." In addition, sources are also wipe tested with a moistened paper filter or cotton swab, which is then assayed for contained activity. Acceptance criteria for both tests are:

1.0 nCi removeable beta/gamma

0.1 nCi removeable alpha

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

- a. Distribution: These sources shall be distributed to specific licensees of the NRC or Agreement States, and to those exempt from licensing, such as Department of Energy National Laboratories.
- b. Use: These sources are intended to be used by trained personnel in a laboratory environment for checking or calibrating nuclear instrumentation, or to be permanently installed in devices. These sources should not be subjected to conditions exceeding their ANSI N.542-1977 rating.
- c. Handling: Due to the potential high surface dose rates, remote handling tools and localized shielding should be used.
- d. Storage: Store in a clean, dry area. Shielding should be provided as necessary.
- e. Cleaning: Sources may be cleaned with alcohol or water with a mild detergent.
- f. Leak Test: These sources shall be leak tested at intervals not to exceed six months. Such tests must be capable of detecting 0.005 μ Ci of removable radioactivity, and be performed by specific licensees of the NRC or Agreement States, which are authorized to collect and analyze leak test samples from sealed sources.
- g. Disposal: Decayed or otherwise unusable sources must be disposed of in accordance with the licensee's disposal procedures (eg. transfer to a specific licensee of the NRC or Agreement States).
- h. This registration certificate and the information contained within the references shall not be changed without the written consent of the California Department of Health Services.

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

(AMENDED IN ITS ENTIRETY)

NO: CA406S126S

DATE: June 21, 1995

PAGE: 5 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and CalibrationSAFETY ANALYSIS SUMMARY:

Based on our review of the test data and supporting documents listed below, we conclude that the Model 193 sources are acceptable for licensing purposes. Furthermore, they met or exceeded the ANSI (1977) performance test requirements for gamma gauging and R & D applications.

REFERENCES:

The following supporting documents for the Model 193 source are hereby incorporated by reference and made part of this registry certificate:

1. Registry Certificate No. CA406S126S dated July 11, 1975 (amended August 30, 1985).
2. IPL letters with attachments dated January 5, 1995 and March 30, 1995.
3. IPL Quality Assurance Manual (current copy on file with this issuing agency).
4. NBS Handbook No. 126, ANSI N.542, "Sealed Radioactive Sources, Classification", 1977.
5. Radiologic Health Handbook, page 131, 1970.
6. Appendix to ANSI N44.2-1973, "American National Standard for Leak Testing Radioactive Brachytherapy Sources".

DATE: 6/26/95REVIEWED BY: R. T. BryanDATE: 6/26/95CONCURRENCE: [Signature]ISSUING AGENCY: California Department of Health Services

United States
Nuclear Regulatory Commission
Region III
801 Warrenville Rd.
Lisle, Illinois 60532-4351

Attn. Mr. James R. Mullauer, M.H.S.
Materials Licensing Branch

Dear Mr Mullauer;

Abele Educational Foundation.....Control Number 305054

Thank you for the opportunity of speaking with you earlier today and discussing the nature of our projects at Abele Educational Foundation.

Our primary function is to assist and encourage young people to consider careers in science , to appreciate natural history and to understand the means for long term care of the environment. A practical example of an activity we would conduct involving radiation measurement is the periodic survey of land fill sites. I also am conducting studies to examine the distribution of naturally occurring radiation and the spectra from the byproducts of Human activity.

I am also working on concepts to improve non destructive testing of track for the Rail Industry, and measurement of ice on aircraft wings. These industrial projects will not involve any other personnel other than myself, and the use of source materials to be confined to my laboratory.

Your letter of March 26, 1999 requests some information:

1. Material to be Possessed.....Cesium 137 See pages 1-7 Isotope Products Laboratories.
We likely will purchase 100-200 millicuries source (one only) mounted in Isotope Products shielded beam calibrator. This will provide safe, locked permanent housing, which in turn will be locked inside our high security Fichet safe.
2. Training and Experience.....Dr. James McGannon D.D.S./tutorials 150 hrs. Studies in radiation and health related effects, in preparation for experiments in genetics, (Cle. Ohio).
Lear Siegler Corp. 40 hours studies, non destructive testing procedures/industrial aerospace, aluminum alloy components, x-ray applications, (Cle. Ohio).
T.R.W. Corp. 40 hours studies, non destructive practices, radiation lab procedures for industrial Applications, aerospace aluminum castings examinations, (Cle. Ohio)
C.B.I. Services, Nuclear industry applications Mfg. Studies in non destructive examination and Safety procedures, 75 hours, (Birmingham Alabama).
3. Training for Individuals Frequenting Restricted Areas.....Our lab is limited to quite restrictive Activities involving only myself. There would not be frequenting the lab or otherwise handling or manipulating materials. Because this is a somewhat unique situation there will be procedures in place to assure that source materials which are exposed during testing procedures will remain within stable shielding of appropriate construction. This will assure the safety of anyone who may have to assist in the remote event of a medical emergency. The area will be fixed with clearly marked directions to notify appropriate emergency personnel; names, telephone number

RECEIVED

APR 26 1999

REGION III

APR 26 1999

Pm: 4-21-99

Etc. We are at this time working on an emergency/safety plan involving Ottawa County safety planning personnel, and are in contact with various people at Davis Besse Nuclear Power Plant which is located a few miles from us, for input and coordination of safety plans.

4. Facilities and Equipment.....Please see sketch to be sent under separate fax.

Lead shielding to be constructed suitable for each experimental set-up to assure min exposure Levels and monitored for records-keeping with the following equipment:

Victoreen, Mod 190 digital survey and count rate meter s.n.2620, used as an area meter with Scintillation Probe 489120, s.n. 330, 2x2 in Nal (Ti) gamma. And mod. 45-200 Alpha Beta probe, s.n.171. Victoreen mod. 290 survey meter s.n. 2545 with mod.45-200 Alpha Beta probe. S.n. 170. Bicron Delta 5B digital survey/dose/ rate meter with Nal (Ti) 3x3 in gamma probe. Bicron1063000 analyst rate meter with Nal (Ti) 3x3 in gamma probe. One Bicron prm300 Personal radiation monitor. One TDS 420A Tektronix digitizing oscilloscope (maintenance Equipment).

5. Personal monitoring Equipment.....See 4 above. The survey meters are suitable as area monitors, Bicron delta5 in particular is suited for area monitoring on a long term basis. Calibration will be on factory recommended schedule and checked each month with our Equipment to assure that any changes or "drift" is noted in performance.

I suggest more will be needed to move things along. This at least will get us started.

Best to contact me at tel. 216-272-1153/fax 419-732-6363.

Alan Abele

Abele Educational Foundation

340 N. Worthy

Marblehead, Ohio 43440

Thanks

Alan Abele

Apr 21 - 1999

Isotope Products Laboratories
1800 N. Keystone Street
Burbank, CA. 91504 U.S.A.
Phone: 818-843-7000
Fax: 818-843-6168
e-Mail: sales@isotopeproducts.com

facsimile transmittal

To: Alan Abele Fax: 216-274-0529
From: Keith Ho Date: 04/05/99
Re: A3011 capsule registration Pages: 6
CC:

☐ Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle



Enclosed, please find a copy of the sealed source registry on our A3011 capsule. If you have any questions, please contact me. Thank you.

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

(AMENDED IN ITS ENTIRETY)

NO.: CA406S126S

DATE: June 21, 1995

PAGE: 1 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

MODEL: 193

MANUFACTURER/DISTRIBUTOR: Isotope Products Laboratories
1800 North Keystone Street
Burbank, California 91504
(818) 843-7000

ISOTOPE:

MAXIMUM ACTIVITY:

Sodium 22	100 millicuries
Cobalt 57	300 millicuries
Cobalt 58	300 millicuries
Cobalt 60	300 millicuries
Germanium 68	50 millicuries
Barium 133	100 millicuries
✓ Cesium 137	300 millicuries <i>MAXIMUM</i> <i>NOT TO EXCEED</i>
Radium 226	50 millicuries
Actinide Series (Ac, Th, Pa, U, Am, Cm)	50 millicuries

LEAK TEST FREQUENCY: Six (6) months

PRINCIPLE USE: Gamma Gauges (D)

CUSTOM SOURCE: _____ YES _____ ☒ NO

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

(AMENDED IN ITS ENTIRETY)

NO.: CA406S126S

DATE: June 21, 1995

PAGE: 2 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

DESCRIPTION:

The source is doubly encapsulated and constructed of Type 304 or Type 304L Stainless Steel and is sealed by fusion welding. The minimum combined wall thickness is 1 mm (0.040"). The source has an overall length of 36.5 mm (1.437") and consists of a 9.53 mm (3/8") hexagonal portion that tapers to a cylindrical portion. The cylindrical portion of the source has a diameter of 6.35 mm (0.25") and is approximately 20.7 mm (0.813") long. The hexagonal portion measures 9.53 mm (0.375") across the flats and is 7.92 mm (0.312") long. A threaded eyelet with a 1.59 mm (0.063") hole projects 6.35 mm (0.25") from the center of the hexagonal end. The active element resides in the cylindrical portion of the capsule. The Model 193 has four variants that differ only in active element and inner capsule construction.

The chemical form of the active elements in the 193 are chlorides or nitrates in ceramic, oxides in gold or aluminum, or metal plated onto substrate. Radium sources can also be in the form of sintered radium sulfate (RaSO_4).

These sources are designated "Special Form" and have been issued Special Form Cert. No. USA/0353/S.

LABELING:

The source is engraved with "IPL", the nuclide, activity, and serial number.

DIAGRAM:

See pages 6 and 7 (Drawing numbers A-3001 & 3011).

CONDITIONS OF NORMAL USE:

These sources are normally installed and used in industrial gauging devices. Environmental conditions are expected to be normal occupational conditions in a manufacturing and/or R & D facility.

PROTOTYPE TESTING:

Prototype sources have been tested according to ANSI N542-1977 and have been assigned a classification of 77C66545.

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

(AMENDED IN ITS ENTIRETY)

NO. CA406S126S

DATE: June 21, 1995

PAGE: 3 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

EXTERNAL RADIATION LEVELS:

The radiation level of the source will vary with the contained radionuclide and the activity level. Listed below are radiation levels in mR/hr for the Model 193 source. Data has been taken, where available, from the table of gamma factors on page 131 of the "Radiological Health Handbook". For nuclides not listed in the referenced table, measurements were taken at measured distances with an ionization chamber type survey meter and the radiation levels in the following table calculated using the inverse square law.

<u>Nuclide</u>	<u>Activity</u>	<u>5 cm</u>	<u>30 cm</u>	<u>100 cm</u>
Sodium 22	100 mCi	48,000 mR/hr	1333 mR/hr	120 mR/hr
Cobalt 57	300 mCi	8,400	231	21
Cobalt 58	300 mCi	66,000	1833	165
Cobalt 60	300 mCi	158,400	4400	396
Germanium 68	50 mCi	10,000	280	25
Barium 133	100 mCi	7,700	215	20
Cesium 137	300 mCi	39,600	1100	99
Radium 226	50 mCi	16,400	456	41
Actinide Series	50 mCi	28,000	778	70
(Th-228 is the dose rate basis)				
(Ac, Th, Pa, U, Am, Cm)				

QUALITY ASSURANCE AND CONTROL:

Program: The IPL Quality Assurance Manual (current copy on file with this issuing agency) details the quality control of these sources from raw materials to finished product. This program is designed to satisfy 10CFR Part 50 (B) and meets the requirements of ISO 9001. The program entails pre-production design review, drawing control, purchasing, training, calibration records, source numbering, incoming raw materials, assay quality control, leak testing, document control, and confirming orders. Specific elements are listed below:

Activity: Held to $\pm 15\%$ of nominal activity

Assay procedures: A calibrated ionization chamber is used to measure the activity of the source.

Radiopurity: Determined by gamma or alpha spectrometry of the source or the radionuclide batch.

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

(AMENDED IN ITS ENTIRETY)

NQ: CA406S126S

DATE: June 21, 1995

PAGE: 4 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

QUALITY ASSURANCE AND CONTROL: (cont'd)

Leak test procedures: Sources are either leak tested according to the "Immersion With Boiling Test" taken from ANSI N.542 (1977) Appendix A A2.1.3, or the immersion test from Appendix to ANSI N44.2-1973 "American National Standard for Leak Testing Radioactive Brachytherapy Sources." In addition, sources are also wipe tested with a moistened paper filter or cotton swab, which is then assayed for contained activity. Acceptance criteria for both tests are:

- 1.0 nCi removeable beta/gamma
- 0.1 nCi removeable alpha

LIMITATIONS AND/OR OTHER CONSIDERATIONS OF USE:

- a. Distribution: These sources shall be distributed to specific licensees of the NRC or Agreement States, and to those exempt from licensing, such as Department of Energy National Laboratories.
- b. Use: These sources are intended to be used by trained personnel in a laboratory environment for checking or calibrating nuclear instrumentation, or to be permanently installed in devices. These sources should not be subjected to conditions exceeding their ANSI N.542-1977 rating.
- c. Handling: Due to the potential high surface dose rates, remote handling tools and localized shielding should be used.
- d. Storage: Store in a clean, dry area. Shielding should be provided as necessary.
- e. Cleaning: Sources may be cleaned with alcohol or water with a mild detergent.
- f. Leak Test: These sources shall be leak tested at intervals not to exceed six months. Such tests must be capable of detecting 0.005 μ Ci of removable radioactivity, and be performed by specific licensees of the NRC or Agreement States, which are authorized to collect and analyze leak test samples from sealed sources.
- g. Disposal: Decayed or otherwise unusable sources must be disposed of in accordance with the licensee's disposal procedures (eg. transfer to a specific licensee of the NRC or Agreement States).
- h. This registration certificate and the information contained within the references shall not be changed without the written consent of the California Department of Health Services.

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

(AMENDED IN ITS ENTIRETY)

NO.: CA406S126S

DATE: June 21, 1995

PAGE: 5 of 7

SEALED SOURCE TYPE: Gamma Source for Gauging and Calibration

SAFETY ANALYSIS SUMMARY:

Based on our review of the test data and supporting documents listed below, we conclude that the Model 193 sources are acceptable for licensing purposes. Furthermore, they met or exceeded the ANSI (1977) performance test requirements for gamma gauging and R & D applications.

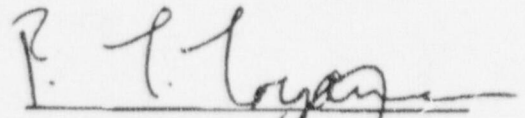
REFERENCES:

The following supporting documents for the Model 193 source are hereby incorporated by reference and made part of this registry certificate:

1. Registry Certificate No. CA406S126S dated July 11, 1975 (amended August 30, 1985).
2. IPL letters with attachments dated January 5, 1995 and March 30, 1995.
3. IPL Quality Assurance Manual (current copy on file with this issuing agency).
4. NBS Handbook No. 126, ANSI N.542, "Sealed Radioactive Sources, Classification", 1977.
5. Radiologic Health Handbook, page 131, 1970.
6. Appendix to ANSI N44.2-1973, " American National Standard for Leak Testing Radioactive Brachytherapy Sources".

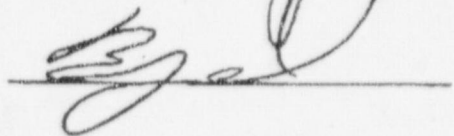
DATE: 6/26/95

REVIEWED BY:



DATE: 6/26/95

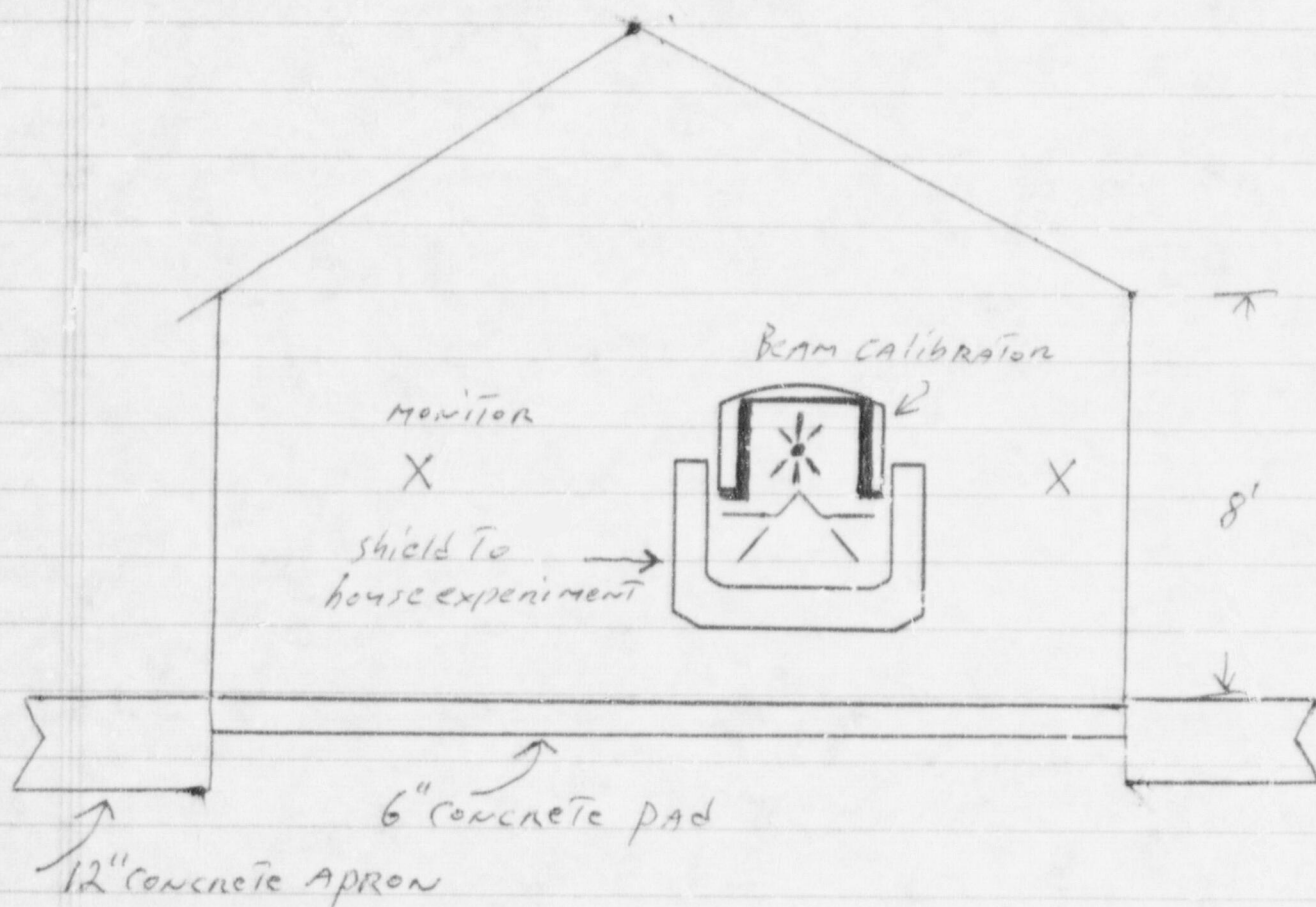
CONCURRENCE:



ISSUING AGENCY: California Department of Health Services

FACILITIES 20'x20'

FRAMC Bldg / FREE STANDING
ALL SIDES



Typical set up is to maintain source within
locked beam calibrator and to expose beam
within shielded housing during experimental use.



UNITED STATES
NUCLEAR REGULATORY COMMISSION

REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

MAR 26 1999

200 mCi

Model of Devices
CA-1
Isotope Products

Alan Abele
Abele Educational Foundation
340 N. Worthy
Marblehead, OH 43440

Dear Mr. Abele:

We have reviewed your request for a new NRC license and find that we need additional information, as follows.

1. Material to be Possessed

Need device
info.

Your application specifies that you wish to possess an Isotopes Products, Inc. calibrator whose model No. is Heg 137-100. A review of the NRC Sealed Source and Device Registry reveals no such model No. Please provide either the NRC or Agreement State's Registry sheet for this device. Usually the manufacturer will provide this upon request.

2. Training and Experience

Any experience
in calibration?

Your application specifies that you have over 350 hours of training and formal studies in nuclear medicine and nuclear materials handling. Please provide a listing of the courses you had, break down the hours and indicate where this training occurred. Please also specify any training and experience you have in actual survey instrument calibration. Please review Item 7 of the enclosed guide for examples of the type of information needed to approve you as an authorized user of byproduct material.

3. Training for Individuals Working in or Frequenting Restricted Areas

OK Please review and address Item No. 8 of the enclosed guide.

4. Facilities and Equipment

Are you
making
your own
device?

Please review and address Item No. 9 of the enclosed guide. Please be sure to include a diagram showing the laboratory where the calibrator will be used as well as all adjacent areas above and below the laboratory.

Needs Calibration Procedures. Manufacture
Needs Initial Survey Program.

MAR 26 1999

5. Radiation Safety Programa. Personnel Monitoring Equipment

*

It is not clear from your application how you will assure that you will not receive doses in excess of 10 CFR Part 20 limits. Please review and address Item No. 10.1 of the enclosed guide. Please also provide your ALARA program.

b. Radiation Detection Instruments and Instrument Calibration

*

Your application specifies that source (byproduct) material is managed and handled by only one person in accordance with procedures provided by the supplier. Please provide those handling procedures that are supplied by the manufacturer. Please also review and address Item No. 10.2 of the enclosed guide. Please be sure to include your survey program that will assure that radiation levels in unrestricted areas will not exceed 10 CFR Part 20 limits.

c. Operating and Emergency Procedures

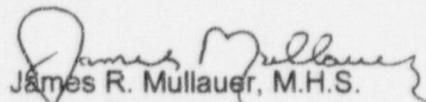
*

Please review and address Item No. 10.3 of the enclosed guide.

We will continue our review of your request upon receipt of this information. Please reply in duplicate, within 30 days, and refer to Control Number 305054.

If you have any questions or require clarification on any of the information stated above, you may contact us at (630) 829-9873.

Sincerely,


James R. Mullauer, M.H.S.
Health Physicist
Materials Licensing Branch

License No. 34-32171-01
Docket No. 030-34999

Enclosures: 1. Regulatory Guide FC 413-4
2. 10 CFR Part 20