

OCT 17 1985

The Ohmart Corporation
ATTN: Mr. H. L. Cook
4241 Allendorf Drive
Cincinnati, OH 45209

Gentlemen:

It has come to our attention that Amendment No. 33 issued on August 7, 1985 contained an error. The docket number was incorrect.

Enclosed is a corrected copy rectifying this error. We are sorry for any inconvenience this error may have caused you.

Sincerely,

Original Signed By
William J. Adam, Ph.D.
Materials Licensing Section

Enclosure: Corrected copy of
Amendment No. 33

RIII
WJA
Adam/cm
10/16/85

8510250579 851017
REG3 LIC30
34-00639-01 PDR

CONVERSATION RECORD

TIME 9:00

DATE 8/6/85

TYPE

☐ VISIT

☐ CONFERENCE

☒ TELEPHONE

☒ INCOMING

☐ OUTGOING

Location of Visit/Conference:

NAME OF PERSON(S) CONTACTED OR IN CONTACT WITH YOU

Steve Baggett

ORGANIZATION (Office, dept., bureau, etc.)

NRC

TELEPHONE NO.

SUBJECT

C/N's 78419 & 78418

ROUTING

NAME/SYMBOL

INT

SUMMARY

Rec'd go-ahead for licensing of SR-A.

This gauge is to be licensed as:

SR-A

A-2102

C3-137

130 mCi

Note:

- the level/density version of this gauge can be both generally & specifically licensed.

- the level version of this gauge is for specific licensure only.

ACTION REQUIRED

I will issue amendments to License Nos. 34-00639-035 + 34-00639-01.

NAME OF PERSON DOCUMENTING CONVERSATION

SIGNATURE

W. J. Odon

DATE

8/6/85

ACTION TAKEN

SIGNATURE

TITLE

DATE

AUG 7 1985

Ohmart Corporation
ATTN: H.L. Cook, Jr.
Vice President and Radiation
Safety Officer
4241 Allendorf Drive
Cincinnati, OH 45209

Gentlemen:

Enclosed is Amendment Nos. 18 and 33 to your NRC License Nos. 34-00639-03G and 34-00639-01, respectively, in accordance with your request.

Please be advised that we are treating that information which you have delineated as proprietary in accordance with your wishes. In the future, if you submit trade secrets, proprietary information, or personal information, and you wish that it be withheld from public disclosure, you must request withholding in accordance with the procedures specified in 10 CFR Section 2.790. Failure to follow this procedures may result in disclosure of the information to the public, and/or substantial delays in processing your application.

Please note that any request for withholding is subject to an NRC determination as to whether the document may be actually withheld in accordance with applicable laws and regulations.

If you have any questions or require clarification of any of the above stated information, contact us at (312) 790-5625.

Sincerely,

Original Signed By
William J. Adam, Ph.D.
Materials Licensing Section

Enclosure(s):

1. Amendment No. 18 to License
No. 34-00639-03G
2. Amendment No. 33 to License
No. 34-00639-01

RIII

Adam/cm
08/06/85

~~0510080389~~



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

18418
78417

JUN 20 1985

Mr. H. L. Cook, Jr.
Ohmart Corporation
4241 Allendorf Drive
Cincinnati, Ohio 43109

Dear Mr. Cook:

This refers to your letter dated February 26, 1985 requesting (1) an evaluation of the Model SR-A source housing and (2) the amendment of your -01 and -03G licenses. The safety evaluation request was sent to our office for action. We need additional information and/or clarification of the points listed below to continue with the evaluation.

Please be advised upon completion of the device safety evaluation we will notify Region III that our action is completed. Region III will then continue to process your amendment requests.

1. The top of page four indicated a 2.8 mr/hr as the highest field intensity at 30 cm for the level gauge. In another section, 3.2 mr/hr was given as the highest field intensity for the density gauge. Your attached diagrams show nearly identical high field intensity rates for the level and density gauges. Please explain your reasoning for the use of 2.8 and 3.2 mr/hr.
2. We need a copy of the users operation and maintenance manual(s) for both the level and density gauge.
3. If you have revised the radiation safety instructions RS-101 and RS-103 since 1978, please send us updated copies, otherwise, confirm that there has been no revision.
4. Explain how the shutter and operation handle is affixed to the turning dowl.
5. We realize you have in the past requested and received authorization to allow the general licensee or unlicensed personnel to mount the device on the pipe or vessel. To reconfirm our understanding, please send in a scenario on installation time required and the dose received by the installer from a typical installation.
6. We have a concern about your request to have the details of construction withheld from public inspection. Specifically some of the data is very similar to the SR-1A device background data, which was not deemed proprietary by you. We ask that you reevaluate what is to be considered proprietary and clearly identify these documents as required by 10 CFR Section 2.790.

JUN 24 1985

85-0080483

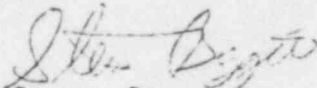
JUN 20 1985

H. L. Cook, Jr.

- 2 -

If you have any questions, please call me at (301) 427-9005.

Respecully,



Steven Baggett
Material Licensing Branch
Division of Fuel Cycle and
Material Safety

cc: Mr. Bill Adam, Region III



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOURCE AND DEVICE EVALUATION
TECHNICAL ASSISTANCE REQUEST

Date: 3 4 / 3 / 85

To: Material Certification and Procedures Branch
7915 Eastern Avenue
Willste Building
Silver Spring, MD 20910

From: Region III
Phone number 8- 388- 5625

License Control Number: 78418

License Number (if applicable): 34- 00639- 01

Letter/Application dated: 2 / 26 / 85

Assistance Requested:

- ☐ Custom Source Review
☐ Custom Device Review
☐ New Source Review
☒ New Device Review
☐ Amendment to Registry Sheet No. _____
☐ Other (see remarks below)

remarks: Contact: Bill Adam

☒ Catalog has been checked. No information is available on the source/device.

☐ Source will be imported.

☐ Device will be imported.

☐



Applicant	March 10 th
Check No.	31908 (41950)
Amount	\$1600 applied 9 Happle
Fee Category	3B and (LA 18419)
Type of Fee	\$120
Date Check Rec'd	3/12/85
Received By	AP 3/12/85

February 26, 1985

U.S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, IL 60137

RECEIVED

'85 MAR 12 10:38

Reference: Request for Approval - Model SR-A Source Holder
License Nos. 34-00639-01 and 34-00639-03G

U.S. N.R.C.
FEE MGMT. BRANCH

Gentlemen:

Enclosed is our check for \$1950.00 to cover safety evaluation of Model SR-A (Category 9A - \$1600.00), amendment of license 34-00639-01 (Category 3B - \$120.00) and amendment of license 34-00639-03G (Category 3J - \$230.00).

The Model SR-A will be distributed to specific licensees as part of a level gage or as part of a density gage and to general licensees as part of a density gage.

The Model SR-A is a reduced size version of the Model SR-1A which was approved June 4, 1979. Several hundred of the Model SR-1A source holders are now in use and have proved to be a reliable and safe device.

Photographs

The enclosed photographs show the SR-A used as a part of a level gage and as a part of a density gage.

Note from the photographs that the device can be locked in the OFF position.

Outline Drawings

An outline of the SR-A used as a part of a level gage is shown in drawing D-44701.

An outline of a complete density gage using the SR-A is shown in drawing D-44700. Note the "air gap shield" which prevents placing the hands close to the process pipe.

Radioactive Sealed Source

The sealed source that will be used in the SR-A is the Ohmart A-2102, CS-137 source which has been approved and been in use for many years.

CONTROL NO. 78418

MAR 1 1985

8510080486

Typical Environmental Conditions Are:

Temperature:	-40 to 60°C (-40 to 140°F)
Pressure:	Atmospheric
Impact:	Accident conditions only
Vibration:	Ranges from zero to mild
Corrosion:	Ranges from zero to highly corrosive vapor
Fire:	Unlikely
Explosion:	Unlikely

Although the typical maximum operating temperature is 60°C, the source holder will withstand a continuous operating temperature of 115°C (240°F) with temporary operation up to 204°C (400°F). Above 115°C, various gaskets and sealants used in the source holder will char, but radiation safety will not be affected.

Accident Conditions

In a fire where the temperature is above the melting point of lead, the lead will melt and, depending on the orientation of the gage, partially fill the cavity occupied by the shutter mechanism. Due to the nature of the welds, some of the molten lead might leak from the source holder body.

Thus, the source holder should remain intact - and retain the sealed source - up to a temperature just below the softening point of carbon steel which is about 1000°C.

The sealed source, Ohmart A-2102, has an ANSI classification of C-43343, which specifies a temperature limitation of 595°C.

Explosion

Source holders of similar construction have been involved in explosions over the past years. None of these source holders has ruptured or broken apart, nor released the sealed source.

Labels

A paper "mock-up" of the radiation label is shown on the photographs. A drawing of the final radiation label is shown in drawing B-44697. Note that the label is made of 28 gage, type 304 stainless steel etched 0.003 inch deep and filled with yellow and magenta enamel.

There are three positions of the shutter OFF, ON and STD (standardize). The cutoff circular plate attached to the operating handle permits only one of these legends to be visible.

When the density gage is distributed to general licensees, the label shown in drawing B-33568 is, also, attached.

Both the radiation label and the "General License" label are attached with stainless steel drive screws.

The ON condition warning label, drawing A-22425, uses a pressure sensitive adhesive.

A warning tag, drawing A-25864, is attached to the padlock.

Prototype

Since the SR-A is merely a reduced size version of the SR-1A the same environmental performance testing should apply, i.e.:

- a) vibration 0 through 50 cps at 0 through 1/16 inch displacement for 16 hours.
- b) impact - several hundred blows with 1/2 pound hammer
- c) temperature - 140°F for 2 hours
- d) OFF/ON control - operated several hundred times

In addition, the SR-A successfully passed all tests described in 49 CFR 173.411, 173.412 and 173.465 for Type A packaging.

Radiation Surveys

Radiation surveys were conducted in accordance with the procedures described in NBS Handbook 129, American National Standard N538.

Level Gage

When used as part of a level gage, drawings C-44884 and C-44885 show the radiation field intensity at distances of 5 cm, 30 cm and 100 cm for the source ON (shutter open) and the source OFF (shutter closed). Note that the highest field intensity at 30 cm is 2.8 mr/hr using a CS-137 source of 83 mCi.

Density Gage

When used as part of a density gage, drawings C-44886, 44887, 44888 and 44889 show the radiation field intensity around the complete density gage at distances of 5 cm, 30 cm and 100 cm with the pipe empty. Surveys are shown for the minimum and maximum nominal pipe sizes - 2 inch diameter and 14 inch diameter.

Maximum Activity

Maximum activity is determined using the criteria of 100 mr/hr, maximum, at 5 cm from the surface of the device and 5 mr/hr, maximum, at 30 cm from the surface of the device.

For the SR-A used as part of a level gage, the maximum activity would be $(5/2.8) \times 83 = 148$ mCi of CS-137.

For the SR-A used as part of a density gage, the maximum activity would be $(5/3.2) \times 83 = 130$ mCi of CS-137.

For simplicity, we request that the SR-A be licensed for 130 mCi of CS-137.

For any configuration, some of which may not be foreseeable at this time, the maximum activity of CS-137 will be limited to that which results in a field intensity that does not exceed 100 mr/hr at 5 cm nor 5 mr/hr at 30 cm.

Quality Control

Sealed source. Examination of vendor source certificate for proper activity and leak test results. Incoming wipe test before placing source in inventory. Wipe test of complete device prior to shipment. Wipe test counting equipment can detect less than 0.005 uCi of activity on the wipe.

Radiation field intensity. Measure radiation field intensity of completed device prior to shipment to assure that values do not exceed 5 mr/hr at 30 cm from the surface of the device nor 100 mr/hr at 5 cm from the surface as defined by ANSI standard N-538. Look for voids in cast lead and streaming from all mating surfaces adjacent to the source.

Mechanical parts and construction. Visual inspection of all parts before and after assembly. Visual inspection of all welds. Operations check of source OFF/ON/STD mechanism. Visual check for proper location and attachment of all labels.

Installation

For either Specific or General Licensees, it is requested that the device be allowed to be placed in position by nonlicensed personnel such as mill-wrights or installation contractors. The device will always be placed in position on the pipe with the source holder in the OFF condition because it is shipped from the factory padlocked in the OFF condition. Only the licensed personnel responsible for the device (for specific licensees) and Ohmart service personnel (for general licensees) have the combination to the lock.

A cardboard ^{tag} drawing A-25864, will be attached to the combination lock advising that the device may be mounted in place only if the source holder is locked OFF.

Wipe Test and OFF/ON Mechanism Test Interval

A three year wipe test interval is requested for the SR-A source holder used as a part of either a level gage or a density gage. This request is based on the long successful history of the Ohmart Model SR-1 and SR-1A source holders which are already approved for a three year wipe test interval; the long leak-free history of the Ohmart A-2102 sealed source which has been in use since 1960.

U.S. Nuclear Regulatory Commission
February 26, 1985
Page Five

Testing of the OFF/ON mechanism at three year intervals is requested, but is merely a formality. In normal operation the source holder is changed from ON to STD to OFF routinely during the standardization routine. If the OFF/ON mechanism fails, it is serviced on the basis of measurement performance malfunction.

Radiation Safety Instructions

Radiation Safety instructions will be included in all manuals supplied with the SR-A.

When used with a level gage our existing Radiation Safety instructions, RS-101, will be used. When used with a density gage, distributed to a General Licensee, our existing Radiation Safety instructions, RS-103, will be used.

Servicing

The Ohmart Corporation offers a full range of services to its customers including: start-up supervision, radiation surveys, leak tests, leak test kits, OFF/ON operational check, training classes at users plant or at the Ohmart factory, disaster assistance.

Details of Construction

Details of construction and drawings are considered proprietary and are included as an attachment to this request for approval. These details and drawings are transmitted to the NRC in confidence and must be withheld from public inspection.

This information is not available from any public source. Public disclosure would cause harm to Ohmart's competitive position because it would give competitors access to the knowledge Ohmart has gained through substantial R & D effort and field trials.

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Sincerely,

THE OHMART CORPORATION



H. L. Cook, Jr.
Vice President and
Radiation Safety Officer

HLC/mjw

Enclosures + Attachment