

## NRC FORM 313

(10-2005)

10 CFR 30, 32, 33,  
34, 35, 36, 39, and 40

## U.S. NUCLEAR REGULATORY COMMISSION

## APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB: NO. 3150-0120

EXPIRES: 10/31/2008

Estimated burden per response to comply with this mandatory collection request: 4.4 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. Send comments regarding burden estimate to the Records and FOIA/Privacy Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to [infocollects@nrc.gov](mailto:infocollects@nrc.gov) and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0120), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.

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:

ALABAMA, CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, FLORIDA, GEORGIA, KENTUCKY, MAINE, MARYLAND, MASSACHUSETTS, MISSISSIPPI, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, NORTH CAROLINA, PENNSYLVANIA, PUERTO RICO, RHODE ISLAND, SOUTH CAROLINA, TENNESSEE, VERMONT, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

LICENSING ASSISTANCE TEAM  
DIVISION OF NUCLEAR MATERIALS SAFETY  
U.S. NUCLEAR REGULATORY COMMISSION, REGION I  
475 ALLENDALE ROAD  
KING OF PRUSSIA, PA 19406-1415

## IF YOU ARE LOCATED IN:

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

MATERIALS LICENSING BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

NM5B3

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 BRANCH  
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV  
611 RYAN PLAZA DRIVE, SUITE 400  
ARLINGTON, TX 76011-4005

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(37-3264-01)

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)

Alcoa Mill Products  
1480 Manheim Pike  
Lancaster PA 17601

## 3. ADDRESS WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

1480 Manheim Pike  
Lancaster Pa 17601

## 4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Lawrence E Wolpert Jr.

## TELEPHONE NUMBER

(717) 393-9641 EXT. 1251

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. LICENSE FEES (See 10 CFR 170 and Section 170.31)

FEE CATEGORY

3P

AMOUNT ENCLOSED

\$ 1,200<sup>00</sup>

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

ROY A. DIRKHAAT, JR. / GENERAL MGR.

## SIGNATURE

[Signature]

## DATE

6/8/07

## FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
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\$

## APPROVED BY

## DATE

June 5, 2007

Licensing Assistance Team  
Division of Nuclear Materials Safety  
United States Nuclear Regulatory Commission, Region 1  
475 Allendale Road  
King Of Prussia, PA 19406-1415

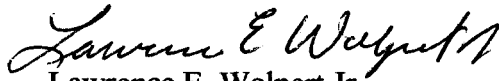
To Whom It May Concern:

Please accept our application for a specific license to operate and maintain our present gauging devices and any new ones that will be installed as needed.

We would like to have the ability to ship and receive sealed source material to and from the manufacturer as needed to keep the gauge equipment in good working order. We want to be able to do the leak testing on the equipment as required. We want to be able to install and relocate gauging equipment as needed. We would like to be able to store sealed sources temporarily if the need arises. We would do all the service work on the equipment including head alignment, shutter repair or replacement, and calibration. We will do area surveys after an installation, relocation, realignment, and biannually for each device. We will do in house training on the servicing and operation of the equipment, Radiation awareness and Safety.

After being issued a license we will conduct our program in accordance with the terms of the license, the procedures described in this application, the rules of ALARA, and the regulations of the NRC.

Respectfully,



Lawrence E. Wolpert Jr.

RSO

Alcoa Mill Products

P.O. Box 3167

1480 Manheim Pike

Lancaster PA 17604-3167

**Item 5a, 5b, and 5c.**

	Manuf.	Max Activity/source	Total	Manuf. Model No.	Dist. Model No.	Use
Strontium -90	IRMS	400mCi / 14.8GBq	10,000mCi / 370GBq	TG-2	S-18	Transmission Gauge
Americium 241	IRMS	5000mCi / 185GBq	10,000mCi / 370GBq	TG-2	S-16	Transmission Gauge

**Item 6**

The licensed material will be used to measure Aluminum sheet for online control or monitoring of the strip thickness.

**Item 7**

**7.1** The Radiation Safety Program will be Lawrence E. Wolpert Jr.

Before obtaining licensed material the proposed RSO will have successfully completed the training described in criteria in the section entitled 'Radiation Safety Officer' in NUREG-1556, Vol.4, 'Consolidated Guidance about Materials Licenses: Program-Specific guidance about Fixed Gauge Licenses,' dated October 1998.

Before being named as the RSO, future RSO's will have successfully completed the training described in criteria in the section entitled 'Radiation Safety Officer' in NUREG-1556, Vol.4, 'Consolidated Guidance about Materials Licenses: Program-Specific guidance about Fixed Gauge Licenses,' dated October 1998. Within 30 days of naming a new RSO we will submit the new RSO's name to the NRC to include in our license.

**7.2** Before using licensed material, authorized users will have successfully completed one of the training courses described in Criteria in the section entitled 'Authorized Users' in NUREG-1556, Vol.4, 'Consolidated Guidance about Materials Licenses: Program-Specific guidance about Fixed Gauge Licenses,' dated October 1998.

**Item 9.**

We will ensure that the location of each fixed gauge meets the criteria in the section entitled 'Facilities and Equipment' in NUREG-1556, Vol.4, 'Consolidated Guidance about Materials Licenses: Program-Specific guidance about Fixed Gauge Licenses,' dated October 1998.

**Item 10.**

**10.2** We will use a survey meter that meets the criteria in the section entitled 'Facilities and Equipment' in NUREG-1556, Vol.4, 'Consolidated Guidance about Materials Licenses: Program-Specific guidance about Fixed Gauge Licenses,' dated October 1998. Each Survey meter will be calibrated by the manufacturer or other person authorized by the NRC or an Agreement State to perform survey meter calibrations.

**10.3** Physical inventories will be conducted at least every 6 months or at intervals approved by the NRC, to account for all sealed sources and devices received and possessed under this license. Records of these inventories will be kept by the RSO along with records of receipts, transfer, and disposal.

**10.4** We will perform a prospective evaluation demonstrating that unmonitored individuals are not likely to receive, in one year, a radiation dose in excess of 10% of the allowable limits in 10CFR Part 20 or we will provide dosimetry that meets the criteria in the section entitled 'Radiation Safety Program-Occupational Dosimetry' in NUREG-1556, Vol. 4 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauges Licenses,' dated October 1998

**10.6** Operating and emergency procedures have been developed, implemented, maintained and distributed, and will meet the criteria in the section entitled 'Radiation Safety Program – Operating and Emergency Procedures' in NUREG-1556, Vol. 4, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauges Licenses,' dated October 1998

**10.7** We will implement the model leak test program published in Appendix M to NUREG-1556, Vol. 4, 'Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauges Licenses,' dated October 1998, but we will use a commercially available test kit and an outside source for the analysis.

**10.8** We will perform all the maintenance, both routine and non routine, on the equipment. Proper training has been, and will be provided to all persons required to perform these duties. The training will be provided by the RSO who has received the manufacturers training and has 17 years experience working with the equipment.

We will implement and maintain procedures for routine maintenance of our gauges according to each manufacturer's or distributor's written recommendations and instructions.

**As per Appendix N**

Attached to this application are copies of procedures, attachments 1 through 23, that will be followed when performing Routine and Non Routine Operations on the gauging equipment along with supporting emergency and miscellaneous procedures.

All individuals performing Non Routine operations on the gauges will wear a whole body and an extremity monitoring device while working on the gauge.

We have and maintain a survey meter that meets the criteria in Radiation Safety Program Instruments in NUREG-1556, vol.4 "Consolidated Guidance about Materials Licenses: Program-Specific Guidance about Fixed Gauges Licenses," dated October 1998.

There are area monitors at each of the operator stations at all gauge locations. These monitors are changed out every month and the results are evaluated to insure all non monitored individuals will not receive, in one year, more than 10% of their allowable limit.

The non routine work that is done is performed at the work site and contamination surveys will be done as the final step of each primary procedure. The results of which are reported to the RSO as a go no go result.

The records of all area surveys are maintained by the RSO for at least 3 years, as required by 10 CFR 20.2103

**10.10** We will not use fixed gauges at temporary job sites.

**Item 11**

Under normal conditions we will not generate any waste. Any sealed source that is no longer of value to this operation will be transferred back to the manufacturer for recycling or disposal.

## **Procedure to install a gauge (radiological)**

### **Items needed:**

- Badge and ring Dosimeter
- Survey Meter
- Red Do Not Enter Tape
- New Source
- New Tags
- Wipe Test Kit
- Gauge Tool Box
- Radiological Procedures Book

1. Verify all labels match the label on the source holder
  - Check the isotope
  - Check the serial Number
2. If the tags match proceed with step 3, if they don't match put the source back in the secure location and contact the RSO.
3. Tape off the area
  - Give yourself enough room to work
4. Lock off the Air Lines
5. Place the survey meter in a location to monitor the operation. Turn it on. Verify the operation of the meter using the check source.
6. Use the procedure for putting a source holder into the housing. (Non Routine Action 3)
7. Use the procedure for Final check after installation. (Non-Routine Action 5)
8. Use Procedure for Clean up survey (Mis. Action 3)

### **Procedure to perform a wipe test**

#### **Items needed**

1. Your film badge and ring
2. A calibrated Survey Meter
3. Plastic wrap
4. Radiacwash Packets
5. Disposable rubber or latex gloves

Items 3 through 5 are in a toolbox kept by the Cold Mill Electrical Technician.

1. Set the Survey Meter to its lowest scale and test it for proper operation by passing the probe over the check source. This should set off the meter alarm.
2. Set the Survey Meter to the X10 scale and recheck the check source. The meter should indicate the value on the calibration sticker.
3. Open the Beta shield on the probe then cover the whole thing with a single layer of the plastic wrap. This is to protect the probe from contamination if it comes in contact with radioactive material.
4. Place the meter and probe on a flat stable surface close to the work area.
5. A cotton swab will be dampened with the Radiacwash.
6. Unlock and remove the source housing cover.
7. Put on a pair of the latex gloves from the toolbox. If the gloves tear while putting them on, or are punctured during the testing put on another pair. (See glove removal procedure Mis. Action 2) additional gloves are available in the dispensary if you need them.
8. Wipe the cotton swab around the source. The bottom side of the shutter, the split between the source holder and the shutter assembly, and the sides and bottom of the housing are places that should be wiped.
9. Run the swab past the survey meter probe and see if it picked up anything.
10. If the swab shows an elevated level of radiation place it in a container and put the cover on it. Go to the hot wipe test procedure.(Emergency Action 2)
11. If the swab doesn't show anything above background radiation, place it envelope and send it out for analysis. Place the gloves in the plastic container and put the cover on it. (See glove removal procedure Mis. Action 2)

Servicing the gauge may commence.

**Procedure for putting a source holder into the housing.**

1. Remove the source holder and health shield assembly from the secure location.
2. Verify the serial number on the source matches the serial number on the housing data plate.
3. If the serial numbers match, remove the four bolts that secure the health shield to the source and place the bolts in the bottom of the housing.
4. Remove the health shield from the source, taking care to keep the source pointed away from yourself and others at all times.
5. Place the source in its position below the shutter assembly and bolt it fast using the four bolts in the bottom of the housing.
6. Do a wipe test following the wipe test procedure. (Non Routine Action 2)
7. If wipe test comes up positive follow hot wipe test procedure. (Emergency Action 2)
8. If wipe test comes up negative, install and lock the housing cover in place.
9. Enter the reason for the removal, the date, time, and any additional information in the system log book.



**Procedure for the removal of the source holder**

1. Obtain the proper source holder health shield from the Cold Mill Electrical Technician.
2. Unlock the access cover and remove the bolts that hold the cover to the housing.
3. Place the health shield in the bottom of the housing.
4. Do a wipe test following the wipe test procedure.(Non Routine Action2)
5. If wipe test comes up positive follow hot wipe test procedure.(Emergency Action2)
6. If wipe test comes up negative remove the four screws that hold the source holder to the shutter assembly.
7. Lower the source holder away from the shutter assembly turning it to point into the housing at all times, and not at yourself or others.
8. Place the health shield over the source holder and secure it using the bolts that were removed in step six.
9. Place the source holder and health shield assembly in a secure location under lock and key.

**Procedure to Test the alarm grid**

1. Use the prints and locate the wires going out to the alarm grid from the junction box.
2. Place a sample in the holder and place the holder in the gauge
3. Open the shutter and verify the gauge is measuring the sample.
4. Lift one of the wires simulating the alarm grid is broken.
5. The shutter should close right away.
6. With the wire still off the terminal try opening the shutter.
7. The shutter should not reopen until the wire is replaced.

## Procedure for Shutter assembly replacement

1. Insure the shutter is closed and the green light is on.
2. Power down and lock out the entire gauge
3. Follow the Source Holder Removal procedure.(Non Routine Action 4)
4. Removal of the shutter actuator.
  - A. There are different versions of the shutter actuator
    1. an electrical solenoid type with external return spring
    2. an air operated cylinder type with internal return spring
  - B. Both types have four #10 mounting screws to attach it to the mounting assembly.
  - C. Disconnect the wires to the coil if it's the electrical type actuator or remove the airline if it's the cylinder type actuator.
  - D. The actual shutter is attached to the actuator with two jam nuts, two lock washers, and two bushings. Remove the outer jam nut using a 1/2" wrench. Remove the outer lock washer. Remove the outer bushing using an 11/16" wrench.
  - E. Remove the four allen head cap screws that hold the actuator to the assembly and remove it from the housing.
5. If the entire shutter assembly is to be removed Disconnect the micro switch wires at the terminal strip. Make sure they are identified for reconnection later.
6. Remove the four allen head cap screws that hold the assembly in place and remove it from the housing.
7. Make any repairs to the assembly using only manufacturers parts.
8. Install the new or rebuilt shutter assembly by following this procedure in reverse.
9. Re install the source holder using the procedure for putting a source holder into the housing (Non Routine Action 3)
10. Use Procedure for Clean up survey (Mis. Action 3)

Note: The shutter should slide freely and easily open and close.  
The close limit should make up with in 1/4" of the closed position.  
The shutter should have .032" +/- .0015" clearance at the end of travel.  
Adjust the Jam nuts and bushings to give this clearance.  
The end of the actuator should not contact the Source holder when it closes.

**Procedure for shipping an isotope source back to the manufacturer**

1. Contact the manufacturer for the proper paper work, Shipping instructions, packaging instructions, and package labels.
2. Follow all DOT requirements.
3. A shipping procedure is included in Accuray Manual 19406-001. This manual is "Proprietary Information" so a copy of the procedure can not be included here.
4. Instructions directly from the manufacturer in writing will be more up to date with current regulations.
5. Use Procedure for Clean up survey (Mis. Action 3)

## Procedure to follow in the event the source-housing window is punctured

### Necessary tools

The plexiglas cover or box, niptongs, isopropyl alcohol, cotton swabs, a telescopic inspection mirror, Portable Survey Meter, Health Shield, Source key, allen wrenches, other tools necessary to disassemble the source housing.

### Procedure:

1. Follow the Source Holder removal procedure. Include the area around the window in the wipe test and make every effort to locate and test the object that punctured the window.
2. Replace the window following the window replacement procedure.
3. Clean the Source Housing
4. Inspect the shutter for any signs of Damage or misalignment.
5. Select a suitable area with a work surface at least 3 meters from any noninvolved workers in a well-ventilated room. A chemical fume hood vented to the outside is ideal.
6. Place the Survey Meter on the work surface and check for proper operation.
7. Remove plexiglas box, cleaning solution, tongs, and swabs from inspection kit and place them in the work area.
8. Place the source holder / health shield assembly in the work area.
9. Remove the four bolts securing the Health Shield to the source holder.
10. Remove the health shield and quickly place the plexiglas box over the source holder. Make sure the openings are to the sides and not towards you.
11. Place an open plastic container close to the side of the plexiglas box. This is to place the used cleaning equipment in.
12. Cut or break one of the swabs in half.
13. Perform an informal leak test of the source holder. Use the tongs to hold the ½ swab and reach through the openings of the box.
14. Follow the hot wipe test procedure if needed
15. If wipe test is negative continue on with this procedure
16. Using the tongs and another ½ swab moistened with the proper cleaning solution, carefully, and gently wipe the entire surface of the source window. Repeat this step until window is clean. Make a note for the service report of any dirt that is removed.
17. Test every swab for any sign of source leakage as you would during a wipe test.
18. Using a telescopic inspection mirror view the surface of the source. Make a note for the service report of any discoloration, pits, etc. on the surface.
19. Allow a few minutes for the cleaning solution to dry before removing the plexiglas cover and replacing the health shield on the source.
20. Reinstall the source in the gauge following the install procedure.
21. Use Procedure for Clean up survey (Mis. Action 3)

Originated 6/4/07

### **Procedure for proper Shutter and Indicator operation**

1. Make a visual inspection of the shutter mechanism
  - A. Look for ware marks
  - B. Check for ease of operation
  - C. Check tightness of mounting
2. Check for proper air pressure to the cylinder if the shutter is air operated or check for proper voltage to the coil if shutter is electrically operated
3. Open and close the shutter by operating the proper controls
  - A. Test push buttons on the operators panel
  - B. Test automatic interlocks
    - a. reset
    - b. strip break if used
4. Make sure the indicators change states when the shutter moves
  - A. Green on and Red off when shutter is closed
  - B. Red on and Green off when shutter is open
5. When shutter moves 1/4" from closed position Red light comes on and green light goes off. When shutter moves all the way open the indicators on the operators console change states from close to open.

### **Procedure to relocate a gauge (radiological)**

**Items needed:**

- Badge and ring Dosimeter
- Survey Meter
- Red Do Not Enter Tape
- Wipe Test Kit
- Gauge Tool Box
- Radiological Procedures Book

1. Verify all labels match the label on the source holder
  - Check the isotope
  - Check the serial Number
2. Tape off the area
  - Give yourself enough room to work
3. Lock off the Air Lines
4. Place the survey meter in a location to monitor the operation. Turn it on. Verify the operation of the meter using the check source.
5. Use the procedure for removing a source holder from the housing. (Non Routine Action 4)
6. The gauge can now be disconnected and reinstalled in the new location .
7. Once the gauge is rewired and tested as to electrical and mechanical operation the source holder can be re installed as per the procedure putting a source holder into the housing (Non Routine Action 3)
8. Use Procedure for Clean up survey (Mis. Action 3)

## **Procedure to align the Gauge Heads**

### **Items needed:**

- Badge and ring Dosimeter**
- Survey Meter**
- Red Do Not Enter Tape**
- Wipe Test Kit**
- Gauge Tool Box**
- Set of inside telescoping gauges**
- Caliper**
- Radiological Procedures Book**

1. Verify all labels match the label on the source holder
  - Check the isotope
  - Check the serial Number
2. If the tags match proceed with step 3, if they don't match put the source back in the secure location and contact the RSO.
3. Tape off the area
  - Give yourself enough room to work
4. Lock off, lock out and tag the Air Lines
5. Turn off, lock out and tag the electronics
6. Place the survey meter in a location to monitor the operation. Turn it on. Verify the operation of the meter using the check source.
7. Remove both of the side covers from the lower head.
8. Use the procedure for removing a source holder from the housing. (Non Routine Action 4)
9. Remove both of the side covers from the upper head.
10. Disconnect and remove the Ion Chamber in the upper head
11. Remove the Upper and Lower air wipe frames and windows.
12. Remove the spider in the upper window
13. Remove the alarm grid



14. Insert the appropriate alignment Plug through the upper head into the lower appature.
15. Make sure the alignment plug is seated completely in the lower appature.
16. Using the telescoping gauge measure the distance between the heads on either side and the front and back of the gauge heads.
17. If all four of the measurements match the dimensions specified in the system log book move on to step 18. If they don't then go to step 16
18. Loosen the bolts at the back of the upper head just enough to allow movement.
19. Move the head up, down, side to side, or twist it to get the measurements on each side of the heads the same as the specified measurements. After the head is moved tighten the bolts each time before taking new measurements
20. Using shims between the frame and the upper head get the front and back measurements to match the specified measurements. Again tighten the bolts before taking new measurements
21. Once the gap measurements are correct use a feeler gauge to measure the distance between the alignment plug and the edge of the upper head opening.
22. Move the head side to side to get even measurements. Again tighten the bolts each time before taking new measurements
23. Add shim to all four corners between the head and the C-Frame to get even measurements front to back. Tighten the bolts each time before taking new measurements. If the head must move back towards the frame more then the amount of shim that is between the frame and the head, then shim must be added behind the lower head to move it out
24. Once all the measurements are equal around the alignment plug and all the gap measurements are the same as those specified in the log book and all the bolts are tight remove the alignment plug.
25. Replace the alarm grid, the windows, the spider if any, and the air wipe covers.
26. Reconnect and reinstall the ion chamber.

27. Use the procedure for putting a source holder into the housing. (Non Routine 3)
28. Replace the side covers on the upper head
29. Unlock the electronics and the air supply
30. Verify the gauge is ready to operate by following the final check procedure (Non Routine 5)
31. Use Procedure for Clean up survey (Mis. Action 3)

## **Source replacement**

### **Items needed:**

- Badge and ring Dosimeter
- Survey Meter
- Red Do Not Enter Tape
- New Source
- New Tags
- Wipe Test Kit
- Gauge Tool Box
- Radiological Procedures Book

1. Verify all labels for the new source match the label on the new source holder
  - Check the isotope
  - Check the serial Number
2. Verify all labels on the head match the label on the source holder in the head
  - Check the isotope
  - Check the serial Number
3. If all the tags match proceed with step 4, if any of them don't match put the new source back in the secure location and contact the RSO.
4. Tape off the area
  - Give yourself enough room to work
5. Lock off the Air Lines
6. Place the survey meter in a location to monitor the operation. Turn it on. Verify the operation of the meter using the check source.
7. Use the procedure for removing a source holder from the housing. (Non Routine Action 4)
8. Use the procedure for removing a source holder from the housing. (Non Routine Action 3)
9. Use the procedure for Final check after installation. (Non-Routine Action 5)
10. Remove the old tags and replace them with the new ones.
11. Use Procedure for Clean up survey (Mis. Action 3)

Originated 6/4/07

## **Procedure to remove a gauge from service**

### **Items needed:**

- Badge and ring Dosimeter
- Survey Meter
- Red Do Not Enter Tape
- Wipe Test Kit
- Gauge Tool Box
- Radiological Procedures Book

1. Verify all labels match the label on the source holder
  - Check the isotope
  - Check the serial Number
2. If the tags match proceed with step 3, if they don't match put the source back in the secure location and contact the RSO.
3. Tape off the area
  - Give yourself enough room to work
4. Lock off the Air Lines
5. Place the survey meter in a location to monitor the operation. Turn it on. Verify the operation of the meter using the check source.
6. Use the procedure for removing a source holder from the housing. (Non Routine Action 4)
7. If this is a permanent removal from service remove the tags from the head and keep them with the source. If this is just a temporary out of service, tape off the tags to protect them.
8. Use Procedure for Clean up survey (Mis. Action 3)

### **A machine Fire in the area of an isotope gauge**

Extinguish the fire

Check for injured personnel

Evacuate all personnel

Evaluate the damage, if any, to the gauge

**1. Check for source leakage**

**A.** Approach the gauge using a survey meter to test the area for excessive levels of radiation.

**B.** If there is no elevation in radiation readings above normal background, go to step 2 on page 2

**C.** If elevated levels exist cordon off the area at a distance to insure no one will exceed their 2mR/hr. allowable exposure. Also seal off any runoff areas like basements, or pits.

**D.** After the area has been sealed off, get the names, estimated times of exposure, and locations of anyone who could have come in contact with the contaminated area. This includes anyone who participated in the extinguishing of the fire and or the checking for and evacuation of personnel.

**E.** Contact the Electric Shop and have them contact the Plant Radiation Safety Officer and the Electrical Technician in charge of the area.

**F.** People who may be contaminated must stay in a safe area and remove their outer clothing that may be contaminated and put on paper suits. Some type of curtains or booths should be provided for privacy. Shoes, shirts, pants, Turnout gear, or anything else that may have come in contact with radioactive residue during or after the fire must be removed.

**G.** The clothing that is removed must remain in a pile and covered with plastic or placed in plastic bags as it is removed to prevent any additional contamination.

**H.** The people who may be contaminated should be taken to the nearest shower and allowed to wash off.

**I.** These people should be given new paper suits to put on after the shower. The old paper suits should be placed in a plastic garbage bag as soon as they are removed. This bag should be tied closed and placed with the other clothing waiting to be evaluated.

**Unless it is life threatening Do Not Allow Them To Leave the shower area until a formal evaluation of the situation can be made.**

**If there is a life threatening situation and outside emergency personnel respond, they must be made aware of the possible contamination.**

2. Check the gauge heads for any signs of physical damage. IE: melted or deformed windows or cables.
3. If there is any physical damage to the source head (usually the lower one), have the Electric Shop contact the Technician in charge of the area for the repairs. Damage to the detector can be repaired by the electricians.
4. If there is no physical damage to the gauge, then check for proper operation of the shutter.
5. If it works and the indicator lights change the way they should then you are done.
6. If the shutter doesn't work properly, call the electrical technician in charge of the area for the repair.
7. If the indicator lights don't change from green to red, when the shutter opens and back to green when the shutter closes, replace the light bulbs.
8. If they still don't work, call the electrical technician in charge of the area for the repair.

**Do not allow the machine to run until the shutter and indicator lights work properly.**

**What to do in case of a hot Wipe Test.**

1. Test your gloves, the clothing you are wearing, and the area around the gauge. Make sure the survey meter probe does not contact the items being tested.
2. Close the source cover.
3. Retest the gloves, clothing, and the area around the gauge.
4. If the retest still shows contamination verify the readings with the back-up survey meter.
5. If anything you are wearing tests positive for contamination remove it and place it in a plastic bag. Retest yourself after each item is removed.
6. If the area around the gauge tested positive, the machine must be cordoned off and locked out so as not to be used until a cleanup by qualified personnel can be performed.
7. If there was no external contamination, secure the gauge out of service until it can be cleaned up or replaced.
8. Inform the plant Radiation Safety Officer of the situation.
9. Notify the Electrical Technician in charge of the area for additional information and help.

**What to do in case of a Missing Source.**

1. Immediately contact the guardhouse and don't let ANYONE leave the plant without him or her first being scanned with a survey meter at the front gate.
2. Check with the department production personnel as to when the equipment was used last.
3. After determining a time frame get the sign-in sheets for that period from the guardhouse. This will help show who has been in the plant and may have had the opportunity to remove the source.
4. Inform the plant Radiation Safety Officer of the situation.
5. Notify the Electrical Technician in charge of the area for additional information and help.



**Procedure for gauge lock out if working in close proximity to the measuring heads.**

1. Insure the indicator lights are functional, the shutter is closed, and the green light is lit.
2. Turn off, lock out, and tag the air valve feeding the shutter solenoid.
3. Try to open the shutter by pressing the standardize button on the DDM. It should not open.
4. Remove the OPTO isolator that controls the shutter solenoid. This will insure the shutter can't be opened electrically.
5. Verify the shutter solenoid won't energize by pressing the standardize button on the DDM.

### **Procedure for proper glove removal**

This procedure should be practiced from time to time.

Remove the gloves by inserting the thumb of one hand under the rolled edge of the other glove at the wrist and pulling it off past the fingers turning it almost completely inside out. Place the removed glove in the palm of the gloved hand. Pull that glove off the same way turning it inside out with the first glove inside. Use caution not to touch the original outside of the gloves at any time during the removal.

## **Procedure for clean up Survey**

This procedure should be practiced from time to time.

**Items needed:**

Cotton Swabs

Survey Meter

Plastic Bag

1. Use a cotton swab to wipe the surface where work was done.
2. Check the swab with the survey meter set on the lowest scale.
3. If no radioactive contamination shows up on the swab go to step 5
4. If the swab shows contamination, contact the RSO
5. Check the floor of the work area by swabbing and surveying different locations around the work area. Use as many swabs as needed.
6. If nothing shows up on the swabs you are done. If any swab shows signs of contamination contact the RSO.

This is to acknowledge the receipt of your letter/application dated

6/8/2007 (<sup>RECEIVED</sup> 7/12/2007), and to inform you that the initial processing which includes an administrative review has been performed.

☒ NEW LICENSE APPLICATION (03037511)  
There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

☐ Please provide to this office within 30 days of your receipt of this card

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A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned **Mail Control Number** 140784.  
When calling to inquire about this action, please refer to this control number.  
You may call us on (610) 337-5398, or 337-5260.

BETWEEN: : (FOR LFMS USE)  
 : INFORMATION FROM LTS  
 : -----  
 :  
 License Fee Management Branch, ARM : Program Code: 03120  
 and : Status Code: 3  
 Regional Licensing Sections : Fee Category: \_\_\_\_\_  
 : Exp. Date: 0  
 : Fee Comments: \_\_\_\_\_  
 : Decom Fin Assur Req'd: \_  
 ::::::::::::::::::::::::::::::::::::::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED

Applicant/Licensee: ALCOA MILL PRODUCTS  
Received Date: 20070712  
Docket No: 3037511  
Control No.: 140794  
License No.: 37-31264-01  
Action Type: New Licensee

2. FEE ATTACHED

Amount: \$1,200.00  
Check No.: 103620

3. COMMENTS

Signed W. A. Perkins  
Date 7/12/2007

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 \_\_\_\_\_