



COMPLETE RADIOLOGICAL SERVICES

United States Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406  
Attention: Kathy Modes

December 15, 2004

Re: License No. 37-09135-01

03006198

04 DEC 21 P 1:07

RECEIVED  
REGION 1

Dear Ms. Modes,

Due to a recent increase in customer requests for non-routine maintenance activities, Applied Health Physics, Inc. (AHP) requests an additional amendment to USNRC License Number 37-09135-01. AHP requests approval to expand current *service provider* authorization to include the following:

- Sealed source removal
- Sealed source installation
- Packaging for disposal of licensed material

AHP requests that the following individuals be named as Authorized Users for the above-mentioned activities:

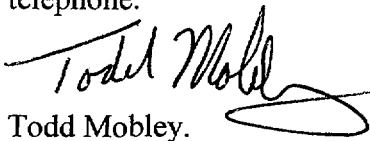
William Gerber and Charles Ferrin, former lead engineers and Authorized Users for Berthold Systems (BSI). Both individuals successfully completed the manufacturer's course and taught classes in device maintenance.

Todd Mobley of AHP has over twenty-five years of experience in radiation safety including non-routine maintenance. Mr. Mobley has received detailed training instruction from the former BSI employees.

Anthony Hull of AHP has three years of experience in radiation safety including non-routine maintenance. Mr. Hull has received detailed training instruction from the former BSI employees.

In addition, please remove Mr. Ron Hand from the list of Authorized Users.

Any questions regarding this correspondence can be communicated via email or telephone.

  
Todd Mobley.

Applied Health Physics, Inc.  
Radiation Safety Officer

2986 Industrial Blvd., Bethel Park, PA 15102 Phone: (800) 332-6648 (412) 835-9555  
Fax: (412) 835-9559 E-Mail address: [ahp.inc@adelphia.net](mailto:ahp.inc@adelphia.net)  
Web Page address: [WWW.APPLIEDHEALTHPHYSICS.COM](http://WWW.APPLIEDHEALTHPHYSICS.COM)

136161

NMSS/RGNI MATERIALS-002



COMPLETE RADIOLOGICAL SERVICES

## NON-ROUTINE MAINTENANCE PROCEDURE INVOLVING NUCLEAR GAUGING DEVICES

### AHP Procedure RSP-1

#### Purpose

This procedure provides instruction for the removal from service, repair of gauging device shutter controls, removal/ replacement of sealed source, reinstallation of device/source holders and initial survey.

#### Scope

This procedure is applicable for the removal of nuclear gauging devices/source holders from service for the following reasons:

- Placement of device(s) in storage
- Shipment of device(s) for disposal, transfer and/or return to manufacturer
- Replacement or repair of shutter control components
- Removal/replacement of sealed sources

#### Limitations

Only devices and sources registered with the USNRC, Agreement States or cognizant jurisdiction are authorized for removal, replacement, repair or installation under this procedure.

#### Prerequisites

1. All Applied Health Physics, Inc. representatives involved in the removal, shutter repair and installation of nuclear gauging devices and removal and replacement of sealed sources must possess the following training qualifications and demonstrate proficiency in the assigned tasks:
  - Successful completion of the Applied Health Physics, Inc. 24-hour Radiation Safety Officer Training course, or equivalent training commensurate with NUREG 1556, Volume 18 Guidance for applicable non-routine maintenance and NUREG 1556, Volume 4 Appendix N guidance



- Received instruction on the proper methods of conducting shutter repair, sealed source removal and replacement
  - Full understanding of specific license conditions and restrictions
  - Minimum of two years of experience conducting radiation safety monitoring and surveillance and radioactive materials handling duties
2. Prior to removal of a nuclear gauging device, a specified location must be identified to securely store or stage the device prior to transfer. In the event that the device is to be stored, a chosen storage location will meet the following requirements:
- The storage room will be located in an area of the facility with low traffic patterns
  - Access will be restricted to unauthorized personnel through the use of locked doors. Only the Radiation Safety Officer or responsible individual will maintain the key(s)
  - Storage area doors or cabinets will be labeled with a “Caution, Radioactive Materials” sign with contact phone numbers for the Radiation Safety Officer or responsible individual

### Precautions and Limitations

All work will be conducted by or under the supervision of a qualified technician. Applied Health Physics, Inc. will not conduct non-routine maintenance other than device/source holder or sealed source removal and installation, shutter repair or component replacement, operational tests, leak tests and initial radiation surveys.

Nuclear gauging devices will be removed from service under the following conditions:

- Devices with an operable shutter secured in closed position
- Devices with inoperable shutter shall be shielded or ensure beam is focused away from personnel
- Devices have a valid leak test performed prior to removal

Nuclear gauging devices will be removed from storage and reinstalled under the following conditions:

- Devices are operational and possess a valid leak test
- Devices that have an operable shutter whereby the shutter mechanism is secured in a closed position

**The following services shall not be completed:**

- Opening of the source capsule



- Changes to components or device configuration that would compromise the engineering safety controls, as described in the Sealed Source and Device Registration

## Equipment

The following equipment should be utilized to ensure worker safety and ALARA considerations.

- Calibrated survey instrumentation capable of measuring the type and strength of radiation emitted
- Remote handling tools
- Temporary shielding
- Proper lifting equipment
- Replacement parts supplied or recommended by the Original Equipment Manufacturer (OEM) or equivalent, so as not to compromise the safety of the device
- Whole body and extremity monitoring devices
- Transport container

## ALARA

During all phases of non-routine maintenance, the individuals shall ensure that radiation exposure to Authorized Users is maintained As Low As Reasonably Achievable (ALARA). Methods of exposure reduction will include but not be limited to:

- Avoiding the unshielded beam
- Remote handling tools
- Temporary shielding
- Closed shutter when possible
- Determining ALARA Zones in work area

In addition, exposures to individuals not associated with non-routine maintenance activities shall be minimized by the following methods:

- Restricting access to the work area
- Notifying facility supervisors of activity and location
- Discussions with workers
- Monitoring the radiation levels at the Restricted Area boundary (<2 mR/hour)



## **Device/ Source Holder Removal Instructions**

1. Perform radiological monitoring and inspection of device, including valid leak test. Document results.
2. Verify proper placement of personal monitoring devices.
3. Verification that the shutter mechanism is closed if operational.
4. Utilize temporary shielding if radiation levels exceed 100 mR/hour at 30 cm.
5. Utilize lifting hoist for devices over 100 pounds
6. Stage shield container or temporary shields
7. Focus beam away from personnel
8. Remove nuclear gauge or source holder and transfer gauge or source holder to specified storage or repair location.
9. Perform radiological monitoring, posting and inspection of storage area.
10. Ensure device is secured from theft or unauthorized access.

## **Sealed Source Removal**

1. Sealed source removal shall be conducted only by qualified individuals.
2. Current leak test will be verified or completed.
3. Personal monitoring equipment shall include whole body and extremity monitoring.
4. Radiation survey meters shall be in place and operable.
5. Shielding container and/or material shall be properly staged.
6. Sealed source shall be removed as per manufacturer instructions (as available), including remote handling tools where applicable.
7. ALARA practices shall be strictly enforced.
8. Sealed source shall be properly shielded, labeled and stored prior to transfer.
9. Transfer and or disposal of licensed material shall be conducted per applicable regulatory requirements.

## **Sealed Source Replacement**

1. Replacement sealed source manufacturer, model, isotope and activity shall be authorized by Sealed Source and Device Registration.
2. Receipt of sealed source shall be authorized under specific license conditions or general license instructions.
3. Replacement sealed source shall have a current leak test.
4. Sealed source installation shall be conducted only by qualified individuals.
5. Personal monitoring equipment shall include whole body and extremity monitoring.
6. Radiation survey meters shall be in place and operable.
7. Shielding container and/or material shall be properly staged.



8. Sealed source shall be installed as per manufacturer instructions (as available) including remote handling tools where applicable.
9. ALARA practices shall be strictly enforced.
10. Following sealed source/source holder installation, the Authorized User shall verify proper operation of shutter mechanism if applicable. Inoperable shutters shall be repaired or replaced, as per AHP procedure.
11. Initial radiation survey shall be completed with shutter open and results documented.

### **Shutter Component Repair or Replacement**

1. AHP representatives shall replace shutter components with equipment supplied by the Original Equipment Manufacturer (OEM) or equivalent. All replacement parts will meet or exceed the specifications recommended by the manufacturer or as described in the device registration.
2. Remote handling equipment and temporary shielding shall be used as necessary to maintain personnel exposures ALARA.
3. Unauthorized personnel shall be removed from the Restricted Area.
4. Safety components shall be tested and verified as operational prior to returning to routine use.

### **Device/Source Holder Installation Instructions**

1. Device/source holder installation shall be conducted only by qualified individuals.
2. Personal monitoring equipment shall include whole body monitoring.
3. Radiation survey meters shall be in place and operable.
4. Shielding container and/or material shall be properly staged.
5. Device/source holder shall be installed as per manufacturer instructions (as available), including remote handling tools where applicable.
6. ALARA practices shall be strictly enforced.
7. Perform radiological monitoring and inspection of device.
8. Verify Lock-out/Tag-out of shutter mechanism and valid leak test results.
9. Transfer nuclear gauge to specified location and install.
10. Perform and document radiological monitoring, including survey results in all accessible areas with shutter in the open position. Verify proper operation of shutter mechanism. Document results.

### **Personal Monitoring**

AHP would provide monitoring to individuals working directly on devices or that could receive in excess of 10% of the annual limits. As a minimum, each individual would be provided whole body monitoring. Extremity monitoring shall be provided during shutter repair and source



removal/replacement or based upon expected exposures at the discretion of the RSO or designee. Monitoring devices shall be provided by a NVLAP approved vendor and exchanged at least quarterly. Records of individual exposures shall be reviewed and maintained as required.

### **Recordkeeping**

AHP personnel shall retain copies of non-routine maintenance records to include radiation surveys, leak tests and a description of services for a minimum of three years. Exposure records shall be retained until authorized for disposal by the USNRC.

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

12/05/2008, and to inform you that the initial processing which includes an administrative review has been performed.

AMEND. 37-09135-01  
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** 136161.  
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: 03225  
 and : Status Code: 0  
 Regional Licensing Sections : Fee Category: 3N  
 : Exp. Date: 20110331  
 : Fee Comments: \_\_\_\_\_  
 : Decom Fin Assur Reqd: N  
 : ::

LICENSE FEE TRANSMITTAL

A. REGION I

1. APPLICATION ATTACHED  
 Applicant/Licensee: APPLIED HEALTH PHYSICS, INC.  
 Received Date: 20041221  
 Docket No: 3006198  
 Control No.: 136161  
 License No.: 37-09135-01  
 Action Type: Amendment

2. FEE ATTACHED  
 Amount: \_\_\_\_\_  
 Check No.: \_\_\_\_\_

3. COMMENTS

Signed M. A. Perkins  
 Date 12/22/04

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 \_\_\_\_\_