

**APPENDIX S-1**

**ANNUAL RADIATION SAFETY PROGRAM AUDIT FORM**

---

**Date of This Audit** \_\_\_\_\_ **Date of Last Audit** \_\_\_\_\_

**Next Audit Date** \_\_\_\_\_

**Auditor** \_\_\_\_\_ **Date** \_\_\_\_\_  
(Signature)

**Management Review** \_\_\_\_\_ **Date** \_\_\_\_\_  
(Signature)

**Audit History**

- A. Were previous audits conducted annually [RH-1004]?
- B. Were records of previous audits maintained [RH-1500]?
- C. Were any deficiencies identified during previous audit?
- D. Were corrective actions taken? (Look for repeated deficiencies).

**Organization and Scope of Program**

- A. Radiation Safety Officer:
  - 1. If the RSO was changed, was license amended [RH-8011]?
  - 2. Does new RSO meet Department training requirements [RH-8315, RH-8318, and RH-8319]?
  - 3. Is RSO fulfilling all duties [RH-8300]?
  - 4. Is the written agreement in place for a new RSO [RH-8300]?
- B. Multiple places of use? If yes, list locations.
- C. Are all locations listed on license?
- D. Were annual audits performed at each location? If no, explain.
- E. Describe scope of the program (staff size, number of procedures performed, etc.).
- F. Licensed Material:
  - 1. Isotope, chemical form, quantity and use as authorized?
  - 2. Does the total amount of radioactive material possessed require financial assurance [RH-409.h]? If so, is financial assurance adequate?
  - 3. Calibration, transmission, and reference sources [RH-8404]?

- a. Sealed sources manufactured and distributed by a person licensed pursuant to NRC regulations (10 CFR 32.74), equivalent Agreement State regulations, or redistributed by a licensee authorized to redistribute sealed sources, and sources do not exceed 30 milliCurie each [RH-8404]?
  - b. Any radioactive material with a half-life not longer than 120 days in individual amounts not to exceed 15 milliCurie [RH-8404]?
  - c. Any radioactive material with a half-life longer than 120 days in individual amounts not to exceed the smaller of 200 microCuries or 1000 times the quantities in Appendix B of Part 30 [RH-8404]
  - d. Technetium-99m in individual amounts as needed [RH-8404]?
4. Unsealed materials used under RH-8500, RH-8530, and RH-8550 are:
- a. Obtained from a manufacturer or preparer licensed under Section 2 of the regulations?

**OR**

- b. Prepared by a physician authorized user, an authorized nuclear pharmacist, or an individual under the supervision of an authorized nuclear pharmacist or physician authorized user?

**OR**

- c. Obtained and prepared for research in accordance with RH-8500, RH-8530, and RH-8550, as applicable?
- G. Are the sealed sources possessed and used as described in the Sealed Source and Device Registration (SSDR) Certificate [RH-8404, RH-8600, RH-8620, RH-8630]? Are copies of (or access to) SSDR Certificates possessed? Are manufacturers' manuals for operation and maintenance of medical devices possessed?
- H. Are the actual uses of medical devices consistent with the authorized uses listed on the license?
- I. If places of use changed, was the license amended [RH-8011]?
- J. If control of license was transferred or bankruptcy filed, was Department prior consent obtained or notification made, respectively [RH-409.b and RH-409.g]?

### **Radiation Safety Program**

- A. Minor changes to program [RH-8301]?
- B. Records of changes maintained for 5 years [RH-8701]?
- C. Content and implementation reviewed annually by the licensee [RH-1004]?
- D. Records of reviews maintained [RH-1500]?

## Use by Authorized Individuals

Compliance is established by meeting at least one criterion under each category.

- A. Authorized Nuclear Pharmacist [RH-8317, RH-8318, RH-8319]
- \_\_\_\_\_ 1. Certified by specialty board
- \_\_\_\_\_ 2. Identified on Department, NRC or Agreement State license
- \_\_\_\_\_ 3. Identified on permit issued by broad scope or master materials licensee
- \_\_\_\_\_ 4. Listed on facility license
- B. Authorized User [RH-8318, RH-8319, and RH-8510, RH-8540, RH-8560, RH-8570, RH-8580, RH-8590, RH-8610, RH-8615, RH-8621, RH-8660]:
- \_\_\_\_\_ 1. Certified by specialty board
- \_\_\_\_\_ 2. Identified on Department, NRC or Agreement State license
- \_\_\_\_\_ 3. Identified on permit issued by broad scope or master materials licensee
- \_\_\_\_\_ 4. Listed on facility license
- C. Authorized Medical Physicist [RH-8316, RH-8318, RH-8319]:
- \_\_\_\_\_ 1. Certified by specialty board
- \_\_\_\_\_ 2. Identified on Department, NRC or Agreement State license
- \_\_\_\_\_ 3. Identified on permit issued by broad scope or master materials licensee
- \_\_\_\_\_ 4. Listed on facility license

## Mobile Medical Service

- A. Operates services per RH-8425, RH-8647?
- B. Compliance with RH-1208 evaluated and met?
- C. Letter signed by management of each client [RH-8425]?
- D. Licensed material was not delivered to client's address (unless client was authorized) [RH-8425]?
- E. Dosage measuring instruments checked for proper function before used at each address of use or on each day of use, if more frequent [RH-8425]?
- F. Survey instruments checked for proper operation before used at each address of use [RH-8425]?
- G. Survey of all areas of use prior to leaving each client address [RH-8425]?
- H. Additional technical requirements for mobile remote afterloaders per [RH-8647]?

**Amendments Since Last Audit [RH-8011]**

- A. Any Amendments since last audit [RH-8011]?

**Notifications Since Last Audit [RH-8020]**

- A. Any Notifications since last audit [RH-8020]?
- B. Appropriate documentation provided to Department for authorized nuclear pharmacist, authorized medical physicists, or authorized user no later than 30 days after the individual starts work [RH-8020]?
- C. Department notified within 30 days after: authorized user, authorized nuclear pharmacist, authorized medical physicist, or RSO stops work or changes name; license's mailing address changes; licensee's name changes without a transfer of control of the license; or licensee has added to or changed an area of use for RH-8500 or RH-8530 use [RH-8020]?

**Training, Retraining, and Instructions to Workers**

- A. Have workers been provided with required instructions [RH-2803, RH-8306, RH-8551, RH-8603, RH-8633]?
- B. Is the individual's understanding of current procedures and regulations adequate?
- C. Training program implemented?
1. Operating procedures [RH-8306, RH-8551, RH-8603, RH-8633]?
  2. Emergency procedures [RH-8306, RH-8551, RH-8603, RH-8633]?
  3. Periodic training required and implemented [RH-8551, RH-8603, RH-8633]?
  4. Were all workers provided annual refresher training, as needed [RH-2803]?
  5. Was each supervised user instructed in the licensee's written radiation protection procedures and administration of written directives, as appropriate [RH-8306]?
  6. Are initial and periodic training records maintained for each individual [RH-8715]?
  7. Briefly describe training program:
- D. Additional therapy device instructions/training:
1. Unit operation, inspection, associated equipment, survey instruments?
  2. License conditions applicable to the use of the unit?
  3. Emergency drills [RH-8633]?
- E. Section 3 - Workers cognizant of requirements for:
1. Radiation Safety Program [RH-8300, RH-8301, RH-1004]?
  2. Annual dose limits [RH-1200, RH-1208, RH-1209]?
  3. Department Forms Y and Z?

4. 10% monitoring threshold [RH-1302]?
  5. Dose limits to embryo/fetus and declared pregnant worker [RH-1207]?
  6. Grave Danger Posting [RH-1303]?
  7. Procedures for opening packages [RH-1307]?
- F. Supervision of individuals by authorized user and/or authorized nuclear pharmacist in accordance with RH-8306?

**Training for Manual Brachytherapy and Use of Unsealed Radioactive Material for Which a Written Directive Is Required**

- A. Safety instruction to personnel provided include [RH-8551, RH-8603]:
1. Control of patient and visitors?
  2. Routine visitation to patients in accordance with RH-1208?
  3. Contamination control and size/appearance of sources?
  4. Safe handling and shielding instructions?
  5. Waste control?
  6. RSO and AU notification in emergency or death?
  7. Records retained [RH-8715]?

**Facilities**

- A. Facilities as described in license application?
- B. Therapy device facilities provided with electrical interlock system, viewing and intercom systems, radiation monitor, source retraction mechanism, and source indicator lights?
- C. Emergency source recovery equipment available [RH-8604, RH-8634]?
- D. Storage areas:
1. Materials secured from unauthorized removal or access [RH-1306]?
  2. Licensee controls and maintains constant surveillance of licensed material not in storage [RH-1308]?
- E. Therapy unit operation:
1. Unit, console, console keys, and treatment room controlled adequately [RH-1306, RH-8633]?
  2. Restricted to certain source orientations and/or gantry angles?
  3. Ceases to operate in restricted orientation(s)?
  4. Only one radiation device can be placed in operation at a time within the treatment room [RH-8633]?

## Dose or Dosage Measuring Equipment

- A. Possession, use, and calibration of instruments to measure activities of unsealed radionuclides [RH-8401]:
  - 1. List type of equipment used:
  - 2. Approved procedures for use of instrumentation followed?
  - 3. Constancy, accuracy, linearity, and geometry dependence tests performed in accordance with nationally recognized standards or the manufacturer's instructions?
  - 4. Instrument repaired or replaced or dosages mathematically corrected, as required, when tests do not meet the performance objectives provided in the nationally recognized standard or manufacturer's instructions (e.g., 10%)?
  - 5. Records maintained and include required information [RH-8705]?
- B. Determination of dosages of unsealed radioactive material [RH-8403]:
  - 1. Each dosage determined and recorded prior to medical use [RH-8403]?
  - 2. Measurement of unit dosages made either by direct measurement or by decay correction [RH-8403]?
  - 3. For other than unit dosages, measurement made by direct measurement of radioactivity or by combination of radioactivity or volumetric measurement and calculation [RH-8403]?
- C. Licensee uses generators?
  - 1. First eluate after receipt tested for Mo-99 breakthrough [RH-8531]?
  - 2. No radiopharmaceuticals administered with Mo-99 concentrations over 0.15  $\mu\text{Ci}$  per mCi of Tc-99m [RH-8531]?
  - 3. Records maintained [RH-8713]?
- D. Dosimetry Equipment [RH-8635]:
  - 1. Calibrated system available for use [RH-8635]?
  - 2. Calibrated by NIST or an AAPM-accredited lab within previous 2 years and after servicing [RH-8635] OR calibrated by intercomparison per RH-8635?
  - 3. Calibrated within the previous 4 years [RH-8635]?
  - 4. Licensee has available for use a dosimetry system for spot-check measurements [RH-8635]?
  - 5. Record of each calibration, intercomparison, and comparison maintained [RH-8721]?

## **Radiation Protection and Control of Radioactive Material**

- A. Use of radiopharmaceuticals:
  - 1. Protective clothing worn?
  - 2. Personnel routinely monitor their hands?
  - 3. No eating/drinking in use/storage areas?
  - 4. No food, drink, or personal effects kept in use/storage areas?
  - 5. Proper dosimetry worn?
  - 6. Radioactive waste disposed of in proper receptacles?
  - 7. Syringe shields and vial shields used?
- B. Leak tests and Inventories:
  - 1. Leak test performed on sealed sources and brachytherapy sources [RH-8405]?
  - 2. Inventory of sealed sources and brachytherapy sources performed semiannually [RH-8405]
  - 3. Records maintained [RH-8708]?

## **Radiation Survey Instruments**

- A. Survey instruments used to show compliance with Section 3 and RH-404;
  - 1. Appropriate operable survey instruments possessed or available [Section 3]?
  - 2. Calibrations [RH-8402]:
    - a. Before first use, annually and after repairs?
    - b. Within 20% on each scale or decade of interest?
  - 3. Records maintained [RH-8706]?
- B. Radiation surveys performed in accordance with the licensee's procedures and the regulatory requirements [RH-1300, RH-8408]?:
  - 1. Daily in all areas where radiopharmaceuticals requiring a written directive are prepared or administered (except patient rooms) [RH-8408]?
  - 2. Weekly in all areas where radiopharmaceuticals or waste is stored?
  - 3. Weekly wipes in all areas where radiopharmaceuticals are routinely prepared, administered, or stored?
  - 4. Trigger levels established?
  - 5. Corrective action taken and documented if trigger level exceeded?
  - 6. Techniques can detect 0.1 mR/hr, 2000dpm?

7. Surveys made to assure that the maximum radiation levels and average radiation levels from the surface of the main source safe with the source(s) in the shielded position does not exceed the levels stated in the Sealed Source and Device Registry [RH-8650] and records maintained [RH-8727]?
  - a. After new source installation?
  - b. Following repairs to the source(s) shielding, the source(s) driving unit, or other electronic or mechanical mechanism that could expose the source, reduce the shielding around the source(s), or compromise the radiation safety of the unit or the source(s)?

### **Public Dose**

- A. Is licensed material used in a manner to keep doses below 100 mrem (1mSv) in a year [RH-1208]?
- B. Has a survey or evaluation been performed per RH-1300?
- C. Have there been any additions or changes to the storage, security, or use of surrounding areas that would necessitate a new survey or evaluation?
- D. Do unrestricted area radiation levels exceed 2 mrem (0.02 mSv) in any one hour [RH-1208]?
- E. Is licensed material used or stored in a manner that would prevent unauthorized access or removal [RH-1306 and RH-1308]?
- F. Records maintained [RH-1500]?

### **Patient Release**

- A. Individuals released when TEDE less than 0.5 rem [RH-8420]? Compliance with Department "Standards"?
- B. Instructions to the released individual, including breast-feeding women, include required information [RH-8420]?
- C. Release records maintained [RH-8710]?
- D. Records of instructions given to breast-feeding women maintained [RH-8710]?

### **Unsealed Radioactive Material for Which a Written Directive Is Required**

- A. Safety precautions implemented to include patient facilities, posting, stay times, patient safety guidance, release, and contamination controls [RH-8552]?
- B. RSO and AU promptly notified if patient died or had a medical emergency [RH-8552]?

## Brachytherapy

- A. Safety precautions implemented to include patient facilities, posting, stay times, and emergency response equipment [RH-8604]?
- B. Survey immediately after implant [RH-8601]?
- C. Patients surveyed immediately after removing the last temporary implant source [RH-8601]?
- D. RSO and AU promptly notified if patient died or had a medical emergency [RH-8601]?
- E. Records maintained [RH-8700]?

## Radioactive Waste

- A. Disposal:
  - 1. Decay-in-storage [RH-8410]
  - 2. Procedures followed?
  - 3. Labels removed or defaced [RH-1303, RH-8410]?
- B. Special procedures performed as required?
- C. Authorized disposals [RH-1400]?
- D. Records maintained [RH-1500, RH-1500, RH-8712]?
- E. Effluents:
  - 1. Release to sanitary sewer [RH-1402]?
    - a. Material is readily soluble or readily dispersible [RH-1402]?
    - b. Monthly average release concentrations do not exceed RH-2792 values?
    - c. No more than 5 Ci of H-3, 1 Ci of C-14 and 1 Ci of all other radionuclides combined released in a year [RH-1402]?
    - d. Procedures to ensure representative sampling and analysis implemented [RH-1300]?
  - 2. Waste incinerated?
    - a. License authorizes [RH-1404]?
    - b. Directly monitor exhaust?
    - c. Airborne releases evaluated and controlled [RH-1209, RH-1300]?
  - 3. Air effluents and ashes controlled [RH-1004, RH-1200, RH-1208, RH-1300, RH-1400]?
    - a. Air effluent less than 10 mrem constraint limit RH-1004?

- b. If no, reported appropriate information to Department
    - i. Corrective actions implemented and on schedule?
  - c. Description of effluent program:
    - i. Monitoring system hardware adequate?
    - ii. Equipment calibrated, as appropriate?
    - iii. Air samples/sampling technique (i.e., charcoal, HEPA, etc.) analyzed with appropriate instrumentation?
- F. Waste storage
- 1. Protection from elements and fire?
  - 2. Control of waste maintained [RH-1306]?
  - 3. Containers properly labeled and area properly posted [RH-1303]?
  - 4. Package integrity adequately maintained?
- G. Waste disposal:
- 1. Sources transferred to authorized individuals [RH-1406, RH-1400, RH-500]?
  - 2. Name of organization: \_\_\_\_\_
- H. Records of surveys and material accountability are maintained [RH-1500, RH-1500, RH-8712]?

### **Receipt and Transfer of Radioactive Material**

- A. Describe how packages are received and by whom.
- B. Written package opening procedures established and followed [RH-1307]?
- C. All incoming packages with a DOT label monitored for radioactive contamination, unless exempted (gases and special form) [RH-1307]?
- D. Incoming packages surveyed [RH-1307]?
- E. Monitoring in (C) and (D) performed within time specified [RH-1307]?
- F. Transfer(s) performed per [RH-500]?
- G. All sources surveyed before shipment and transfer [RH-1300]?
- H. Records of surveys and receipt/transfer maintained [RH-1500, RH-600]?
- I. Package receipt/distribution activities evaluated for compliance with RH-1208?

### **Transportation (Arkansas regulations and 49 CFR 171-189)**

- A. Shipments are:
  - 1. Delivered to common carriers;
  - 2. Transported in own private vehicle;
  - 3. Both;
  - 4. No shipments since last audit.
- B. Return radiopharmacy doses or sealed sources?
  - 1. Licensee assumes shipping responsibility?
  - 2. If NO, describe arrangements made between licensee and radiopharmacy for shipping responsibilities:
- C. Packages:
  - 1. Authorized packages used?
  - 2. Performance test records on file?
    - a. DOT-7A packages
    - b. Special form sources
  - 3. Two labels (White-I, Yellow-II, Yellow-III) with TI, Nuclide, Activity, and Hazard Class?
  - 4. Properly marked (Shipping Name, UN Number, Package Type, RQ, "This End Up" (liquids), Name and Address of consignee)?
  - 5. Closed and sealed during transport?
- D. Shipping Papers:
  - 1. Prepared and used?
  - 2. Proper Shipping Name, Hazard Class, UN Number, Quantity, Package Type, Nuclide, RQ, Radioactive Material, Physical and Chemical Form, Activity, Category of Label, TI, Shipper's Name, Certification and Signature, Emergency Response Phone Number, "Limited Quantity" (if applicable), "Cargo Aircraft Only" (if applicable)?
  - 3. Readily accessible during transport?

### **Teletherapy and Gamma Stereotactic Radiosurgery Servicing**

- A. Inspection and servicing performed following source replacement or at intervals not to exceed 5 years [RH-8646]?
- B. Needed service arranged for as identified during the inspection?
- C. Service performed by persons specifically licensed to perform work [RH-8646])?

## Full Calibration-Therapeutic Medical Devices

- A. Proper protocol(s) used (e.g., TG-21, AAPM 54, TG-56, TG-40, etc.)?
- B. Performed prior to first patient use [RH-8640, RH-8641, RH-8642]?
- C. At intervals not to exceed one year for teletherapy, gamma stereotactic, and LDR remote afterloader; at intervals not exceeding one quarter for HDR, MDR, and PDR remote afterloaders [RH-8640, RH-8641, RH-8642]?
- D. Whenever spot-checks indicate output differs from expected by 5% [RH-8640, RH-8642]?
- E. After source exchange, relocation, and major repair or modification [RH-8640, RH-8641, RH-8642]?
- F. Performed with properly calibrated instrument [RH-8640, RH-8641, RH-8642]?
- G. Includes:
  - 1. For teletherapy:
    - a. Output measured within 3% of expected for the range of field sizes, range of distances [RH-8640]?
    - b. Coincidence of radiation field and field light localizer [RH-8640]?
    - c. Uniformity of radiation field and beam angle dependence [RH-8640]?
    - d. Timer accuracy and linearity over the range of use [RH-8640]?
    - e. On-off error [RH-8640]?
    - f. Accuracy of all measuring and localization devices [RH-8640]?
  - 2. For remote afterloaders:
    - a. Output measured within 5% of expected [RH-8641]?
    - b. Source positioning accuracy within 1 millimeter [RH-8641]?
    - c. Source retraction with backup battery upon power failure [RH-8641]?
    - d. Length of source transfer tubes [RH-8641]?
    - e. Timer accuracy and linearity over the typical range of use [RH-8641]?
    - f. Length of the applicators [RH-8641]?
    - g. Function of source transfer tubes, applicators, and transfer tube-applicator interfaces [RH-8641]?
    - h. Autoradiograph quarterly of the LDR source(s) to verify source(s) arrangement and inventory [RH-8641]?
  - 3. For gamma stereotactic radiosurgery:
    - a. Output measured within 3% of expected [RH-8642]?
    - b. Helmet factors [RH-8642]?

- c. Isocenter coincidence [RH-8642]?
  - d. Timer accuracy and linearity over the range of use [RH-8642]?
  - e. On-off error [RH-8642]?
  - f. Trunnion centricity [RH-8642]?
  - g. Treatment table retraction mechanism, using backup battery power or hydraulic backups with the unit off [RH-8642]?
  - h. Helmet microswitches [RH-8642]?
  - i. Emergency timing circuit [RH-8642]?
  - j. Stereotactic frames and localizing devices (trunnions) [RH-8642]?
- H. Output corrected mathematically for decay [RH-8640, RH-8641, RH-8642]?
- I. Records maintained [RH-8722]?

### **Periodic Spot Checks for Therapeutic Devices**

- A. Performed at required frequency [RH-8643, RH-8644, RH-8645]?
- B. Procedures established by authorized medical physicist [RH-8643, RH-8644, RH-8645]?
- C. Procedures followed?
- D. Medical physicist reviews results within 15 days [RH-8643, RH-8644, RH-8645]?
- E. Performed with properly calibrated instrument [RH-8643, RH-8645]?
- F. Output and safety spot checks include:
  - 1. For teletherapy:
    - a. Timer accuracy and linearity over the range of use [RH-8643]?
    - b. On-off error [RH-8643(2)]?
    - c. Coincidence of radiation field and field light localizer [RH-8643]?
    - d. Accuracy of all measuring and localization devices [RH-8643]?
    - e. The output for one typical set of operating conditions [RH-8643]?
    - f. Difference between measured and expected output [RH-8643]?
    - g. Interlock systems [RH-8643]?
    - h. Beam stops [RH-8643]?
    - i. Source exposure indicator lights [RH-8643]?
    - j. Viewing and intercom systems [RH-8643]?
    - k. Treatment room doors, inside and out [RH-8643]?
    - l. Electrical treatment doors with power shut off [RH-8643]?

2. For remote afterloaders:
    - a. Interlock systems [RH-8644]?
    - b. Source exposure indicator lights [RH-8644]?
    - c. Viewing and intercom systems, except for LDR [RH-8644]?
    - d. Emergency response equipment [RH-8644]?
    - e. Radiation monitors used to indicate source position [RH-8644]?
    - f. Timer accuracy [RH-8644]?
    - g. Clock (date and time) in the unit's computer [RH-8644]?
    - h. Decayed source(s) activity in the unit's computer [RH-8644]?
  3. For gamma stereotactic radiosurgery:
    - a. Treatment table retraction mechanism [RH-8645]?
    - b. Helmet microswitches [RH-8645]?
    - c. Emergency timing circuits [RH-8645]?
    - d. Stereotactic frames and localizing devices [RH-8645]?
    - e. The output for one typical set of operating conditions [RH-8645]?
    - f. Difference between measured and expected output [RH-8645]?
    - g. Source output compared against computer calculation of output [RH-8645]?
    - h. Timer accuracy and linearity over the range of use [RH-8645]?
    - i. On-off error [RH-8645]?
    - j. Trunnion centricity [RH-8645]?
    - k. Interlock systems [RH-8645]?
    - l. Source exposure indicator lights [RH-8645]?
    - m. Viewing and intercom systems [RH-8645]?
    - n. Timer termination [RH-8645]?
    - o. Radiation monitors used to indicate room exposures [RH-8645]?
    - p. Emergency off buttons [RH-8645]?
- G. Licensee promptly repaired items found to be not operating properly and did not use unit until repaired, if required [RH-8643, RH-8644, RH-8645]?
- H. Records maintained [RH-8723, RH-8724, RH-8725]?

### **Installation, Maintenance, and Repair of Therapy Devices**

- A. Only authorized individuals perform installation, maintenance, adjustment, repair, and inspection [RH-8632, RH-8646]?

Name of organization/individual: \_\_\_\_\_

- B. Records maintained [RH-8720, RH-8728]?

### **Operating Procedures for Therapy Devices**

- A. Instructions on location of emergency procedures and emergency response telephone numbers are posted at the device console [RH-8633]?

- B. Copy of the entire procedures physically located at the device console [RH-8633]?

- C. Procedures include:

1. Instructions for responding to equipment failures and the names of the individuals responsible for implementing corrective actions [RH-8633]?
2. The process for restricting access to and posting of the treatment area to minimize the risk of inadvertent exposure [RH-8633]?
3. The names and telephone numbers of the authorized users, the authorized medical physicist, and the RSO to be contacted if the unit or console operates abnormally [RH-8633]?

- D. Radiation survey of patient is performed to ensure source is returned to shielded position [RH-8631]?

- E. Records of radiation surveys maintained for 3 years [RH-8716]?

- F. Authorized medical physicist and authorized user:

1. Physically present during initiation of patient treatment with remote afterloaders (Note: for MDR and PDR, an appropriately trained physician under the supervision of the authorized user may be physically present instead of the authorized user) [RH-8634]?
2. Physically present throughout all patient treatments with a gamma stereotactic radiosurgery device [RH-8634]?

### **Personnel Radiation Protection**

- A. Exposure evaluation performed [RH-1300]?

- B. ALARA program implemented [RH-1004]?

- C. External Dosimetry:

1. Monitors workers per [RH-1302]?
2. External exposures account for contributions from airborne activity [RH-1202]?
3. Supplier \_\_\_\_\_ Frequency \_\_\_\_\_

4. Supplier is NVLAP-approved [RH-1300]?
  5. Dosimeters exchanged at required frequency?
- D. Internal Dosimetry
1. Monitors workers per RH-1302?
  2. Briefly describe program for monitoring and controlling internal exposures [RH-1303]?
  3. Monitoring/controlling program implemented (includes bioassays)?
  4. Respiratory protection equipment [RH-1303]?
- E. Review of Records and Reports
1. Reviewed by \_\_\_\_\_ Frequency \_\_\_\_\_
  2. Auditor reviewed personnel monitoring records for period \_\_\_\_\_ to \_\_\_\_\_
  3. Prior dose determined for individuals likely to receive doses [RH-1500]?
  4. Maximum exposures TEDE \_\_\_\_\_ Other \_\_\_\_\_
  5. Maximum CDEs \_\_\_\_\_ Organs \_\_\_\_\_
  6. Maximum CEDE \_\_\_\_\_
  7. Internal and external summed [RH-1201]?
  8. Were occupational limits met [RH-1200]?
  9. Department forms or equivalent [RH-1500.d, RH-1500.f]?
    - a. Department - Z Complete:
    - b. Department - Y Complete:
  10. If a worker declared her pregnancy during the audit period, then was the dose in compliance [RH-1207] and were the records maintained [RH-1500]?
- F. Who performed any planned special exposures at this facility (number of people involved and doses received) [RH-1205, RH-1500, RH-1504]?
- G. Records of exposures, surveys, monitoring, and evaluations maintained [RH-1500, RH-1500]?

### **Confirmatory Measurements**

Detail location and results of confirmatory measurements.

### **Medical Events**

If medical events [criteria in 35.3045] have occurred since the last audit, evaluate the incident(s) and procedures for implementing and administering written directives using the existing guidance.

1. Event date \_\_\_\_\_ Information Source \_\_\_\_\_
2. Notifications
  - Department Notification?
  - Referring Physician?
  - Patient?
  - Method of Notification Telephone \_\_\_\_\_ Written \_\_\_\_\_
  - If notification did not occur, why not?
3. Written Reports [RH-8800]:
  - Submitted to Department within 15 days?

### **Notification and Reports**

- A. In compliance with RH-1505, RH-1502(reports to individuals, public and occupational, monitored to show compliance with Section 3)?
- B. In compliance with RH-1501, RH-1502(theft or loss)?
- C. In compliance with RH-1502(incidents)?
- D. In compliance with RH-1504, RH-1502 (overexposures and high radiation levels)?
- E. Aware of Department's 24-hour Telephone number phone number?
- F. In compliance with RH-1504 (Constraint on air emissions)?

### **Posting and Labeling**

- A. Department Form RH-11, "Notice to Employees" is posted [RH-2802]?
- B. Other posting and labeling per RH-1303 and not exempted by RH-1304, RH-1303?

### **Recordkeeping for Decommissioning**

- A. Records of information important to the safe and effective decommissioning of the facility maintained in an independent and identifiable location until license termination [Section 2, Appendices A through D]?
- B. Records include all information outlined in Section 2, Appendices A through D?

### **Letter and Information Notices**

- A. Department Letters, Information Notices, and other correspondence received?
- B. Appropriate action in response to Letters, Information Notices, etc.?

**Special License Conditions or Issues**

A. Special license conditions or issues to be reviewed:

B. Evaluation:

**Audits and Findings**

**A. Summary of Findings:**

**B. Corrective and Preventive Actions:**