

Sample Audit Checklist

Audit Report No. _____ License No. _____

Audit of activities at (Address/Facility): _____

Contact at Audit Location _____ Telephone No. _____

Date of this Audit _____

Summary of Findings and Action:

- No deficiencies
- Deficiencies
- Inadequate action on previous deficiencies _____

Recommendations:

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3. TRAINING, RETRAINING, AND INSTRUCTIONS TO WORKERS

- a. Instructions to workers per [10 CFR 19.12] Y N
- b. Training program implemented as required [L/C] Y N
- c. Training records maintained [L/C] Y N
- d. Evaluation of individuals' understanding of procedures and requirements based on interviews, observation of selected workers was performed Y N
If so:
Each has an up-to-date copy of the licensee's safe use and emergency procedures Y N
Adequate understanding of:
 Current safe use procedures Y N
 Emergency procedures Y N
- e. 10 CFR Part 20
Workers cognizant of requirements for:
 Radiation Safety Program [20.1101] Y N
 Annual dose limits [20.1301, 20.1302] Y N
 NRC Forms 4 and 5 Y N
 10% monitoring threshold [20.1502] Y N
 Dose limits to embryo/fetus and declared pregnant women [20.1208] Y N
 Procedures for opening packages [20.1906] Y N

Remarks:

4. INTERNAL AUDITS, REVIEWS OR INSPECTIONS

- a. Content and implementation of the radiation protection program reviewed annually [20.1101(c)] Y N
- b. Records maintained [20.2102] Y N

Remarks:

5. FACILITIES

- a. Facilities as described in license documents Y N
- b. Access to restricted area/licensed material in accordance with 20.1801, 20.1802 Y N

Remarks:

6. SELF-CONTAINED DRY-SOURCE STORAGE IRRADIATORS AND/OR SURVEY INSTRUMENT CALIBRATORS N/A

- a. Describe model, radionuclide, activity, use frequency, etc.
- b. Operating & emergency (O&E) procedures readily available [L/C] Y N
- c. Users trained on, and follow O&E procedures Y N
- d. Maintenance of safety-related components by authorized persons [L/C] Y N
- e. Access to keys and/or material adequately controlled [L/C, 20.1801, 20.1802] .. Y N
- f. Access to high/very high radiation areas controlled per 20.1601, 20.1602, L/C ... Y N
- g. Compliance with 20.1301 evaluated [20.1302] Y N
- h. Adequate protection of shield (lead) integrity, fire protection [L/C] Y N

Remarks:

7. MATERIALS

Isotopes, quantities, and use as authorized on license Y N

Remarks:

8. LEAK TESTS

- a. Leak test performed as described in correspondence with NRC (consultant; leak test kit; licensee performed) Y N
- b. Frequency: every 6 months or other interval, as approved by NRC or Agreement State Y N
- c. Records with appropriate information maintained Y N

Remarks:

9. INVENTORIES

- a. Conducted at 6-month intervals [L/C] Y N
- b. Records with appropriate information maintained Y N

Remarks:

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10. RADIATION SURVEYS

a. Instruments and Equipment:

- Appropriate operable survey instrumentation possessed or readily available [L/C] Y N
- Calibrated as required [20.1501] Y N
- Calibration records maintained [20.2103(a)] Y N

b. Briefly describe survey requirements [20.1501(a)]:

- c. Performed as required [20.1501(a)] Y N
- Radiation levels within regulatory limits Y N
- Corrective action taken and documented Y N N/A

- d. Records maintained [20.2103] Y N

e. Protection of members of the public:

- Adequate surveys made to demonstrate either (a) that the TEDE to the individual likely to receive the highest dose does not exceed 100 mrem in a year, or (b) that if an individual were continuously present in an unrestricted area, the external dose would not exceed 2 mrem in any hour and 50 mrem in a year [20.1301(a)(1), 20.1302(b)] Y N
- Unrestricted area radiation levels do not exceed 2 mrem in any 1 hour [20.1301(a)(2)] Y N
- Records maintained [20.2103, 20.2107] Y N

Remarks:

11. RECEIPT AND TRANSFER OF RADIOACTIVE MATERIAL

a. Describe how packages are received and by whom:

- b. Written package opening procedures established and followed [20.1906(e), (b)(1-3), (c)] Y N

- c. Transfer(s) between licensees performed per [30.41] Y N N/A

- d. Records of receipt/transfer maintained [20.2103(a), 30.51] Y N

- e. Transfers within licensee's authorized users or locations performed as required [L/C] Y N N/A

- f. Package receipt/distribution activities evaluated for compliance with 20.1301 [20.1302] Y N N/A

Remarks:

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12. TRANSPORTATION (10 CFR 71.5(a) and 49 CFR 170-189) N/A
- a. Licensee shipments are:
 - Delivered to common carriers Y N N/A
 - Transported in licensee’s own private vehicle Y N N/A
 - No shipments since last audit Y N
 - b. Packages N/A
 - Authorized packages used [173.415, 416(b)] Y N N/A
 - Closed and sealed during transport [173.475(f)] Y N
 - Properly labeled and marked [172.403, 173.441,173.200] Y N
 - c. Shipping Papers N/A
 - Prepared and used [172.200(a)] Y N
 - 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, “Cargo Aircraft Only” (if applicable)} [172.200-204]N
 - Readily accessible during transport [177.718(e)] Y N
 - d. Vehicles N/A
 - Cargo blocked and braced [177.842(d)] Y N
 - Placarded, if needed [172.504] Y N
 - Proper overpacks, if used (shipping name, UN Number, labeled, statement indicating that inner package complies with specification package) [173.25] Y N N/A
 - e. Any incidents reported to DOT [171.15, 171.16] Y N
 - f. HAZMAT training per 172.700-704 Y N
- Remarks:

13. PERSONNEL RADIATION PROTECTION

- a. ALARA considerations are incorporated into the Radiation Protection Program [20.1101(b)] Y N
- b. Adequate documentation of determination that unmonitored occupationally individuals are not likely to receive >10% of allowable limit [20.1502(a)] Y N N/A
- OR**
- c. External dosimetry required and used Y N N/A
 Supplier: _____ Frequency: _____
 Supplier is NVLAP-approved [20.1501(c)] Y N
 Dosimeters exchanged at required frequency [L/C] Y N
- d. Occupational intake monitored and assessed [20.1502(b)] Y N N/A

- e. Reports: N/A
 Reviewed by: _____ Frequency: _____
 Auditor reviewed personnel monitoring records for period _____ to _____
 Prior dose determined for individuals likely to receive doses [20.2104] Y N
 Maximum exposures TEDE: _____ Other: _____
- f. NRC Forms or equivalent [20.2104(d), 20.2106(c)]: NRC-4 “Cumulative Occupational Exposure History” Complete: Y N
 NRC-5 “Occupational Exposure Record for a Monitoring Period” Complete: Y N
- g. Worker declared her pregnancy in writing during audit period (review records) Y N N/A
 If yes, determine compliance with [20.1208] Y N
 and check for records per [20.2106(e)] Y N
- h. Records of exposures, surveys, monitoring, and evaluations maintained [20.2102, 20.2103, 20.2106, L/C] Y N
- i. Pocket dosimeters and/or alarming ratemeters [L/C]: N/A
 Possessed and used as required Y N
 Operable and calibrated/checked at required frequency Y N
 Records maintained Y N N/A
- j. Safety interlocks, area monitors and alarms [L/C]:
 Found operational Y N
 Tested at required frequency Y N
 Records maintained Y N

Remarks:

14. AUDITOR’S INDEPENDENT MEASUREMENTS (IF MADE)

Survey instrument	Serial No.	Last calibration
_____	_____	_____
Auditor’s measurements compared to licensee’s <input type="checkbox"/> Y <input type="checkbox"/> N		
Describe the type, location, and results of measurements:		

15. RADIOACTIVE EFFLUENTS, WASTE MANAGEMENT, AND DISPOSAL

- a. Waste disposed of by decay-in-storage (DIS): N/A
 Procedure for DIS disposal approved by license condition Y N
 Disposal by DIS in accordance with L/C Y N
 Licensee in compliance with 20.1501 and 20.1904(b) Y N
 Records maintained [20.2103(a), L/C] Y N

Remarks:

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- b. Licensed material released into sanitary sewerage: N/A
- Material is readily soluble (or is readily dispersible biological material) in water [20.2003(a)(1)] Y N
- Monthly average release concentrations do not exceed Appendix B values [20.2003(a)(2,3)] Y N
- No more than 5 curies of tritium, 1 curie of carbon-14 and 1 curie of all other radionuclides combined were released in a year [20.2003(a)(4)] Y N
- Procedures for ensuring adequate sample representativeness and analysis properly implemented [20.1501, L/C] Y N
- Records maintained [20.2108] Y N

Remarks:

- c. Waste disposed of by incineration: N/A
- License authorizes incineration [20.2004(a)(3)] Y N
- If licensee directly monitors incinerator exhaust, the monitor sample is representative and the monitoring instrumentation is operational and properly calibrated [20.1501] Y N N/A
- If licensee calculates exhaust concentrations, incinerator airflow and activities incinerated are accurately known, and the calculations are correct [20.1501] Y N N/A
- Management of effluents and ashes in accordance with 20.1301, 20.1201, 20.1501, 20.2001 and L/C Y N
- Records maintained [20.2108] Y N

Remarks:

- d. Disposal of liquid scintillation (LS) media and/or animal carcasses: N/A
- Licensee disposes of LS media and carcasses contaminated with only H-3 or C-14, and at a concentration not exceeding 0.05 μ Ci/g per 20.2005 Y N
- Records maintained [20.2108] Y N

Remarks:

- e. Transfers for disposal at land disposal facilities: N/A
- Waste transferred to person specifically licensed to receive waste [30.41, 20.2001(b)] Y N
- Each shipment accompanied by a shipment manifest prepared as specified in Section I of Appendix F [20.2006(b) and App. F.III.A.4] Y N

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- Shipment manifests certified as specified in Section II of Appendix F [20.2006(c)] Y N
- Compliance with Section III of Appendix F [20.2006(d)]:
- Note:* The licensee’s waste is likely to be Class A waste not packaged for disposal in cardboard or fiberboard boxes [61.56(a)]
- Liquid wastes solidified [61.56(a)] Y N
- Volume of solid wastes contain less than 1% freestanding liquid Y N
- Waste does not generate harmful vapors [61.56(a)] Y N
- Waste structurally stable, i.e., will maintain its physical dimensions and form under expected disposal conditions [61.56(b)] Y N
- Void spaces within the waste and between the waste and its package minimized [61.56(b)] Y N
- Waste packages labeled to identify their proper class [App. F.III.A.2] Y N
- Licensee conducts a QC program to ensure compliance with 61.55 and 61.56, and which includes management evaluation of audits [App. F.III.A.3] Y N
- For shipments not acknowledged by recipient within 20 days after transfer, incident investigated and reported [App. F.III.A.8] Y N N/A
- Records maintained [20.2108] Y N

Remarks:

- f. Special disposal procedures and other effluents (e.g., hood exhausts, special dilutions, etc.): N/A
- Performed in accordance with L/C Y N
- Appropriate surveys conducted [20.1501, L/C] Y N
- Operations comply with 20.1201 and 20.1301 Y N
- Special disposals per 20.2001 and 20.2002, i.e., no improper/unauthorized disposals were noted Y N
- Records maintained [20.2108] Y N

Remarks:

- g. Waste compaction operations: N/A
- Airborne releases evaluated and controlled [20.1501, 20.1701, L/C] Y N
- Internal exposures evaluated and controlled [20.1501, 20.1204, 20.1702, 20.1703, 20.1201] Y N
- Compliance with 20.1301 evaluated [20.1302] Y N

Remarks:

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- h. Waste storage areas: N/A
 Adequate protection from the elements (floods, tornadoes, hurricanes, etc.)
 and fire [L/C] Y N
 Adequate control of waste in storage [20.1801] Y N
 Containers properly labeled and area properly posted [20.1902, 20.1904] Y N
 Package integrity adequately maintained [L/C] Y N
 Adequate records of surveys and material accountability are maintained
 [20.2103, 20.2108] Y N

16. NOTIFICATION AND REPORTS N/A

- a. Licensee in compliance with [19.13, 30.50] (reports to individuals,
 public and occupational, monitored to show compliance with Part 20) Y N N/A
- b. Licensee in compliance with [20.2201, 30.50] (theft or loss) Y N None
- c. Licensee in compliance with [20.2202, 30.50] (incidents) Y N None
- d. Licensee in compliance with [20.2203, 30.50] (overexposures and
 high radiation levels) Y N None
- e. Licensee aware of telephone number for NRC Emergency Operations
 Center [(301) 816-5100] Y N

17. POSTING AND LABELING

- a. NRC Form 3 “Notice to Workers” is posted [19.11] Y N
- b. Parts 19, 20, 21, Section 206 of Energy Reorganization Act, procedures
 adopted pursuant to Part 21, and license documents are posted, or a notice
 indicating where documents can be examined is posted [19.11, 21.6] Y N
- c. Other posting and labeling per [20.1902, 1904] and the licensee is not
 exempted by [20.1903, 1905] Y N

Remarks:

18. RECORDKEEPING FOR DECOMMISSIONING N/A

- a. Records of information important to the safe and effective decommissioning
 of the facility maintained in an independent and identifiable location until
 license termination Y N
- b. Records include all information outlined in [30.35(g), 40.36(f), 70.25(g)] Y N

Remarks:

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19. BULLETINS AND INFORMATION NOTICES

- a. Receipt of NRC Bulletins, NRC Information Notices, NMSS Newsletters, etc. . . . Y N
- b. Appropriate action taken in response to Bulletins, Information Notices, etc. Y N

Remarks:

20. SPECIAL LICENSE CONDITIONS OR ISSUES N/A

- a. Review special license conditions, site-specific procedures or safety issues or other issues, and describe findings:

- b. Problems/deficiencies identified at licensee facilities other than at audit location:

- c. Evaluation of compliance:

21. CONTINUATION OF REPORT ITEMS N/A

(If more space is needed, use separate sheets and attach to report.)

22. PROBLEMS OR DEFICIENCIES NOTED AND RECOMMENDATIONS N/A

Note: Briefly state (1) the requirement and (2) how and when violated. Provide recommendations for improvement.

23. EVALUATION OF OTHER FACTORS

- a. Senior licensee management is appropriately involved with the radiation safety program and/or Radiation Safety Officer (RSO) oversight Y N
- b. RSO has sufficient time to perform his/her radiation safety duties and is not too busy with other assignments Y N
- c. Licensee has sufficient staff Y N

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Note: All areas indicated in audit notes may not be applicable to every license and may not need to be addressed during each audit. For example, licensees do not need to address areas that do not apply to the licensee's activities and activities that have not occurred since the last audit need not be reviewed at the next audit.

Date of This Audit _____ Date of Last Audit _____

Next Audit Date _____

Auditor _____

Date _____

(Signature)

Management Review _____

Date _____

(Signature)