

U. S. Department of Energy



Consolidated Audit Program

Checklist 6

Hazardous and Radioactive Materials Management

Revision 3.8

January 2012

Audit ID:

Date:

Approved by:  DOECAP Manager, January 2012

Audit ID: _____ Laboratory: _____ Auditor: _____

Areas of Review During Audit

___ SOPs/Waste Management Plan

___ Radioactive Materials Management and Control

___ Analytical Process Waste and Excess Sample Material

___ Waste Storage Area

___ Waste Container Management

___ Chemical Hygiene Plan

___ Laboratory Contingency Plan and Emergency Procedures

___ Laboratory Facility Safety

___ Sample Receiving

___ Sample Control and Building Security

A = Acceptable

U = Unacceptable

NA = Not Applicable

F = Finding

O = Observation

Referenced regulations are accessible at the following URLs:

- <https://doecap.oro.doe.gov/>

NOTE:

- When audit findings are written against *site-specific documents* (i.e., SOPs, QA Plans, licenses, permits, etc.), a copy of the pertinent requirement text from that document must be attached to this checklist for retention in DOECAP files.
- Fully document any deviation from the LOI or the requirements of QSAS 2.8
- Refer to Page 25 for the record of revision.

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
1.0	Standard Operating Procedures/Waste Management Plan		
1.1	The laboratory demonstrates compliance or exempt status with the environmental, safety and health requirements of applicable laws, regulations, and standards. <i>QSAS, Sections 6.0 – 6.5.8</i>		
1.2	The laboratory has a waste management plan in place that is capable of tracking the disposition of waste sample by Sample Data Group (SDG), including universal wastes such as batteries, thermostats, etc. <i>QSAS, Section 6.5.2</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
1.3	<p>The waste management plan shall include (but not be limited to) the following:</p> <ul style="list-style-type: none"> • administrative programs to demonstrate compliance for effluent discharges as required by regulatory agencies; radioactive volumetric and surface release policies; • permits and licenses to handle hazardous and radioactive waste; • policy or direction on how to conduct waste brokering and Treatment, Storage and Disposal Facility (TSDF) evaluation to ensure proper disposition of waste; • tracking of individual sample containers from receipt to final disposition (including sample consumed during analysis) • systems for maintaining records of sample preparation and analysis of industrial hygiene samples that are consumed during analysis, • a waste minimization program that includes substitution (when permitted), segregation, recycling, etc. • Waste brokering and TSDF evaluations are conducted every three years unless there are changes in the facilities operations that require the reviews to be conducted on a more frequent basis (NOVs, change of ownership, notices of fines and penalties, etc.). <p>(Note facility can use EPA public domain ECHO and Envirofacts websites for information on TSDFs.)</p> <p><i>QSAS, Section 6.5.3</i></p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
2.0	Radioactive Materials Management and Control		
2.1	The laboratory has a radioactive materials inventory program in place that is capable of tracking standards, tracers, and all licensable samples. <i>QSAS, Section 6.2.5</i>		
2.2	The role, responsibilities, and qualifications for the Radiation Safety Officer (RSO) and the backup RSO have been well defined and the person filling the RSO position meets those requirements. <i>QSAS, Section 6.2.4 and QSAS Section 4.2.4 10 CFR 30.33 (a)(3)</i>		
2.3	An onsite person is present to fill the function of RSO, and this person is listed in the Radioactive Materials License (RML). The laboratory has an alternate RSO in the event that the RSO is not available. <i>QSAS, Section 6.2.4</i>		
2.4	The RML authorizes possession of isotopes, quantity, physical form, and use of radioactive material sufficient for the laboratory's scope of work in support of DOE sites. <i>QSAS, Section 6.2.2</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
2.5	<p>Prior to performing radiological surveys, the radiological survey instrumentation is checked for operational performance using a radiological source, a battery check, is performed, and the nominal background is measured.</p> <p>All performance checks are documented and available for review.</p> <p>QSAS, Section 5.8 DOE-7</p>		
2.6	<p>The laboratory reviews, at least annually, the radiation protection program content and implementation, and records of audits, reviews, and inspections over the last three years are kept on file.</p> <p><i>10 CFR 20.1101, Section 2103a</i></p>		
2.7	<p>A survey or monitoring program is in place to assess the extent of potential radiological hazards.</p> <p><i>10 CFR 20.1501(a)</i></p>		
2.8	<p>The laboratory monitors external exposure for those employees likely to receive, in one year from sources external to the body, a dose in excess of 10% of the limits in 10 CFR 20.1201(a). Review the laboratory process and documentation.</p> <p><i>10 CFR 20.1502(a)</i></p>		
2.9	<p>The laboratory monitors internal exposure of those employees likely to receive, in one year, an intake in excess of 10% of the applicable Annual Limit(s) on Intake [ALI(s)].</p> <p><i>10 CFR 20.1502(b)</i></p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
2.10	The Total Effective Dose Equivalents (TEDE) and Total Organ Dose Equivalents (Tides) are within limits, i.e., summing internal and external dose. <i>10 CFR 20.1201 and 1202</i>		
2.11	All individuals in or frequenting any portion of a restricted area are instructed in the health protection problems associated with exposure to radioactive materials or radiation, precautions/procedures to minimize exposure, and the purpose and functions of protective devices employed. <i>10 CFR 19.12(a)(2)</i>		
2.12	The laboratory has developed and implemented a program of radiological controls, and procedures for radioactive material handling, emergency action plan, and use of instrumentation. <i>10 CFR 20.1101a</i>		
2.13	Licensed material is secure from unauthorized access or removal. <i>10 CFR 20.1801 and 1802</i>		
2.14	Instrument and equipment calibration records showing the results of daily calibration checks and calibrations for radiation daily checks instruments are maintained and retained for three years. (Refer to LOI 2.5) <i>10 CFR 20.2103(a)</i>		
2.15	Airborne releases of radioactivity to the environment are monitored, evaluated, and controlled. <i>10 CFR 20.1501(a) and 1701, EPA NESHAPS</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
2.16	The effluent released to the sanitary sewer meets four provisions of 10 CFR 20.2003, i.e.: <ul style="list-style-type: none"> • it must be readily soluble • the quantity released into sewer does not exceed concentration listed in Appendix B to Part 20, • determination of fractional limits, and • sum of those fractions for each radionuclide. 10 CFR 20.2003		
2.17	Waste packaging, control, and tracking are performed in accordance with 10CFR20 Appendix G, Section III requirements, i.e., classification, labeling, QC program, and preparing/ forwarding manifests. 10 CFR 20.2006(d)		
2.18	The laboratory shall remove or deface all sample container labels prior to container disposal such that they are rendered illegible. 10 CFR 20.1904(b); QSAS, Section 6.5.4		
2.19	Laboratory operations involving material release, effluent release, and waste disposal are implemented in accordance with a documented policy such that any potential resulting dose to individual members of the public is maintained within regulatory limits and minimized to the extent reasonably achievable. QSAS, Section 6.5; 10 CFR 20.1101(b)(d); 10 CFR 20.1301		

**U.S. Department of Energy Consolidated Audit Program
Hazardous and Radioactive Materials Management**

**DOECAP Checklist: 6
Effective Date: January 12**

**Rev. 3.8
Page 8 of 31**

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
2.20	Waste shipments are transferred to qualified facility/person specifically licensed to receive waste. <i>QSAS, Section 6.5.3; 10 CFR 20.2001(a)</i>		
2.21	Records of waste disposal are maintained. <i>10 CFR 20.2108</i>		
2.22	Areas of radioactive material handling and contamination are posted according to 10 CFR 20.1902. Conspicuous signs bearing the radiation symbol and the words "CAUTION-RADIATION AREA", "CAUTION-HIGH RADIATION AREA", and "CAUTION-VERY HIGH RADIATION AREA" should be used. <i>10 CFR 20.1902</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
3.0	Analytical Process Waste and Excess Sample Material		
3.1	Analytical process waste is segregated and removed to an appropriate storage area as soon as practical to minimize the potential for cross contamination. <i>QSAS, Section 6.5.5</i>		
3.2	The laboratory characterizes each analysis-derived waste stream for hazardous waste characteristics (RCRA); TSCA PCB regulated levels, and radioactivity. Characterization is performed either by testing and/or documented process knowledge. <i>40 CFR 262.11(c)(1) and (2); QSAS, Section 6.5.6</i>		
3.3	Characterization records include analytical test results and process knowledge determinations and are kept for at least three years. <i>40 CFR 252.40</i>		
3.4	Laboratories are accumulating no more than 55 gallons of hazardous and mixed waste or no more than one quart of acutely hazardous waste at, or near, any point of generation (satellite point). <i>40 CFR 262.34c</i>		
3.5	Wastes from samples containing PCBs at greater than 50 ppm are segregated from other laboratory wastes as TSCA regulated waste. (NOTE: This does not apply to the extracted sample residual, BUT it does apply to the extract and other laboratory process wastes.) <i>40 CFR Part 761</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
3.6	Laboratory-generated TSCA PCB wastes are not stored in a Temporary Storage Area more than 30 days from the time of generation without being placed in an area that meets one year storage facility requirements. <i>40 CFR 761.65</i>		
3.7	TSCA PCB waste containers and sample storage areas are marked with the required TSCA PCB labeling as identified in 40 CFR 761.45. <i>40 CFR 761.45</i>		
3.8	Radioactive and mixed wastes generated during laboratory sample processing are properly labeled as Radioactive. <i>10 CFR 20.1904</i>		
3.9	Radioactive and mixed wastes are segregated from non-radioactive process wastes. <i>QSAS, Section 6.2.6</i>		
3.10	If required by contract, the laboratory has provisions for the disposal of excess samples or for the return of excess sample material to the client's custody. <i>QSAS, Section 6.5.7</i>		
3.11	A system exists that provides for cradle-to-grave tracking of excess samples, including those consumed during analysis, drain disposed, long-term archived, or returned to the customer. <i>QSAS, Section 6.5.3</i>		

**U.S. Department of Energy Consolidated Audit Program
Hazardous and Radioactive Materials Management**

**DOECAP Checklist: 6
Effective Date: January 12**

**Rev. 3.8
Page 11 of 31**

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
3.12	<p>For drain and drum disposed samples, the sample tracking system documents the date of sample disposal and the drum number, as applicable.</p> <p><i>QSAS, Section 6.5</i></p>		
3.13	<p>For excess samples that are drain disposed, the laboratory is aware of the requirements (e.g., samples that are compatible, are not water reactive, compliant pH range, etc.) for the receiving Publicly Owned Treatment Works (POTW) or wastewater treatment system, and has a program that meets and demonstrates compliance with these requirements.</p> <p><i>QSAS, Section 6.5.8</i></p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
4.0	Waste Storage Areas		
4.1	TSCA PCB waste is not stored for more than one year from the date the material was first placed in storage. <i>40 CFR 761.65(a)</i>		
4.2	TSCA PCB waste containers should be labeled with the accumulation start date. <i>40 CFR 262.34(a)(2)</i>		
4.3	The TSCA one year waste storage area meets the storage facility requirements for PCB waste. (floor curbing, above 100 year flood plain, no floor drains, etc.) <i>40 CFR 761.65(b)</i>		
4.4	For RCRA Large Quantity Generators: No waste containers are stored over 90 days in the accumulation/storage area. <i>40 CFR 262.34(a) and (b)</i>		
4.5	For RCRA Small Quantity Generators: No waste containers are stored over 180 days (270 days if transported over 200 miles) in the accumulation/storage area. There is an exemption for conditionally exempt small quantity generators. See <i>40 CFR 261.5</i> <i>40 CFR 262.34(d)(e)</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
4.6	<p>For RCRA Small and Large Quantity Generator waste storage areas:</p> <ul style="list-style-type: none"> • incompatible waste stored near other containers is separated by a dike, berm, wall, or other device; • the waste storage area provides secondary containment of sufficient capacity for the waste expected to be stored in the areas; and • ignitable and reactive waste is stored at least 50 feet from the property line (There is an exemption for small quantity generators).. <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 265.176, 177(c) and 193</p>		
4.7	<p>Waste storage containers are:</p> <ul style="list-style-type: none"> • labeled with the words “Hazardous Waste” or other words that clearly define the contents; • labeled with the start date upon which each period of accumulation begins • the start of accumulation must be clearly marked and visible for inspection on each container. <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40CFR262.34(a)(2)(3)</p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
5.0	Waste Container Management		
5.1	Satellite accumulation containers are: <ul style="list-style-type: none"> • labeled with the words “Hazardous Waste” or other words that clearly define the contents; • routinely checked to ensure that no one container has accumulated more than 55 gallons of waste; • routinely checked to ensure that no one container has accumulated more than one quart of acutely hazardous waste. <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 262.34(a)(3) and (c)(1)</p>		
5.2	Waste storage areas, and containers of waste are monitored weekly by an operator or someone knowledgeable in waste operations specific to this facility. <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 265.174</p>		
5.3	The user(s) or operator(s) of the satellite accumulation areas understand container/waste compatibility and have been trained with respect to container selection, waste identification, documentation, and management. <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 265.172 and 177</p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
5.4	<p>Outgoing shipments of materials are in compliance with 49 CFR 172, 173, 178, and 179 as to placarding, quantity limits, packing requirements, etc. (Ask laboratory personnel to walk you through the process and show you the procedures.)</p> <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 262.31-32</p>		
5.5	<p>Accumulation containers must be:</p> <ul style="list-style-type: none"> • in good condition, • compatible with the waste, • kept closed. <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 262.34c; and 40 CFR 265. 171, 172, 173, and 174</p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
6.0	Laboratory Contingency Plan and Emergency Procedures		
6.1	For RCRA Large Quantity Generators: The laboratory has a written contingency plan and a copy is available at the facility. <i>40 CFR 265.50, 51, 52, and 53</i>		
6.2	For RCRA Small Quantity Generators: The following information is posted next to the phone in the vicinity of the accumulation area: <ul style="list-style-type: none"> • name and number of the emergency coordinator, • location of fire extinguishers and spill control material, and • fire department number or a direct alarm. There is an exemption for conditionally exempt small quantity generators. See <i>40 CFR 261.5</i> <i>40 CFR 262.34(d)(5)(ii)</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
6.3	<p>For Large and Small Quantity Generators:</p> <p>Required equipment is available at the accumulation/storage area. Equipment includes, but is not limited to:</p> <ul style="list-style-type: none"> • internal communication or alarm system, • telephone or hand-held two-way radio, • portable fire extinguishers/fire control equipment, • spill control equipment, and water at adequate volume and pressure (e.g., 15 minutes of continuous pressure). <p>There is an exemption for conditionally exempt small quantity generators. See 40 CFR 261.5</p> <p>40 CFR 262.34(a)(4) and (d)(4); 40 CFR 265.32</p>		
6.4	<p>The laboratory has formally designated an Emergency Coordinator who:</p> <ul style="list-style-type: none"> • is on the premises or is on call at all times; • while on call, can reach the facility in a short period of time (e.g., 10-20 minutes); and • is qualified and trained in this capacity • Backup personnel with appropriate training are available for the Emergency Response (HAZWOPER) trained personnel. <p>QSAS, Section 6.4.5</p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
6.5	<p>The facility has prepared a written emergency action plan to ensure employee safety from fire and other emergencies and employees have been trained to the requirements of the plan [29 CFR 1910.38(a)(1) and (a)(5)]. <i>NOTE: This can be the same as the RCRA Large Quantity Generator required contingency plan; HOWEVER, the laboratory must ensure that the combined plan meets both OSHA and RCRA requirements.</i></p> <p><i>QSAS, Section 6.4.5</i></p>		
6.6	<p>The following are readily available to laboratory personnel:</p> <ul style="list-style-type: none"> • medical personnel for advice and consultation on matters of employee health; • an emergency eye wash within the immediate work area; and • an emergency shower within the immediate work area. <p><i>29 CFR 1910.151(a) and (c)</i></p>		
6.7	<p>The employer has provided, mounted, located, identified, and inspected portable fire extinguishers so that they are readily available to all employees without subjecting the employees to possible injury.</p> <p><i>29 CFR 1910.157(c)(1) and (e)(1)</i></p>		
6.8	<p>The employer has developed a spill control policy, and has provided, located, and identified spill kits so that they are readily available to all employees.</p> <p><i>29 CFR 1910.1450, Appendix A, Section 9(c) (Appendix A Non-Mandatory)</i></p>		

**U.S. Department of Energy Consolidated Audit Program
Hazardous and Radioactive Materials Management**

**DOECAP Checklist: 6
Effective Date: January 12**

**Rev. 3.8
Page 19 of 31**

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
6.9	The facility is equipped with an alarm system that is capable of being detected and recognized by the employee in case of emergency <i>29 CFR 1910.165(b); 29 CFR 1910.1450, Appendix A, Section D.9.b (Appendix A Non-Mandatory)</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
7.0	Chemical Hygiene Plan		
7.1	A Chemical Hygiene Plan (CHP) has been developed and implemented in the laboratory and is readily available to the employees. <i>29 CFR 1910.1450(e), Appendix A, Section A.4 (Appendix A Non-Mandatory)</i>		
7.2	SOPs relating to safety and health considerations have been developed and are being followed. <i>29 CFR 1910.1450(e)(3(i))</i>		
7.3	Initial and periodic exposure monitoring for hazardous chemicals has been conducted and exposures to OSHA-regulated substances used in the laboratory do not exceed the Permissible Exposure Limits (PEL) specified in 29 CFR 1910, Subpart Z. <i>29 CFR 1910.1450(c)</i>		
7.4	Material Safety Data Sheets (MSDSs) are on file for all hazardous chemical substances maintained by the laboratory and are readily accessible to all employees. <i>29 CFR 1910.1450(h)(ii)</i>		
7.5	Measures are in place to ensure the performance and maintenance of ventilation hoods and protective equipment. <i>29 CFR 1910.1450(e)(3)(iii)</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
7.6	<p>Laboratory analytical employees have been trained on:</p> <ul style="list-style-type: none"> • contents of the employer's CHP; • physical and health hazards of chemicals in the work area; and • methods and observations used to detect the presence or release of a hazardous substance (e.g., monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous substances being released). <p><i>29 CFR 1910.1450(e)(4) and (f)</i></p>		
7.7	<p>If respirators are used during sample or waste handling/processing, the laboratory has an appropriate written respiratory protection program, including:</p> <ul style="list-style-type: none"> • SOPs governing the selection and use of respirators; and • annual evaluation to ensure effectiveness. <p><i>29 CFR 1910.134(a) and (b)</i></p>		
7.8	<p>Chemical hazard labeling on chemical containers is in accordance with the laboratory's approved CHP.</p> <p><i>QSAS, Section 6.4.3</i></p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
8.0	Laboratory Facility Safety		
8.1	Exits are identified and unobstructed. <i>29 CFR 1910.36(d) and 37(a)</i>		
8.2	A laboratory safety inspection program is in place that includes routine walk downs of laboratory areas for safety-related concerns. <i>QSAS, Section 6.4.2</i>		
8.3	Signs are in place to indicate: <ul style="list-style-type: none"> • safety showers, • eyewash stations, • other safety and first aid equipment, • exits, and • areas where food and beverage consumption and storage are permitted. <i>29 CFR 1910.1450, (b); (Refer to Laboratory CHP for additional requirements)</i>		
8.4	Areas containing biological hazards are appropriately posted and contained. <i>29 CFR 1910.1030</i>		
8.5	All hazardous or toxic chemical cabinets are appropriately labeled. <i>29 CFR 1910.1200(f)(5)</i>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
9.0	Sample Receiving		
9.1	The laboratory has procedures in place to address the following: <ul style="list-style-type: none"> • checking sample preservation, i.e., pH; • proper containers; • preserving samples when required; • notifying clients of shipping or sample anomalies; • checking holding times and notification of laboratory personnel of short holding times; • use of fume hoods for opening samples and shipping containers to ensure employees are protected; • procedure and records to verify contamination control of ventilation hoods used for opening shipping containers • testing of the ventilation hoods used for opening DOE shipping containers are conducted on semiannual basis using smoke test or flow meter measurements • radiation screening of samples, laboratory notification of anomalies or deficiencies, and labeling requirements for radioactive samples. <p><i>QSAS, Sections 5.8.3 - 5.8.4; 5.8 DOE-7</i></p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
9.2	<p>Specific requirements for receiving shipping containers from DOE sites:</p> <p>Shipping containers from DOE sites are opened under a ventilation hood.</p> <p>Refer to LOI 9.1 for requirements for sample receiving ventilation hoods.</p> <p>Radiological surveys of sample shipping containers are surveyed as soon as possible from the time of receipt by the laboratory.</p> <p>All shipping containers from known radiological areas are surveyed for radiological contamination on all external surfaces.</p> <p>Materials submitted for industrial hygiene or asbestos analyses are opened in an established manner to prevent worker exposure.</p> <p>Sample receiving practices are developed and implemented for the receipt of beryllium, beryllium oxide, and asbestos materials.</p> <p>QSAS, Section 5.8 DOE-7</p>		
9.3	<p>Sample custodians document anomalies encountered in the sample receiving process.</p> <p>QSAS, Section 5.8.3</p>		
9.4	<p>Personnel dealing with radioactive waste management and materials shipping are trained in general awareness, security and safety.</p> <p>49 CFR 172.702 and 704</p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
9.5	<p>At sample receiving, samples from potentially radioactive sites are screened to ensure that:</p> <ul style="list-style-type: none"> • customer identification of radioactivity (or lack of radioactivity) is correct; • the sample is properly categorized (per the laboratory's definition of radioactivity) for sample handling in the laboratory; • in the absence of customer supplied information, data input is obtained for the radioactive materials license tracking system; and • the shipping container does not exhibit loose contamination or unacceptable external radiation readings. <p><i>10 CFR 20.1906</i></p>		
9.6	<p>A radiological control program that addresses analytical radiological control is implemented by the laboratory.</p> <p>The radiological control program shall explicitly define how low level and high level samples will be identified, segregated, and processed in order to prevent sample cross contamination.</p> <p><i>QSAS, Appendix D.4.8</i></p>		
9.7	<p>The radiological materials inventory is updated according to the schedule established by the radioactive materials licenses. If no schedule is defined by the RML, then the laboratory updates the radiological inventory within seven days of the receipt of radioactive materials.</p>		

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
10.0	Sample Control and Building Security		
10.1	Physical or administrative controls exist to ensure that: <ul style="list-style-type: none"> • an intact, continuous Chain of Custody (COC) is maintained during times in which laboratory staff are present or not present; • visitor access is controlled by positive administrative controls and strict escort rules developed for all visitors; and • the facility has controlled entrance and egress point. <i>QSAS, Section 5.8.4</i>		
10.2	On an annual basis, all visitors, maintenance personnel and auditors receive a documented safety orientation prior to entering the laboratory. The briefing includes the safety practices and policies of the laboratory. <i>QSAS Section 6.4.4</i>		
10.3	When the laboratory receives samples, an internal COC procedure is initiated and internal custody is maintained until final disposition or return of the samples to the client. <i>QSAS, Section 5.8.3.1</i>		
10.4	The laboratory maintains an indexed sample storage system that facilitates sample retrieval. <i>QSAS, Section 5.8.4</i>		
10.5	The laboratory has established, implemented, and documented procedures to ensure that the sample's radioactivity levels are consistent with the accompanying documentation and that laboratory regulatory levels are not exceeded. <i>QSAS, Section 6.2.3</i>		

**U.S. Department of Energy Consolidated Audit Program
Hazardous and Radioactive Materials Management**

**DOECAP Checklist: 6
Effective Date: January 12**

**Rev. 3.8
Page 27 of 31**

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Item Number	Line of Inquiry	Status	Summary of Observations/Objective Evidence Reviewed Audit Notes
10.6	Does the laboratory have an USDA certificate for the receipt of quarantined soils? <i>7 CFR 301.81-4(a)(3)</i>		

**U.S. Department of Energy Consolidated Audit Program
Hazardous and Radioactive Materials Management**

**DOECAP Checklist: 6
Effective Date: January 12**

**Rev. 3.8
Page 28 of 31**

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Notes:

**U.S. Department of Energy Consolidated Audit Program
Hazardous and Radioactive Materials Management**

**DOECAP Checklist: 6
Effective Date: January 12**

**Rev. 3.8
Page 29 of 31**

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

Notes:

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ Laboratory: _____ Auditor: _____

Record of Revision for Checklist 6 Hazardous and Radiological Materials Management

Revision Number	Effective Date	Reason for Revision	Line of Inquiry
3.5	11/2009	Added roles and responsibilities for the backup RSO.	2.2
3.5	11/2009	Added requirement for alternate RSO	2.3
3.5	11/2009	Added requirements for the daily performance checks of the radiological survey instrumentation.	2.5
3.5	11/2009	Added DOE specific requirements for the receipt, opening and radiological survey of incoming shipping containers.	9.3
3.5	11/2009	Added requirement for annual safety briefing for all visitors, maintenance personnel, and auditors	10.2
3.6	11/2010	Defined requirement for audits of waste broker firms or TSDFs to be conducted every three years and more frequent if there are changes to the facility.	1.3
3.6	11/2010	Added requirement of backup personnel with appropriate training for the Emergency Response (HAZWOPER) trained personnel.	6.4.5
3.6	11/2010	Added requirements for the establishment of a radiological control program	9.6
3.6	11/2010	Added requirement for the update of the radiological materials inventory as required by the RML or within seven days of the receipt of radioactive materials.	9.7
3.7	11/2011	Added to the note section of the checklist: Fully document any deviation from the LOI or the requirements of QSAS 2.7	Page 1
3.7	11/2011	Added the status of samples consumed during analysis to the requirement for sample tracking	1.3
3.7	11/2011	Requirements for the maintenance of IH preparation and analysis records for samples that are consumed	1.3
3.7	11/2011	Added a note for the use of EPA public domain websites ECHO and Envirofacts	1.3

Approved by:  DOECAP Manager, November 2011

Audit ID: _____ **Laboratory:** _____ **Auditor:** _____

3.7	11/2011	Added requirement for the ventilation hoods used to open DOE shipping containers. Hoods are to be tested on a semiannual basis using a smoke test or flow meter measurements	9.1
3.7	11/2011	Added requirements for the receipt of industrial hygiene samples including asbestos, Beryllium, and Beryllium Oxide	9.2
3.7	11/2011	Add reference to LOI 9.1 for ventilation hoods used for opening DOE shipping containers	9.2
3.8	1/2012	Fully document any deviation from the LOI or therequirements of QSAS 2.8	1