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DOE-STD-1095-2025

DOE STANDARD

DEPARTMENT OF ENERGY LABORATORY ACCREDITATION PROGRAM FOR PERSONNEL DOSIMETRY

U.S. Department of Energy **AREA SAFT**
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FOREWORD

The Department of Energy (DOE) implemented the DOE Laboratory Accreditation Program (DOELAP) for personnel dosimetry in 1986. The objective of the DOELAP personnel dosimetry program is to assure the competency of dosimetry measurements through calibration intercomparisons, performance testing, and on-site assessments. The program also encourages applied research in areas where there is a technology shortfall. DOE expects the program to enhance cooperation and technical information exchange among its sites and facilities to provide a more standardized and uniform radiation dosimetry capability. DOE sites and facilities are expected to use standards and other technical guidance from the Department to ensure that the performance of personnel dosimetry programs is adequate to meet the requirements of Title 10 of the Code of Federal Regulations Part 835, *Occupational Radiation Protection*, and related documents.

This standard establishes the technical basis for the Performance Testing Laboratory (PTL) that administers the personnel dosimeter program for DOE site dosimetry programs seeking DOELAP accreditation. The performance testing categories for whole body dosimetry are based on American National Standards Institute (ANSI)/Health Physics Society (HPS) N13.11, *American National Standard for Personnel Dosimetry Performance – Criteria for Testing*, and for extremity dosimetry from ANSI/HPS N13.32, *American National Standard for Performance Testing of Extremity Dosimeters*.

Throughout this standard, the word “shall” is used to denote a required action that is to be performed; the word “may” is used to denote permission, neither a requirement nor a recommendation; and the word “should” is used to denote an action that is expected to be performed unless documentation is provided validating technical equivalence

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1 PURPOSE AND SCOPE

This technical standard (STD) describes the U.S. Department of Energy Laboratory Accreditation Program (DOELAP) for personnel dosimetry in support of worker health and safety. DOELAP accreditation for personnel dosimetry includes performance testing of dosimeters and the documentation of program elements important to the long-term quality assurance (QA) of a dosimetry program and its ability to accurately measure, record, and report occupational whole body and extremity dose.

Performance testing of dosimeters is conducted in a laboratory setting by the Performance Testing Laboratory (PTL). DOELAP does not evaluate the adequacy of a dosimetry program to accurately measure occupational dose in actual work environments encountered at DOE sites. The information in this technical standard, including the technical and QA aspects of the accredited program, is intended for implementation of the DOELAP requirements by accredited programs, programs seeking accreditation, the PTL, DOELAP assessors, vendors, and subcontractors.

2 APPLICABILITY

This technical standard applies to DOE Headquarters, field organizations, and contractors subject to the requirements of Title 10 of the Code of Federal Regulations Part 835 (10 CFR 835), *Occupational Radiation Protection*. For the purposes of accreditation, personnel dosimetry includes both whole body and extremity dosimeters that are routinely used to measure and determine a dose of record; it does not apply to non-routine dosimetry.

3 ACCREDITATION PROCESS

To be granted accreditation, the following is required:

- Submittal of an application by the due date specified by the DOELAP Senior Technical Manager;
- Compliance with the requirements specified or referenced by this standard;
- Demonstration of proficiency using each dosimeter specified on the application; and
- Completion of an on-site assessment conducted by DOELAP-assigned assessors.

3.1 Application

(a) Consideration for DOELAP accreditation of a dosimetry program requires the submission of an application, including a documented quality assurance program (QAP).

(b) Initial applicants shall also submit a program self-assessment which is a documented internal review conducted by the applicant, comparing the program's compliance status to the requirements set forth in this standard. Lines of inquiry for the self- assessment can be obtained through the DOELAP Senior Technical Manager.

3.2 Performance Testing

(a) Performance testing compares the results from the applicant's reported measurement values to the dose delivered to the applicant's dosimeters using the criteria established in the ANSI/HPS N13.11, *American National Standard for Personnel Dosimetry Performance – Criteria for Testing*, and for extremity dosimetry from ANSI/HPS N13.32, *American National Standard for Performance Testing of Extremity Dosimeters*. Test participants submit 15 dosimeters (5 per round) for each subcategory selected for evaluation, except for the subcategories of Category II, which require 21 dosimeters (7 per round). Performance testing of additional dosimeter models and types not currently used in the program may be requested through the PTL.

(b) The delivered doses are not revealed to the applicants until after their results are reported for all three rounds of irradiations. Comparing the reported dosimeter results from the applicant's measurement process with the delivered doses provides evidence of the program's proficiency in terms of both accuracy and precision. A variation beyond established acceptance criteria provides a means for denying accreditation or granting only accreditation for use of categories and dosimeters that successfully passed performance testing.

(c) The radiation categories selected in the application for accreditation shall be representative of the radiation types and energies encountered where the dosimeter will be used to demonstrate compliance with 10 CFR 835.402.

(d) Processing of performance testing dosimeters shall be defined and consistent with processing of personnel dosimeters. The same dosimeter model, type, and sensitive element used to assess occupational exposures shall also be used during performance testing.

(e) The applicant shall review the performance testing data for potential improvements in the dosimetry measurement system.

3.2.1 Whole Body Dosimeter Performance Testing

(a) Performance testing of whole-body dosimeters shall be conducted in accordance with ANSI/HPS N13.11.

(b) Retesting is required if the performance testing results for any selected category from the Test Category column in Table 3-1 do not meet the criteria. The retest sequence is listed in Table 3-1. If a dose algorithm was modified in response to a category failure, then retesting in all applied-for categories is required.

Table 3-1. Retesting Requirements for Whole Body Dosimetry Performance Testing

Test Category	Required Retesting
I. Accidents, photons	I. Accident, Photons II. Photons/photon mixtures
II. Photons/photon mixtures	II. Photons/photon mixtures III. Betas IV. Photon/beta mixtures
III. Betas	II. Photons/photon mixtures III. Betas IV. Photon/beta mixtures
IV. Photon/beta mixtures	II. Photons/photon mixtures III. Betas IV. Photon/beta mixtures
V. Neutron/photon mixtures	II. Photons/photon mixtures V. Neutron/photon mixtures

(c) An applicant is allowed a maximum of two retests, irrespective of which whole body performance testing category failed. Failure of the second retest may result in either a partial accreditation for the categories in which performance testing criteria were met or denial of accreditation.

3.2.2 Extremity Dosimeter Performance Testing

(a) Performance testing of extremity dosimeters shall be conducted in accordance with ANSI/HPS N13.32.

(b) Retesting is required if the performance testing results for any selected category in the Test Category column in Table 3-2 do not meet the criteria. The retest sequence is listed in Table 3-2. If a dose algorithm was modified in response to a category failure, then retesting in all applied-for categories is required.

Table 3-2. Retesting Requirements for Extremity Dosimeter Performance Testing

Test Category	Required Retesting
I. High-dose, photons	I. High-dose, photons II. Photons (IIA, IIB, or IIC)
II. Photons	II. Photons III. Betas IV. Beta/photon mixtures
III. Betas	II. Photons III. Betas IV. Beta/photon mixture
IV. Beta/photon mixtures	II. Photons III. Betas IV. Beta/photon mixture

(c) An applicant is allowed a maximum of two retests, irrespective of which extremity performance testing category failed. Failure of the second retest may result in either a partial accreditation for the categories in which performance testing criteria were met or denial of accreditation.

3.3 On-site Assessment

An on-site assessment of an applicant's program is conducted initially and triennially thereafter to ensure a program meets the requirements prescribed in this standard. For initial accreditation, an on-site assessment is conducted after performance testing is completed. A monitoring visit may also be conducted after implementation of a new program or if deficiencies were identified during an on-site assessment of an established program. DOE-STD-1111, *Department of Energy Laboratory Accreditation Program Administration*, provides additional information regarding on-site assessments and monitoring visits.

4 QUALITY ASSURANCE

4.1 Quality Assurance Program

(a) The program shall have a documented QAP describing the internal management structure, system of procedures, and practices to ensure dosimetry results are accurate, repeatable, verifiable, and properly recorded.

(b) The program's QAP documentation shall include:

- Statement of quality policy and quality objectives;

- Documented processes, procedures, and instructions;
- Description of the methods for effective planning, operation, and control of processes;
- Records required to demonstrate compliance with the QAP;
- Dosimetry specifications and technical basis documentation;
- Acceptance criteria for dosimeter materials and holders;
- Training objectives and processes for maintaining proficiency; and
- Practices for handling and resolving contested dosimetry data and test reports.

4.2 Continuation of Accredited Activities

A program shall have a documented plan to ensure continuation of accredited activities in the event of a temporary and unexpected loss of capability up to 6 months. The documented plan shall include methods for maintaining redundant accredited measurement capabilities and methods for re-distribution of responsibilities following the loss of key personnel.

4.2.1 Redundant Measurement Capabilities

(a) Programs shall identify measurement and testing equipment essential to maintain operation of key systems.

(b) Programs that utilize duplicate measurement system capability for continuation of accredited activities shall:

- Maintain calibration of measurement systems;
- Demonstrate equivalent performance to primary system; and
- Identify responses to catastrophic loss (e.g., natural disaster, power surge, building fire).

(c) Programs that utilize backup service providers shall have a documented agreement in place that includes processing equipment types, dosimeter types, accredited categories, and number of expected measurements. Backup service providers shall:

- Maintain a DOELAP accreditation or vendor qualification per DOE-STD-1111, *Department of Energy Laboratory Accreditation Program Administration*;
- Have demonstrated acceptable performance in all accredited categories identified in the agreement; and
- Perform blind testing of all relevant categories at a defined frequency after establishing the agreement.

(d) Duplicate measurement systems and backup service provider capabilities shall be exercised at a frequency identified in the QAP to ensure dosimetry results are accurate, repeatable, and verifiable.

(e) In the event backup service provider is required, the program will notify the DOELAP Senior Technical Manager prior to sending personnel dosimeters to the backup service provider.

4.2.2 Unexpected Loss of Key Personnel

(a) Key personnel are those who have assigned duties and functions necessary to implement the accredited program defined by this standard.

(b) A plan shall identify key personnel and document methods for mitigation of the loss until qualified replacements can be established. Examples may include staff reassignment (permanent or temporary), consultant agreement, or corporate reach back program.

4.3 Program Management

(a) Managerial and technical personnel shall have the resources needed to carry out their duties, including the implementation of the QAP.

(b) A Technical Lead (however named), who is experienced in applied radiation dosimetry and knowledgeable in the design and operation of the dosimetry system(s) currently used, shall be assigned. The Technical Lead is responsible for ensuring that dosimetry data are approved and validated, including making decisions regarding questionable data.

(c) A Quality Lead (however named), who has responsibility and authority for ensuring that the QAP is implemented, shall be assigned. The Quality Lead shall have authority to communicate QA issues directly with the Technical Lead and other organizational management. The Technical Lead may function as the Quality Lead as long as the responsibilities are clearly defined.

(d) Responsibilities for the implementation of the QAP shall be defined, including the organizational structure and functional responsibilities of key personnel.

(e) The individuals responsible for the implementation of the QAP may delegate work to others but shall retain responsibility.

(f) Management and personnel shall be free from undue internal and external influences that may adversely impact the quality of their work.

(g) Management shall conduct a formal review of the personnel dosimetry QAP during the 3-year DOELAP accreditation cycle. The review shall be completed at least one year before the accreditation end period so that it is available for the DOELAP on-site assessment. Management shall consist of the Quality Lead, Technical Lead, and a member of management that has authority for allocation of resources. At minimum, the review shall include:

- Assessing opportunities for improvement and the need for changes to policies or processes;
- Comparison of quality objectives and standards against achievements;
- Assessment and test results;
- Non-conformances and corresponding corrective actions, preventative measures, and deficiency trends;
- Results from external and internal audits;
- Continuation of accreditation activities plan and any associated agreements; and

- Other relevant factors, such as quality control (QC) activities, resources, and training.

(h) When more than one organization is involved in the implementation of the requirements for DOELAP accreditation (e.g., major equipment maintenance, calibration, document control and records), the responsibilities, interfaces, and authorities of each organization shall be clearly defined and documented.

(i) When a vendor or subcontractor is involved in the implementation of the requirements for DOELAP accreditation, the accredited program shall have a procedure describing how DOELAP requirements are maintained.

(j) External audits of a vendor or subcontractor's QAP shall be performed initially and at least once during the DOELAP accreditation period. Audits should be performed at least one year prior to the DOELAP on-site assessment to allow assessors adequate time to evaluate the program's progress in managing corrective actions and final resolutions of identified issues. The audits shall be supplemented by an ongoing evaluation of the performance of the vendor or subcontractor through blind audits, outlined in Section 4.8.2 of this standard.

4.4 Personnel Training and Qualifications

(a) All personnel performing accredited activities shall have the training, qualifications, and competence to perform their assigned tasks effectively.

(b) A training program commensurate with the complexity and scope of the assigned responsibilities shall be documented.

(c) Training shall be provided to achieve initial proficiency, maintain proficiency, and adapt to changes in job responsibilities, new technologies, or policies and procedures.

(d) The Technical Lead shall initially and at least annually evaluate and document the proficiency of each staff member authorized to perform dosimetry-related functions. When appropriate, this proficiency assessment should include an observation of performance.

(e) If proficiency is not achieved or maintained, any person's work duties that impact the quality of accredited activities shall be performed under the direction or supervision of a properly trained and qualified individual. Such personnel shall not be the primary signatory on dose processing records or QA/QC reports until proficiency is demonstrated.

4.5 Documents and Records

(a) A system shall be in place which clearly describes the process applied for controlling the dosimetry documents and records throughout the entire dosimetry cycle.

(b) Documents required by the QAP shall be controlled to ensure that the correct and most current documents are being utilized. QA documents shall be reviewed for accuracy and approved by authorized personnel in accordance with documented internal review frequencies.

(c) A comprehensive record of processing activities shall be maintained. Records shall contain sufficient identification to allow correlation with calibration and QC records.

(d) Procedures shall be established and maintained for the identification, collection, indexing, access, filing, storage, maintenance, and disposal of quality and technical records.

(e) QA and technical records shall be legible, readily available upon request, and stored in a suitable environment to prevent damage, deterioration, or loss. QA and technical records shall be available for review during the on-site assessment.

(f) Electronic records shall be protected and regularly backed-up on a pre-determined schedule to prevent unauthorized access, amendment, or loss.

4.6 Work Processes

(a) Accredited activities that can influence the assignment of dose to an individual shall be conducted in accordance with established procedures, which shall include the following:

- Work methods and sequence;
- Equipment to be used;
- Work environment;
- Quality Control;
- Acceptance criteria;
- Inspection points; and
- Recordkeeping.

(b) Work process procedures shall control the preservation of identification of dosimeters, measurements, dose records, and other data on which the dose is based, and maintain traceability to the individual concerned.

(c) Work process procedures shall prescribe specifications and precautions to control the processing, handling, issuing, storage, retrieval, and shipment of dosimeters.

4.7 Quality Improvement

(a) QC procedures shall be implemented to ensure that the equipment performs at the level of precision and accuracy defined in processing protocols. QC data shall be recorded in such a way that trends are detectable.

(b) When QC data is found to be outside pre-defined acceptance criteria, corrective actions shall be implemented and documented. Reevaluation of all dosimeters processed since last acceptance shall be performed.

(c) Software verification and validation (V&V) shall be performed in accordance with an appropriate, documented software quality assurance (SQA) plan. V&V shall be applied to process control software, dose algorithms, data processing, and record keeping. In addition, software version control shall be included in the program’s documented control procedures.

(d) Computer or laboratory information systems used to input, store, calculate, or retrieve data in relation to key dosimeter processing steps shall:

- Establish and maintain procedures describing data processes;
- Validate the accuracy of data entry; and
- Verify the accuracy of any calculations performed.

(e) The variability of test results among equipment and locations shall be assessed to ensure consistency.

(f) Internal audits shall be conducted at least annually and structured in a way to ensure that all elements of this standard are reviewed over the 3-year accreditation period. Audits and actions taken for correcting identified issues and actions implemented to prevent recurrence shall be documented.

4.8 Facilities and Equipment

(a) Facilities and equipment shall be adequate to perform the type(s) of processing for which accreditation is sought. A list and description of facilities and equipment which have the potential to impact the quality of dose results shall be available for review.

(b) Adequate facilities and equipment shall have the following:

- Sufficient space to perform processing;
- Proper shielding of areas from unwanted radiation;
- Environmental monitoring and controls, including background radiation; and
- Properly calibrated equipment.

(c) The requirements within Section 4.8 of this standard apply to implemented backup systems.

4.8.1 Dosimeters

(a) A design specification shall be established for each dosimeter model and configuration. The specification shall include dosimeter holders, filter material used, density thickness (mg/cm^2) of the material, and positions of the dosimetric material within the dosimeter.

(b) Dosimeter materials and holders shall be acceptance tested before being placed into service.

(c) The impacts of the following system characteristics shall be determined and documentation shall clearly indicate algorithm name and version used to generate the results:

- Lower limit of detection;
- Useful dose range;
- Background contribution to dose equivalent;
- Processing system measurement uncertainty;
- Repeatability/precision;
- Residual signal;
- Angular dependence; and
- Batch homogeneity.

(d) Fading of dosimeter materials under normal conditions shall be determined for 2 times the period of intended use, not to exceed 6 months past the period of intended use. For example, fading of quarterly dosimeters shall be documented and accounted for over the period of 6 months; fading of annual dosimeters shall be documented and accounted for over the period of 18 months.

(e) Dosimeters placed into service shall be inspected according to a defined schedule or frequency to ensure all necessary components are in place. A screening procedure shall be used to ensure dosimetry materials, including sensitive elements, are consistent with the dosimeter design. Procedures shall include the phosphor type and sensitivity.

(f) Loading of dosimeters shall be conducted in a well-defined order to ensure the dosimeter complies with the design specification and to prevent confusion in handling visually similar elements. Precautions shall be taken to avoid optical fading and non-radioactive contamination of the phosphor or the detector.

(g) If a dosimeter is used in radiation fields it is not designed for (e.g., a photon dosimeter being used in a mixed photon/neutron field), the effect of the radiation not intended to be measured shall be determined.

4.8.2 Processing

(a) A positive system for identifying and tracking all dosimeters through the processing cycle shall be established.

(b) Dosimeter reader operation and stability shall be verified before use with QC dosimeters and measurement of system internal parameters (e.g., photomultiplier tube sensitivity, dark counts, light source counts). Records shall indicate that dose measurements are made only with stable equipment.

(c) Annealing of dosimeters shall be conducted in a reproducible manner regarding time, temperature, cooling rate, humidity, and light. For thermoluminescent dosimeters (TLDs), it is preferred that thermal erasing procedures be conducted in ovens reserved strictly for dosimeter annealing. However, in-reader annealing can be done when very low irradiation doses have been measured and when in-reader annealing has been demonstrated to be

reproducible. The annealing technical basis shall demonstrate the upper dose range limit for which annealing may be performed.

(d) QC and unirradiated dosimeters shall be used to routinely identify reader processing issues. Each processing protocol shall provide for interspersing QC dosimeters. Records shall demonstrate reproducibility for the irradiation method. Unirradiated and QC dosimeter use frequency shall be determined based upon the total number of dosimeters processed, equipment stability, type of QC checks, or other suitable method.

(e) Blind testing shall be conducted to validate the overall performance on all measurement systems used for the dose of record. The program shall:

- Use dosimeters irradiated by traceable isotopic sources or x-ray beams to doses that are unknown to the processor;
- Have documented procedures describing steps to be taken if blind testing results are outside of pre-established criteria;
- Test all categories throughout the 3-year accreditation period for which the program is accredited;
- If accredited in Category IIA, programs shall include at least 2 x-ray beams from 20 keV to 70 keV and at least 2 x-ray beams from 70 keV to 300 keV. Cesium-137 (Cs-137) and/or cobalt-60 (Co-60) shall always be included;
- If accredited in Category IIIA, programs shall include strontium (Sr) and/or yitrium-90 (Y-90) and krypton-85 (Kr-85); and
- If accredited in Category VA, programs shall include both bare and moderated californium-252 (Cf-252).

(f) The dosimetry algorithm shall be documented in sufficient detail to indicate its validity for dose interpretation. Documentation shall indicate algorithm name and version, and include:

- Fundamental data for creating and testing;
- Uncertainty analysis of the algorithm;
- Process controls used for algorithm development; and
- Attributes and limitations of the algorithm.

(g) Deviations from processing procedures, equipment, or facilities shall be verified to ensure no degradation of performance has occurred.

4.8.3 Interim Processing

Although interim processing of optically stimulated luminescence (OSL) dosimeters is not used for the dose of record, decisions are made based on interim results which may impact the overall dose to the worker. For interim processing, the following is required:

- Technical basis determining signal depletion as a function of the number of times the dosimeter is processed.
- Calibration of processing equipment shall not be less restrictive than the manufacturer's prescribed requirements. A technical basis shall be developed when calibration

techniques differ from manufacturer recommendations or when calibration frequency is not prescribed by the manufacturer.

- Personnel performing interim processing activities shall meet the requirements of Section 4.4 of this standard.

4.9 Maintenance and Calibration

(a) A preventative maintenance program for equipment used to process dosimeters or perform QC checks shall be implemented.

(b) Equipment used for dosimeter processing or QC shall be calibrated periodically or whenever the accuracy of the equipment is suspect. Calibration procedures shall identify required accuracy and define the methods and frequency for checking accuracy. Calibration procedures shall not be less restrictive than the manufacturer's prescribed requirements. A technical basis shall be developed when calibration techniques differ from manufacturer recommendations or when calibration frequency is not prescribed by the manufacturer.

(c) Processing-equipment calibration or verification records shall include:

- Equipment name or description;
- Model, style, and serial number;
- Manufacturer;
- Notation of all equipment variables requiring calibration or verification;
- Range of calibration or verification;
- Resolution of the instrument and its allowable error;
- Calibration or verification date and schedule;
- Date and result of last calibration;
- Identity of the individual and organization for calibration;
- Source of reference standard and traceability; and
- Environmental conditions.

(d) Equipment shall be properly identified to correlate with calibration records and maintenance logs.

(e) The energy response of each type or model of dosimeter shall be characterized for all radiation categories and exposure ranges for which it is to be used.

(f) Calibrations and characterizations shall be performed using reference standards traceable to the National Institute of Standards and Technology (NIST) or an equivalent national metrology institute. All processing equipment calibration, verification, and maintenance practices shall be documented.

(g) When results are found to be inaccurate, reviews of the equipment used to generate the results shall be conducted to determine the validity of the data and the corrective actions to be taken.

4.10 Reporting

The dose report to the exposed individual(s) from the accredited program shall include:

- Name of accredited program;
- Processor name and address, if different from accredited program;
- Personnel dosimetry monitoring results;
- Pertinent dates for the wear period and the identification of dosimeters;
- Processor and accredited program identification codes, if applicable;
- Explanation of any deviation from routine processing procedures if the deviation could affect the reported dose;
- Signature of or reference to the Technical Lead (however named); and
- Software version(s) of the dose algorithm(s) used.

APPENDIX A – REFERENCES

The current versions of the following documents allow for complete implementation of this technical standard:

American National Standards Institute (ANSI) and Health Physics Society (HPS). 2018. ANSI/HPS N13.32-2018, *Performance Testing of Extremity Dosimeters*. New York, NY.

American National Standards Institute (ANSI) and Health Physics Society (HPS). 2022. ANSI/HPS N13.11-2022, *Personnel Dosimetry Performance – Criteria for Testing*. New York, NY.

U.S. Department of Energy. 2023. Title 10, Code of Federal Regulations, Part 835, *Occupational Radiation Protection*. Washington, DC.

U.S. Department of Energy. 2018. DOE-STD-1111-2018, *Department of Energy Laboratory Accreditation Program Administration*. Washington, DC.

APPENDIX B – GUIDANCE FOR PROGRAMS THAT USE SERVICE PROVIDERS

DOELAP accredited programs may purchase dosimetry services from service providers; however, the DOELAP accredited program has the responsibility for ensuring the requirements of this technical standard are met. The purpose of this appendix is to outline the major considerations of a program that is purchasing dosimetry services from a commercial dosimeter vendor or a DOE dosimeter processor.

A copy of the work agreement with the service provider, including any agreed upon commitments, shall be available for review. The work agreement should clearly establish:

- Access to relevant documents, including dosimetry technical basis documents, policies and procedures, and the documented QAP;
- Personnel whole body and extremity dosimeters provided for beta and gamma radiation;
- Personnel whole body dosimeters for neutron radiation provided, including calibration that closely represents the workplace neutron spectrum;
- Personnel dosimetry data validation and verification;
- Personnel dosimetry reports (see Section 4.10 of this standard);
- Emergency personnel dosimetry services; and
- Appropriate packaging and handling of dosimeters.

Staff shall have sufficient qualifications and experience to be able to:

- Sufficiently assess the capabilities and limitations of the service provider;
- Validate dosimeter results used to determine dose-of-record;
- Provide oversight of the service provider, including the review of QC data and conduct on-site assessments;
- Identify error trends and anomalous data; and
- Conduct QA assessments.

A technical basis for the selected performance testing categories or subcategories shall be available.

The program shall have a procedure for conducting QA assessments of the service provider, including on-site audits, QC reviews, and blind audit dosimeters. The procedures shall also describe how findings are identified and corrected.

The program shall have a procedure for handling and shipping dosimeters. The procedure shall include details on maintaining dosimeter chain-of-custody and assessment of any transit dose.

APPENDIX C – EXAMPLE MANAGEMENT REVIEW TEMPLATE

1. QUALITY OBJECTIVES (specific to program being assessed)
    - Clarify organization mission, goals, and objectives
    - Address any problems hindering the achievement of objectives
    - Address any new or revised aspects of the Quality Management System
2. REPORTS FROM SUPERVISORY STAFF
    - Personnel Feedback
    - Program Performance
    - Accomplishments
3. RESULTS OF LABORATORY COMPARISONS OR PROFICIENCY TESTING
4. CUSTOMER FEEDBACK AND COMPLAINTS
5. CHANGES IN VOLUME AND TYPE OF WORK
6. PERSONNEL TRAINING AND RESOURCES
    - Training Status
    - Training Needs
    - Budget
    - Workload Allocations and Resource Planning
    - Safety/Facility Issues
7. QUALITY CONTROL ACTIVITIES
    - Reports/Information from QA personnel
    - Address compliance with standards and requirements
    - Address any quality issues or non-conformances, including results of risk identification
8. OUTCOMES OF PAST MANAGEMENT, INTERNAL AND EXTERNAL AUDITS, AND ASSESSMENTS
    - Corrective and preventative action plans and status
    - Current program action items
    - Status of previous management review action items
9. SUITABILITY OF POLICIES AND PROCEDURES
    - Identify policies/procedures that were reviewed
    - Discuss suitability or changes needed
10. CONTINUATION OF ACCREDITED ACTIVITIES
    - Suitability of current documented plan
    - Service and maintenance agreements
    - Backup provider agreement and results of exercising backup services, if applicable
    - Unexpected loss of key personnel
11. RECOMMENDATIONS FOR IMPROVEMENT AND PREVENTATIVE ACTIONS