1. **REASON FOR ISSUE:** To revise the Department of Veterans Affairs (VA) qualification standard for Therapeutic Radiologic Technologist (Dosimetrist), GS-0648, appointed under 38 U.S.C. § 7401(3), Appointments in Veterans Health Administration, and 38 U.S.C. § 7405(a)(1)(B), Temporary full-time appointments, part-time appointments, and without-compensation appointments.

2. **SUMMARY OF CONTENTS/MAJOR CHANGES:** This handbook revision contains mandatory VA procedures on staffing and separates the Therapeutic Radiologic Technologist (Dosimetrist) qualification requirements, in VA Handbook 5005, Part II, Appendix G66 from the Therapeutic Radiological Technologist qualification standard in VA Handbook 5005, Part II, Appendix G26. Revised text is contained in [brackets]. Under VA’s title 38 Hybrid excepted service employment system in accordance with the authority established under P.L. 111-163, Caregivers and Veterans Omnibus Health Services Act of 2010, authority is given to the Secretary of the VA under 38 U.S.C. § 7402, Qualifications of appointees, to prescribe qualifications for occupations identified in or established under 38 U.S.C. § 7401(3), Appointments in Veterans Health Administration, and 38 U.S.C. § 7405(a)(1)(B), Temporary full-time appointments, part-time appointments, and without-compensation appointments. This new qualification standard will be incorporated into the electronic version of VA Handbook 5005 that is maintained on the Office of the Chief Human Capital Officer Website and the VA Publications Website.

3. **RESPONSIBLE OFFICE:** Recruitment and Placement Policy Service (059), Office of the Chief Human Capital Officer.

4. **RELATED DIRECTIVE:** VA Directive 5005, Staffing.


**CERTIFIED BY:**

/s/
Karen L. Brazell
Principal Executive Director, Office of Acquisition, Logistics and Construction and Chief Acquisition Officer, Performing the Delegable Duties of the Assistant Secretary for Enterprise Integration

**BY DIRECTION OF THE SECRETARY OF VETERANS AFFAIRS:**

/s/
Daniel R. Sitterly
Assistant Secretary for Human Resources and Administration/Operations, Security and Preparedness

**DISTRIBUTION:** Electronic Only
APPENDIX G66. THERAPEUTIC RADIOLOGIC TECHNOLOGIST (DOSIMETRIST)
QUALIFICATION STANDARD

GS-0648

Veterans Health Administration

1. COVERAGE. The following are the requirements for appointment as a GS-0648, Therapeutic Radiologic Technologist (TRT) (Dosimetrist), referred to as “Medical Dosimetrist” in this standard, in Veterans Health Administration (VHA). These apply to all VHA Therapeutic Radiological Technologists (Dosimetrists) in the General Schedule (GS) 0648 series. A Medical Dosimetrist is a member of the radiation oncology team working collaboratively with the medical physicist and radiation oncologist meeting cancer patients needs through radiation therapy. Medical Dosimetrists have an in-depth knowledge of high dose ionizing radiation and clinical relevance of radiation oncology treatment machines and equipment. Medical Dosimetrists possess an in-depth knowledge of all medical imaging modalities and are cognizant of procedures commonly used in brachytherapy. Medical Dosimetrists have the background necessary to generate radiation dose distributions and dose calculations to support the medical physicist and radiation oncologist. This appendix applies to TRTs who are certified in medical dosimetry and serving in that capacity as evidenced by titling and duties outlined in the functional statement. Appendix G26 outlines the qualification standards for TRTs who are certified in therapeutic radiologic technology by the American Registry of Radiologic Technology (ARRT) (T) and only serving in that capacity.

2. DEFINITIONS.

a. Journey Level. The full performance level for this qualification standard is the GS-11 grade level.

b. Creditable Experience. To be creditable, the experience must have demonstrated possession of the knowledge, skills, abilities and other characteristics associated with current dosimetry standard operating procedures.

c. Medical Dosimetry Professional. Radiation therapy planning is the pretreatment process that allows radiation oncologists to model, predict and optimize the total dose of radiation to target/tumor volumes and minimize dose to critical normal surrounding tissues before delivery of the prescribed radiation treatment. He/she possesses an in-depth knowledge of all medical imaging modalities; is cognizant of procedures commonly used in brachytherapy; and has the education and expertise necessary to independently generate radiation dose distributions and dose calculations in collaboration with the medical physicist and radiation oncologist. Medical Dosimetrists with the appropriate current ARRT(T) certification may, as needed, independently perform therapeutic radiologic duties as part of the radiation oncology team. This ARRT(T) certification requirement
applies to all grade levels for which applicable therapeutic radiologic duties may be performed by the Medical Dosimetrist.

3. BASIC REQUIREMENTS.

a. Citizenship. Be a citizen of the United States. Non-citizens may be appointed when it is not possible to recruit qualified candidates in accordance with chapter 3, section A, paragraph 3g, of this part.

b. Education. Completion of a medical dosimetry program of at least 12 months long accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT) and a baccalaureate degree is required. JRCERT is the accrediting agency for the medical dosimetry programs recognized by the U.S. Department of Education.

c. Certification.

(1) All applicants must be certified in medical dosimetry by the Medical Dosimetrist Certification Board (MDCB). Certified Medical Dosimetry (CMD) is the recognized credential for Medical Dosimetrists. NOTE: CMDs who perform therapeutic radiologic technologist duties must also possess American Registry of Radiologic Technology (ARRT) (T) certification and be assigned to a functional statement that combines both types of work.

NOTE: Public Law 97-35 requires persons who administer Therapeutic Radiological procedures meet the credentialing standards in 42 C.F.R. Part 75. They must have successfully completed an educational program meeting or exceeding the standards described in that regulation and is accredited by an organization recognized by the U.S. Department of Education or be a radiation therapist certified in medical dosimetry.

(2) Exception. Non-certified applicants who otherwise meet the eligibility requirements for Medical Dosimetrist certification may be given a temporary appointment under 38 U.S.C. § 7405(a)(1)(B) for up to two years at the entry level only as a graduate Medical Dosimetrist under the authority of 38 U.S.C. § 7405(c)(2)(B). Failure to obtain certification during the two-year time is justification for termination of the Dosimetrist temporary appointment. This may result in termination of employment. The Human Resources Office will provide the uncertified Medical Dosimetrist, in writing, the requirement to obtain certification, the date by which the certification must be acquired and the consequences for not becoming certified by the deadline. The written notice must be provided prior to the entrance on duty date.

(3) Failure to Obtain Certification. In all cases, uncertified Medical Dosimetrist must actively pursue meeting the requirements for certification starting from the date of their appointment. Failure to become certified within two years
from the date of appointment will result in removal from the GS-0648 Medical Dosimetrist occupation and may result in termination of employment.

(4) **Loss of Credential.** Once certified, Medical Dosimetrists must maintain an active, current, full and unrestricted certification to independently practice medical dosimetry. Loss of licensure will result in removal from the GS-0648 Medical Dosimetrist occupation and may result in termination of employment.

d. **Grandfathering Provision.** All persons employed in VHA as a TRT (Dosimetrist) on the effective date of this qualification standard are considered to have met all qualification requirements for the grade held, including positive education and certification that are part of the basic requirements of the occupation. For employees who do not meet all the basic requirements required in this standard, but who met the qualifications applicable to the position at the time they were appointed to it, the following provisions apply:

(1) Employees in an occupation requiring a certification may be reassigned, promoted up to and including the full performance level or demoted within the occupation, but may not be promoted beyond the full performance level or placed in supervisory or managerial positions.

(2) Employees in an occupation requiring a certification only at higher grade levels must meet the certification requirement before they can be promoted to those higher-grade levels.

(3) Employees who are appointed on a temporary basis prior to the effective date of the qualification standard may not have their temporary appointment extended or be reappointed, on a temporary or permanent basis, until they fully meet the basic requirements of the standard.

(4) If an employee who was retained (grandfathered) under this provision leaves this occupation, the employee loses protected status and must meet the full VA qualification standard requirements in effect at the time of reentry to the occupation.

(5) Employees initially grandfathered into this occupation, who subsequently obtain additional education and/or certification that meet all the basic requirements of this qualification standard must maintain the required credentials as a condition of employment in the occupation.


f. **English Language Proficiency.** Medical Dosimetrists must be proficient in spoken and written English. See 38 U.S.C. § 7403(f).
4. GRADE REQUIREMENTS.

a. Creditable Experience.

(1) **Knowledge of Current Dosimetry Practices.** To be creditable, the experience must have demonstrated the knowledge, skills and abilities associated with current medical dosimetry practice. Experience satisfying this requirement must be active professional practice at the post-certification level, which may be paid/non-paid employment, as a Medical Dosimetrist.

(2) **Quality of Experience.** Experience is only creditable if it is post certification experience as a certified Medical Dosimetrist directly related to the position to be filled. Experience as a graduate Medical Dosimetrist is creditable provided the candidate functioned as an entry level Medical Dosimetrist with continual oversight and subsequently passed the certification examination. Qualifying experience must be at a level comparable to Medical Dosimetrist experience at the next lower grade level. For all assignments above the full performance level, the higher-level duties must consist of significant scope, administrative independence, complexity (difficulty) and range of variety as described in this standard at the specified grade level and be performed by the incumbent at least 25% of the time.

(3) **Part-Time Experience.** Part-time experience as a Medical Dosimetrist is creditable according to its relationship to the full-time workweek. For example, a Medical Dosimetrist employed 20 hours a week, or on a 1/2-time basis, receives one full-time workweek of credit for each two weeks of service.

(4) **Practicum in a VA Setting.** VHA practicum experience may not be substituted for experience, as the practicum (field placement) is completed prior to graduation with a bachelor’s degree in medical dosimetry or a related field.

b. **Grade Determinations.** In addition to the basic requirements for employment, the following criteria must be met when determining the grade of candidates:

(1) **Therapeutic Radiologic Technologist (Dosimetrist), GS-9**

(a) **Experience.** None beyond the basic requirements.

(b) **Assignment.** Employees at this grade level serve as entry level Medical Dosimetrists in a developmental level position. It is expected they have received the additional and specialized training necessary to generally perform technical tasks independently with general oversight, exercising independent judgement. However, they will generally receive guidance from more experienced staff members for more complex patient treatment planning and may require some direct supervision as needed in any
assignment in medical dosimetry. Medical Dosimetrists at this level have extensive training and knowledge in computer treatment planning, cross sectional anatomy, image fusion and dose tolerances will be utilized for development of treatment plans. Candidates must be able to use effective communication skills to follow the radiation oncologist directives and/or prescriptions.

(c) **Demonstrated Knowledge, Skills and Abilities (KSA).** None beyond the basic requirements.

(2) **Therapeutic Radiologic Technologist (Dosimetrist), GS-10**

(a) **Experience.** At least one year of experience equivalent to the next lower grade level directly related to the position being filled.

(b) **Assignment.** This is a developmental position. Employees at this level are substantially independently functioning as Staff TRTs and are able to carry out most procedures as Dosimetrists under general supervision.

(c) **Demonstrated Knowledge, Skills and Abilities.** The candidate must demonstrate the following technical KSAs:

   i. Skill in computer treatment planning to design patient treatment plans with awareness to dose limitations to critical structures following the prescription outlined by the radiation oncologist.

   ii. Ability to perform control procedures for radiation therapy including weekly chart checks for data accuracy and completion and quality assurance procedures on the treatment planning computer(s).

   iii. Ability to assist in preparation and design of custom molds, boluses, templates and compensating devices.

   iv. Ability to assist in computer tomography (CT) scans for tumor localization in radiation treatment planning to perform accurate patient contours for transfer to treatment planning devices.

(3) **Therapeutic Radiologic Technologist (Dosimetrist), GS-11**

(a) **Experience.** At this level, candidates must have at least one year of creditable experience equivalent to the next lower grade level, that is directly related to the position to be filled and that demonstrates possession of the knowledge, skills and abilities needed to provide services as a staff dosimetrist.

(b) **Assignment.** Medical Dosimetrists at this level are at the full performance level and are fully functional and carry out their assigned task.
independently in all areas of medical dosimetry. They are responsible for developing accurate and deliverable complex treatment plans and image importing for fusion during the planning process. Medical Dosimetrist will contour critical structures and tumor volumes. They provide input of radiation safety practices, quality standards and abides by all governing bodies and standard operating procedures.

(c) **Demonstrated Knowledge, Skills and Abilities.** The candidate must demonstrate the following technical KSA:

i. Ability to effectively communicate all aspects of the directive and treatment planning process with the radiation oncology team to solve complex clinical treatment challenges.

ii. Skill at importing diagnostic imaging studies from multiple media types and image fusion utilizing computed tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET), positron emission tomography-computed tomography (PET CT) for complex treatment planning.

iii. Skill in utilizing computer treatment software to develop an accurate deliverable complex plan such as, 3D conformal, intensity-modulated radiation therapy (IMRT), Volumetric Arc Therapy (VMAT) and stereotactic techniques, dose limitation to critical structures, Record and Verify software and quality assurance (QA) methods following the directive outlined by the radiation oncologist.

iv. Ability to delineate and accurately contour critical structures and tumor volumes utilized for development of a deliverable treatment plan through an in-depth knowledge of cross-sectional anatomy and all diagnostic imaging modalities.

v. Knowledge of radiation safety practices to include reporting discrepancies and ensuring compliance with regulatory requirements, quality standards, accrediting agencies, policies and standard operating procedures.

vi. Ability to provide input or assist with the use or necessity of ancillary treatment devices, patient immobilization techniques and other patient positioning techniques as needed for simulation or treatment.

vii. Ability to apply new developments, planning techniques and technology in the field of radiation therapy such as but not limited to treatment planning system QA.

(4) **Therapeutic Radiologic Technologist (Dosimetrist), GS-12**
(a) **Experience.** At this level, candidates must possess at least one year of creditable experience equivalent to the next lower grade level that demonstrates the core competencies described at that level and must fully meet the KSAs at that level.

(b) **Assignment.** For all assignments above the full performance level, the higher-level duties must consist of significant scope, complexity (difficulty) and range of variety, and be performed by the incumbent at least 25% of the time. At the advanced level, Medical Dosimetrists are fully functional dosimetrist with the knowledge and experience applying an advanced level of treatment planning and dosimetry procedures. Medical Dosimetrists serve as an integral team member for complex treatment planning, QA verifications, weekly chart checks and ability to train on all aspects of the Record and Verify system. Medical Dosimetrists train staff, evaluate workload and ensure compliance with all necessary governing bodies and standard operation procedures.

(c) **Demonstrated Knowledge, Skills and Abilities.** In addition, the candidate must demonstrate the following technical KSAs:

i. Skill at effective communication and leadership as demonstrated by providing orientation and training for staff, providing input for yearly appraisals, directing progress and coordination of workload, ensuring compliance with standard operating procedures and directives to provide continuity of care.

ii. Skill in providing guidance and expertise related to all aspects of the treatment planning process.

iii. Ability to resolve complex physical and geometric errors of the radiation equipment, simulation procedure and treatment delivery implementation.

iv. Knowledge of the care and use of radioactive resources for implementation and treatment delivery.

v. Skill to independently perform complex treatment procedures as evidenced by completing tasks such as developing and troubleshooting highly complex isodose treatment plans delineating critical structures and tumor volumes, performing weekly chart checks, performing QA verifications and providing training on all aspects of the Record and Verify system such as Mosaiq or Aria.

vi. Ability to follow protocols including, but not limited to developing and implementing policies and standard operating procedures, participating in research programs and ensuring compliance with radiation safety
office, national program office, accrediting agencies and follow established quality standard measures.

vii. Ability to perform the application of a broad range of specific methods of radiation measurements including, but not limited to, diode, ion chamber, thermoluminescent dosimeter (TLD), or film measurement as directed by a qualified Medical Physicist and perform or assist with the QA procedures as directed by a qualified Medical Physicist.

(5) **Lead Therapeutic Radiologic Technologist (Dosimetrist), GS-12**

(a) **Experience.** At this level, candidates must possess at least one year of creditable experience equivalent to the next lower grade level that demonstrates the core competencies described at that level and must fully meet the KSAs at that level.

(b) **Assignment.** For all assignments above the full performance level, the higher-level duties must consist of significant scope, complexity and range of variety and be performed by the incumbent at least 25% of the time. In this assignment, the Medical Dosimetrist functions as a lead dosimetrist with administrative and professional responsibility for planning, directing, distributing the workload of dosimetrist up to the GS-11 level, including support staff in the medical center’s therapeutic radiologic technology program. In addition, the incumbent serves as the professional mentor, trainer and coach for the unit. The Lead Medical Dosimetrists develop and update technical policy and procedure manuals. They provide assistance and input on equipment use and resolution of machine issues. The Lead Medical Dosimetrists also ensure dosimetric protocols are up to date to reflect current standards of care, radiation safety and quality management. They ensure Medical Dosimetrists are in compliance with accrediting and regulating bodies. Lead Medical Dosimetrists also review staffing levels and work procedures to influence resource allocation decisions made at the executive level.

(c) **Demonstrated Knowledge, Skills and Abilities.** Candidates must demonstrate the following KSAs:

i. Ability to perform lead duties such as orientation and training for staff, provide input for yearly appraisals, directs progress and coordination of dosimetric work.

ii. Ability to develop the Quality Improvement Program by evaluating, establishing and implementing departmental policies, standard operating procedures and department compliance with the national program office, radiation accrediting agencies, hospital and outside governing body standards.
iii. Ability to solve complex technical problems by instructing and providing oversight to lower level Medical Dosimetrists and trainees with regards to treatment planning, using the Record and Verify System (or other similar systems), using newly acquired equipment and other devices and products within the service.

iv. Ability to successfully communicate with the radiation oncology team and other internal and external customers to manage the needs of patients.

v. Ability to provide broad oversight and assist in the application of specific methods of patient and/or treatment planning as directed by Medical Physicists.

5. DEVIATIONS.

a. The appointing official may, under unusual circumstances, approve reasonable deviations to the grade determination requirements for Medical Dosimetrists in VHA whose composite record of accomplishments, performance and qualifications, as well as current assignments, warrant such action based on demonstrated competence to meet the requirements on the proposed grade.

b. The placement of individuals in grade levels or assignments not described in this standard must be approved by the Under Secretary for Health in VHA Central Office prior to placement in the position.

c. Under no circumstances will the educational or credential requirement be waived for those occupations with a positive education requirement, or when specific credentials are identified as necessary to meet minimum requirements.

Authority: 38 U.S.C. §§ 7401, Appointments in Veterans Health Administration; 7402, Qualifications of appointees; 7403, Period of appointments; promotions; 7405, Temporary full-time appointments, part-time appointments, and without-compensation appointments; 7407, Administrative provisions for section 7405 and 7406 appointments.