



Radiation Physics
CONSULTANTS

November 10, 2025

COMPETENCY ATTESTATION

I, Steve Nicholas, verify Jacob Pueringer is trained and competent to perform the follow services. If you have any questions, please contact me at steve@rpcphysics.com.

A. SERVICES TO THE X-RAY DEPARTMENT

1. Radiographic equipment:
 - a) Source-to-image (SID) accuracy, beam quality (HVL) analysis, and evaluation of spatial resolution
 - b) Radiation output (mR/mAs) verses kVp and distance (typical patient exposures)
 - c) Phototimer operation analysis
 - d) Tomographic performance analysis with respect to beam path and exposure uniformity, depth indicator accuracy, cut thickness, and resolution
 - e) Mechanical performance and electrical cable integrity inspection
 - f) Light field to x-ray beam alignment
 - g) Proper operation of interlocks and exposure switches
 - h) Accuracy of manual and automatic collimator operation
 - i) X-ray generator analysis with respect to kVp and timer accuracy, mA linearity, exposure reproducibility and assesment of radiation, and kV waveforms (non-invasive testing)

2. Computed Radiography equipment:
 - a) Physical inspection/inventory of cassettes
 - b) Imaging plate uniformity and dark noise
 - c) Signal response: linearity and slope; calibration and beam quality
 - d) Laser beam function
 - e) High-contrast resolution
 - f) Noise/low-contrast response
 - g) Aspect ratio and accuracy of distance measurements
 - h) Erasure thoroughness
 - i) Throughput

3. Digital Radiography equipment:
 - a) Uniformity and artifact evaluation
 - b) Signal response: linearity and slope; calibration and beam quality
 - c) High-contrast resolution
 - d) Noise/low-contrast response
 - e) Aspect ratio and accuracy of distance measurements
 - f) Anti-aliasing
 - g) Positioning and collimation errors
 - h) Monitor evaluation

4. Fluoroscopic equipment:
 - a) Verify compliance with state and federal regulations for fluoroscopic exposure rate conditions
 - b) Proper operation of interlocks, exposure switches, timers, table side shields, and tower aprons
 - c) Fluoroscopic imaging system resolution and contrast analysis
 - d) Fluoroscopic kVp accuracy, radiation and kV waveforms assessment (non-invasive testing), and fluoroscopic beam quality
 - e) Verify air kerma and/or DAP indicator accuracy
 - f) Spot film x-ray generator analysis with respect to kVp and timer accuracy, mA linearity, exposure reproducibility and assessment of radiation and kV waveforms (non-invasive testing)
 - g) Mechanical performance and electrical cable integrity inspection

5. Evaluate the monitor image and the hardcopy image

B. OTHER SERVICES

1. *Shielding*: Individual can help determine the necessary shielding evaluations for new equipment or modified exam rooms to ensure protection from scattered radiation. RPC can:
 - a. Create a concise and detailed report indicating the type and amount of required shielding materials for each wall, ceiling, and floor
 - b. Provide all necessary documentation for submitting the shielding report to state agencies for review
 - c. Communicate directly with state inspectors concerning discrepancies or questions
2. *Annual Audit*: Individual can perform an audit for the facility's Radiation Safety Officer. This is a thorough critique and analysis of the entire Radiology Quality Assurance Program which includes:
 - a. Review of the QA Manual to ensure all QC tests are performed properly, at the correct intervals, and documentation is maintained
 - b. Provide a comprehensive report specifying areas of deficiency and recommending corrections
 - c. Assist in modifying or creating site-specific policies and procedures
3. *Quality Assurance*: Individual can provide consultation services to establish a QA program in select departments (e.g. radiology, ultrasound) to assist the facility's staff in developing a quality assurance program that includes policies and procedures designed to optimize the performance of personnel and equipment
4. *Educational Program*: Individual can provide instructional lectures and individualized training on radiation safety and quality assurance.

Sincerely,



Steven T. Nicholas, M.S., DABMP
President, RPC