

Radiological Control Technician Training
Technician Qualification Standard



Coordinated and Conducted
for
Office of Environment, Safety & Health
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Introduction

Purpose of Qualification Standard

The Qualification Standard states and defines the knowledge and skill requirements necessary for successful completion of the Radiological Control Technician Training Program. The standard is divided into four phases:

Phase I: RCT Academics Training

There are 13 lessons associated with the fundamental academics program and 19 lessons associated with the site academics program. The staff member (manager, instructor, designee) should sign the appropriate blocks upon successful completion of the examination for that lesson or group of lessons. In addition, facility specific lesson plans may be added to meet the knowledge requirements in the Job Performance Measures (JPM) of the practical program.

Phase II: RCT Core Practical (JPMs) Training

There are thirteen generic tasks associated with the core practical program. Both the trainer/evaluator and student should sign the appropriate block upon successful completion of the JPM.

Phase III: Oral Examination Board

Successful completion of the oral examination board is documented by the signature of the chairperson of the board.

Phase IV: Facility Practical Training

In addition to the DOE core tasks, each facility should include those tasks that are specific to their facility. Specific tasks may be added or generic tasks deleted based on the results of the facility job evaluation. These tasks can be included within this Qualification Standard or maintained separately.

Final Qualification

Upon completion of all of the technician qualification requirements, final qualification is verified by the student and the manager of the Radiological Control Department and acknowledged by signatures on the qualification standard. The completed Qualification Standard should be maintained as an official training record.

Fundamental Academic Lessons Next

Fundamental Academic Lessons

ACKNOWLEDGMENT OF SUCCESSFUL COMPLETION OF FUNDAMENTAL ACADEMIC LESSONS:

FUNDAMENTAL ACADEMIC LESSONS	SIGNATURE	DATE
1.01 Basic Mathematics and Algebra		
1.02 Unit Analysis and Conversion		
1.03 Physical Sciences		
1.04 Nuclear Physics		
1.05 Sources of Radiation		
1.06 Radioactivity and Radioactive Decay		
1.07 Interaction of Radiation With Matter		
1.08 Biological Effects of Radiation		
1.09 Radiological Protection Standards		
1.10 ALARA		
1.11 External Exposure Control		
1.12 Internal Exposure Control		
1.13 Radiation Detector Theory		

Site Academic Lessons/Final Comprehensive Examination Next

Site Academic Lesson/Final Comprehensive Examination

ACKNOWLEDGMENT OF SUCCESSFUL COMPLETION OF SITE ACADEMIC LESSONS:

SITE ACADEMIC LESSON	SIGNATURE	DATE
2.01 Radiological Documentation		
2.02 Communication Systems		
2.03 Counting Errors and Statistics		
2.04 Dosimetry		
2.05 Contamination Control		
2.06 Airborne Sampling Program/Methods		
2.07 Respiratory Protection		
2.08 Radioactive Source Control		
2.09 Environmental Monitoring		
2.10 Access Control and Work Area Setup		
2.11 Radiological Work Coverage		
2.12 Shipment/Receipt of Radioactive Material		
2.13 Radiological Incidents and Emergencies		
2.14 Personnel Decontamination		
2.15 Radiological Considerations for First Aid		
2.16 Radiation Survey Instrumentation		
2.17 Contamination Monitoring Instrumentation		
2.18 Air Sampling Equipment		
2.19 Counting Room Equipment		

	SIGNATURE	DATE
SUCCESSFUL COMPLETION OF: FINAL COMPREHENSIVE EXAMINATION		

Core Job Performance Measures Next

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Core Job Performance Measures

ACKNOWLEDGMENT OF SUCCESSFUL COMPLETION OF
CORE JOB PERFORMANCE MEASURES:

CORE JOB PERFORMANCE MEASURE	TRAINER/EVALUATOR SIGNATURE	DATE	STUDENT SIGNATURE	DATE
<i>QUALIFICATION AREA: RADIOLOGICAL INSTRUMENTATION</i>				
121 Complete a response check on portable hand held instruments				
122 Complete a performance test on radiation detection equipment				
<i>QUALIFICATION AREA: RADIOLOGICAL PROTECTION</i>				
131 Perform a beta-gamma contamination survey				
132 Perform a radiation survey				
133 Obtain air samples				
134 Perform a leak test on a radioactive source				
135 Post a radiological area to reflect associated hazards				
136 Perform a radioactive material shipment survey				

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Core Job Performance Measures

JOB PERFORMANCE MEASURE (CONT.)	TRAINER/EVALUATOR SIGNATURE	DATE	STUDENT SIGNATURE	DATE
<i>QUALIFICATION AREA: EMERGENCY PREPAREDNESS</i>				
141 Respond to a high airborne activity alarm				
142 Respond to an uncontrolled release of radioactive material				
143 Respond to a radiation alarm				
144 Respond to an injured person located in a radiological area				
145 Direct and monitor personnel decontamination				

Oral Examination Board/Final Verification Signatures Next

Oral Examination Board/Final Verification Signatures

**ACKNOWLEDGMENT OF SUCCESSFUL COMPLETION OF THE
ORAL EXAMINATION BOARD**

	SIGNATURE	DATE
ORAL EXAMINATION BOARD		

I have verified that I have completed the above documented academics, practical and oral board requirements.

RCT Student

Date

I have verified that the academics, practical and oral board requirements for the above named individual are satisfactorily completed and am assured that the individual is capable of safely performing all the standard functions of a Radiological Control Technician.

RC Manager or designee

Date