

RCT/HPT Site Standard OJT Program  
OJE Evaluator Reference

Course Number: **022313**

Course Title: RCT/HPT OJT/OJE Task – Bench Counters

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Form(s) Radiological Control Alpha/Beta Counting Instrument  
Monthly Test  
Radiological Control Alpha/Beta Counting Instrument Receipt Test  
RC Daily Operational Test Log  
Instrument Service Tag  
[Generic forms may be used in lieu of contractor/facility specific forms]

Terminal Objective: Demonstrate setup and operation of Bench Counters

<b>Objectives – Part A</b>	
<b>Method</b>	<b>Task</b>
D	<p>Define the term “Decision Level” as it relates to a bench counter’s sensitivity to counting samples.</p> <p style="text-align: center;"><i>The value of a net observation at, or above, which a decision is made that a positive quantity of radioactive material is present.</i></p>
D	<p>Define the term “Minimum Detectable Activity” as it relates to a bench counter’s sensitivity to counting samples.</p> <p style="text-align: center;"><i>The smallest activity in a sample that will yield a result above the DL with a specific probability (p2) of non-detection (type II error) while accepting a specific probability (p1) of erroneous detection in an appropriate blank sample (type I error).</i></p>
D	<p>Define the term “Minimum Detectable Concentration” as it relates to a bench counter’s sensitivity to counting samples.</p> <p style="text-align: center;"><i>The MDA divided by the sample volume and filter collection efficiency.</i></p>
D	<p>State the length of time that a source, receipt, and monthly test of a bench counter is valid.</p> <p style="text-align: center;"><i>Following a receipt test, monthly testing is not required for one month (25-35 calendar days), and Daily Tests are not required for one day (24 hours when</i></p>

Objectives – Part A	
Method	Task
	<p><i>recording "time performed" information.</i></p> <p><i>Complete the Daily Source Check every day (24 hours when recording "time performed" information) when in use, except on days when either a receipt test or a Monthly Test is performed.</i></p> <p><i>Monthly Test is required every month following the receipt test, as a minimum, when in use.</i></p>
D	<p>State the precautions and limitations for performance testing a bench counters.</p> <p><i>AVOID scratching, writing on, or otherwise handling sources in any way that might affect source activity or integrity.</i></p> <p><i>STORE sources in their containers when not in use.</i></p> <p><i>USE check sources that meet the following criteria:</i></p> <p><i>Alpha sources: Facility Isotope of Concern (normally <math>^{239}\text{Pu}</math>).</i></p> <p><i>Beta sources: Facility Isotope of Concern (normally <math>^{90}\text{Sr}</math>).</i></p>

Objectives – Part B	
Method	Task
P	Given a bench counter and a radioactive source, perform a receipt test.
P	Given a bench counter and a radioactive source, perform a monthly surveillance test
P	Given a bench counter and a radioactive source, perform a daily source check.