

BODA System Background and Source Checks

All exposed persons must leave the room during this count. If he/ she has to use the restroom, take a sample for bioassay. Containers are in the cabinet.

Background Measurement:

1. If counting has already begun, remove the disposable sheet from the cot. Dispose of it in a radioactive waste bag.
2. Perform a background count using the Computer Based System. (See Appendix D for more detailed instructions.) Within MAESTRO™, go to **JOB Control** window, **Response** directory and select **emptycot.job** file.
3. Record both the number of counts above the discriminator setting (> 100 keV) and the number of counts in the 511 keV peak in the Background Counts Table at the end of this Appendix. Appendix D provides the interpretation for the printouts.
4. Compare the results of this count to the latest background count recorded in the Body Counter logbook. If the results are not within $\pm 30\%$ of the background count results in the logbook, perform another background count. If it fails again, note the problem in the Body Counter logbook and contact the RPT members who routinely conduct background counts on this system.
5. Put a fresh disposable sheet on the cot. Select an unexposed person most similar in stature to the exposed individual and have them lie on the cot with their midsection centered above the lead bricks. Begin another count with the Computer Based System. Within MAESTRO™, go to the **JOB Control** window, **Response** directory and select **unexposed.job** file.
6. Record both the number of counts above the discriminator setting (>100 keV) and the number of counts in the 511 keV peak in the Background Counts Table at the end of this Appendix. The numbers should be less than those recorded for an empty cot measurement.

Calibration/Source Measurement:

1. Bring the ^{22}Na calibration source (22-1.2-2) from the cabinet in the Sample Changer room. The combination to this cabinet is available from Radionuclide Analysis Facility (RAF) personnel. Place the source in the Plexiglas source holder on the cot directly over the counter.
2. Perform a source check. Within MAESTRO™, go to **JOB Control** window, **Response** directory, then select **check.job** file.
3. Return the source to the cabinet.
4. Record both the number of counts above the discriminator setting (>100 keV) and the number of counts in the 511 keV peak in the Source Check Table at the end of this Appendix. See Body Counter Log (located on the Printer table) for the most recent values.
5. Compare the results of this count to the latest source check recorded in the Body Counter logbook. If the results are not within $\pm 30\%$ of the source check results in the logbook, perform another source check. If it fails this test again, note the problem in the Body Counter logbook and contact the RPT members who routinely conduct source checks on this system.

Background Counts (Empty Cot)

	Empty Cot	Latest in Body Counter Log (empty cot)	Within 30% Latest in Body Counter Log?
cpm above 100 keV			
cpm in the 511 keV peak			

Background Counts (Unexposed Individual)

	Unexposed Individual	Less than Background Counts with Empty Cot?
cpm above 100 keV		
cpm in the 511 keV peak		

Source Check

	Source Check	Latest in Body Counter Log	Within 30% Latest in Body Counter Log
cpm above 100 keV			
cpm in the 511 keV peak			