

Instrument Pre-Operation Checks¹

1. Turn the instrument on.
2. Ensure the audio is on.
3. Understand the readout units and scaling factors (where applicable).
4. Perform an Instrument Function Check prior to use:
 - a) Calibration Check – Ensure the instrument is within the due date for annual calibration.
 - b) Battery Check – Ensure the battery power is within range and the meter needle is not sticking.
 - c) HV Check – Ensure the setting is within the approved range for the instrument (where applicable)
 - d) Visual Check - Look for signs of damage. Ensure the detector area is free of punctures and debris, the cable ends are secure, cable movement does not change the signal.
 - e) Background Check - Confirm that the background is acceptably low for the instrument and note the background reading in counts per minute.
 - f) Light Leak Check (for Scintillators) - Hold the detector to the light and ensure there is no change in background reading.
5. Response Check - Confirm that the instrument provides the expected response to activity. Look for needle deflection and ensure there is an audible response.
6. Turn the instrument off when not in use.

Radiation Surveys

1. Correctly perform a direct check contamination monitoring¹:
 - a) Ensure the appropriate instrument is selected and pre-operation checks are completed.
 - b) Record a background reading in cpm.
 - c) Scan at 1 cm distance from the surface. Do not touch the surface.
 - d) Scan with a linear speed of < 2.5 cm/s.
 - e) Watch the detector position, not the meter, and listen for deflections in count rate.
 - f) If a deflection in count rate is detected, stop, find the location, & obtain a 1-minute count.
 - g) Record the highest gross count rate before proceeding to the next item/swipe/location.
2. Correctly perform a contact dose rate survey (if applicable):
 - a) Ensure the appropriate instrument is selected and pre-operation checks are completed.
 - b) Record ambient background reading including units.
 - c) Scan an item near contact (1 cm from the surface).
 - d) Scan with a linear speed of < 2.5 cm/s.
 - e) If a change in the dose rate is detected:
 - I. If unexpectedly high, stop and move to a low background area. Consult HP.
 - II. Otherwise, stop and obtain a reading by holding the meter in place for several seconds to obtain a stable reading.
 - f) Record the highest reading before proceeding to the next item/location.

¹ Instructions adapted from RMM-700-RSP-01, Routine Contamination Monitoring in Laboratories and Work Areas