RAD-ALERT MONITOR OPERATION CHECK AND PROCEDURE

NOTE: This section details the operational check process for the RADAlert 100X Radiation Monitor, before it can be used to measure background radiation levels in EPZ EOCs. This operational check must be performed in an area away from any source of radiation.

1. **RADAlert 100X Operational Check:**

   - Visually check the instrument for signs of physical damage.

   - Ensure a calibration sticker is present on the instrument and the current calendar date is within the year of the calibration date.

   - Ensure the "ON"/"OFF"/"Audio" selector switch on the instrument is in the "OFF" position.

   - Turn the instrument over and remove the battery compartment cover (located at bottom of instrument) and install the 9-Volt battery **ensuring the correct polarity**.

   - Re-install the battery cover.

   - Turn the "Dose Rate"/"Count Rate"/"Total/Timer" mode selector switch on the instrument to the "**Dose Rate**" setting and turn the "ON"/"OFF"/"Audio" selector switch to the "**ON**" position.

   - The RADAlert 100X performs a brief system check, displaying all the indicators and numbers. After the system check, the radiation level is displayed in the selected mode. Ninety seconds after you start the RADAlert 100X a short beep indicates that enough information has been collected to ensure statistical validity.

   - Using the Check Source Paddle place the open circle (using red dot on reverse side as guide) over the check source as close as possible to the detector window located on the top right of the instrument end panel. Take a 30 second reading observing the reading on the LCD display and compare to the Source Reading Range located on the instrument calibration sticker.

   - The reading should fall within the Source Reading Range. This indicates that the instrument is operating properly.

   - If the operation check fails you may:

     o Install new battery and recheck the instrument if the source reading is too low.

     o Contact HSEM and request a replacement instrument and perform the operational check again.

2   Background Measurement Using the RADAlert 100X:

- Take your background radiation reading in mR/hr. Record it on the Form RADEF 001 Background Radiation Report

- At this time turn "Dose Rate"/"Count Rate"/"Total Time" mode switch on the instrument to the "Count Rate" setting.

- Take your background radiation reading in CPM so it is compatible with the 700P survey meters being used for personnel monitoring in your EOC. Record it on the Form RADEF 001 Background Radiation Report

3. Setting the Background Measurement Alarm Using the RADAlert 100X:

NOTE: Background radiation is the sum of the radiation from natural and unnatural sources without any contribution from the radioactive source of interest, such as hospital, nuclear power plant or accident site.

- Complete the operational check for the RADAlert 100X making sure it is operating properly.

- At this time turn "Dose Rate"/"Count Rate"/"Total Time" mode switch on the instrument to the "Count Rate" setting.

- Locate the instrument away from any source of interest (away from walls and elevated above the floor).

- To enter (enable) Alert Mode press the "Set Button" on the end panel twice in quick succession to display the current background radiation alert set level. The radiation symbol appears on the display.

  1. To change the displayed alert level, use the + and - buttons on end panel to adjust the level up or down.

  2. When desired alert level is displayed (**two times normal background**) press the "Set Button" once to save the new level and continue in Alert Mode.

  3. To reset alert level while you are in Alert Mode, press "Set Button" two times for turning Off Alert Mode, and twice more for setting new level, then repeat steps 1 & 2 above.

  4. Once the RADAlert 100X is powered down the unit will default back to Alert Mode disabled.

- Background readings should be checked periodically during a radiological event.

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- If at any time during an event your RADAlert 100X background alarm activates (loud piercing sound) notify the EMD that your background radiation level has doubled and await further instructions.

- To deactivate the alarm once it has activated power cycle the unit.

NOTE: Remove the battery from the RADAlert 100X Radiation Monitor when the unit is not in use and store it in the provided protective case.