

## **SPECIFICATION FOR RADIATION DETECTOR**

### **Scope**

Radiation Survey Meters are used for survey and monitoring of gamma rays. High level of accuracy and ability to detect the radiations in extreme climatic conditions makes the use of Radiation Survey Meters versatile. The equipment can be effectively used to detect the presence of gamma radiations emitted from a suspected radioactive source. Malicious intentions to smuggle/place radioactive sources in crowded places like stadiums, hotels, buses, aircrafts etc can be countered with the effective use of Radiation Survey Meters along with the use of other detection equipments. These instruments can be worn by security personnel with belt-holster facility.

### **General Requirements:**

1. Radiation Survey Meters should be sturdy and capable for uninterrupted operation in extreme weather conditions.
2. Should be User-friendly.
3. Should be able to integrate with other equipments, networking, command and control stations, etc. wherever required.
4. Selectable Audio/Vibration mode for alarm
5. Radiation Survey Meters should have following salient features:-
  - (a) Should be light weight, vibration and water resistant.
  - (b) Should have user friendly display with back lit facility to note the reading during night.
  - (c) Should have easy and shortest start up with quick reset facility.

### **Operational Requirements:**

1. Should be able to withstand environmental condition arising due to sand, dust, rain, fog, etc.
2. Radiation Survey Meters shall be able to measure gamma dose rates of varying energy levels in minimum possible timeframe.
3. Radiation Survey Meters should be capable of working up to a period of 8 hrs.

### Technical specifications

1. Detector: NaI(Tl)-detector.
2. Range: 1  $\mu$ R/h – 25 mR/h; 1.5 cps per  $\mu$ R/h (150cps/  $\mu$ Sv/h ) for Cs-137; 30 cps per  $\mu$ R/h for Am-241
3. Energy Range: 60 keV – 1.3 MeV.
4. Power requirement: Battery operated.
5. Linearity Error (Cs-137): max.  $\pm$  10 %
6. Selective Audio/Vibration mode for alarm
7. Should have the provision to be worn in a belt-holster with built-in vibrator to indicate alarm.

### Terms and conditions

1. Installation and commissioning: Suppliers responsibility.
2. Performance demonstration: Against radioactive source at manufacturers place and also on site (sources to be arranged by the supplier).
3. Comprehensive warranty: Three years from the date of commissioning.
4. After sale service: Prompt sales service for a minimum period of 4 years with the availability of spare parts for the same model after 3 years warranty & 3 years AMC period.
5. Standby availability instruments with bidder.
6. Zero down time during operational requirement: For replacement of any defective/faulty/malfunctioning equipment/spare parts.
7. Withstanding Meteorological conditions: To withstand Indian meteorological conditions.
8. Availability of service engineer from installation.

### **Note :-**

- 1.) Firm will submit one sample in VIP Security store Sector-29, Chandigarh. and Quotation documents will be submitted in purchase branch (E-8) Chandigarh Police Head Quarter Sector-9, Chandigarh.
- 2.) The Equipment will be accepted after inspection by purchase committee with the help of technical expert from DRDO Laboratory Gwalior / DRDO Laboratory Jodhpur.