

LANSCÉ-NS and RP-1

Agreement and Guide

For Use and Utilization of the RadEye B20-ER Survey Meters

The Rad Eye B20-ER is a pancake GM detector capable of measuring low levels of Alpha, Beta, and Gamma radiation. User authorization under this agreement is for use of the RadEye B20-ER radiation survey instrument for Process Knowledge surveys and user informational purposes only. These instruments cannot be used for official surveys. An RP-1 RCT must be contacted for official surveys or item release surveys.

General

- The use of the Rad Eye B20-ER will be limited to informational/Process Knowledge surveys for low-level radioactivity measurements along with informational dose readings.
- Use of these instruments is limited to TA-53, buildings: MPF-29, MPF-1302, MPF-1265, MPF-1289, MPF541, MPF-387, MPF-17, MPF-30, and MPF-7 (In general - WNR buildings and Flight Path Areas).
- The dose rate alarm has been set to 100 mrem/h. This is sufficient to allow close to contact readings of items while still maintaining the less than 5 mrem/h at 1 foot Radiological Controlled Area Posting.
- The Rad Eye B20-ER is not an authorized Radiation Protection survey instrument, and as such, cannot be used for any type of item release or official survey.
- The Rad Eye B20-ER is insensitive to neutron radiation and should not be used for neutron surveys of any kind. Contact an RP-1 RCT for neutron surveys.

Response Checks

- After calibration, a check source measurement should be taken and used as the baseline for future Instrument Response Checks, until recalibration.
- Turn instrument on. Check Battery Level.
- Take background reading.

- The instrument should be response checked before initial use of the day, when significant temperature changes occur, or if the instrument is dropped.
- Response checks of the Rad Eye B20-ER shall be performed with the associated check source - "Test-Adapter RadEye B20" - which includes ~9 g Lu_2O_3 .
- Place the check source on the detector center in the same configuration as performed in the initial check source measurement when the instrument was received from calibration.
- The response checks should fall within +/- 20% of the initial check source measurement.
- If the RadEye B20-ER fails the response check, or is damaged, the instrument should not be used until it is recalibrated or repaired.

Using Instrument

- When performing a survey, the open window side of the instrument should be directed at the expected source of radiation. Radiation measurements taken through the back or sides of the instrument are not valid and could underestimate the radioactivity or dose rate.
- Users should be aware of interfering radiological sources of radiation that may be in the measurement area. This is the purpose of taking an initial background reading.
- Low activity measurements are taken with the rubber protector surrounding the open screened window (without the H*10 Filter in place).
- Accurate dose rate measurements require the use of the H*10 Filter. The H*10 Filter should be attached to the open window side of the RadEye B20-ER.

Personnel shall notify RP-1 at 7-7069 if:

- Any equipment or item needs to be surveyed with intent of release or for shipping purposes.
- Any radiation detection instrument fails the instrument response check.
- Dose rates greater than 5 mrem/h at one foot are encountered.
- There is any indication of removable contamination.

- Abnormal or unexpected readings are encountered.