

# ORNL INSTRUMENT EVALUATION SUMMARY

## Canberra InSpector 1000

**Description:** The Canberra InSpector 1000 is a hand-held radionuclide identifier.

**Ranges Tested:** N/A

**Report Date:** August 26, 2003

**General Comments:**

1. Testing was limited to temperature, temperature shock (shortened), and RF exposure due to the short time the instrument was available.
2. Confidence intervals used to ascertain whether results are conclusive or inconclusive are determined using the 0.95 quantile of the student's t distribution (95% confidence interval).

### RADIATION RESPONSE

**Probe Surface Sensitivity:** N/A.

**Energy Response:** N/A.

**Response Linearity:** N/A.

### ELECTRONIC and MECHANICAL REQUIREMENTS and TESTS

**Line Noise:** N/A

**Power Line Variations:** N/A

**Conducted Radio Frequency:** N/A

### INTERFERING RESPONSES TEST RESULTS

**Radio Frequency/Microwave:** Susceptibilities were observed when exposed to an RF scan from 100 kHz to 1000 MHz at  $20 \pm 2$  volts/meter amplitude modulated with 1 kHz at 80%. Specific results are in the test report.

**Electric Fields:** Not performed.

**Magnetic Fields:** Not performed.

**Interfering Ionizing Radiations:** Not performed.

## **ENVIRONMENTAL FACTORS**

**Temperature:** No susceptibilities were observed over the temperature test range of -20 to 50 °C (- 4° F to +122° F).

Changes were observed in isotope identification over the temperature test range of -20 to 50 °C. Specific results are in the test report.

**Temperature Shock:** Susceptibilities were observed when exposed to rapid temperature changes from 22 to -10, -10 to 22, 22 to 50, and 50 to 22 (in °C). Each change was performed within five minutes. Specific results are in the test report.

**Humidity:** Not performed.

**Vibration:** Not performed.