

Networked Radiation Tracking System

Model DSI-2NT-ITS

Application

The DSI-2NT-ITS system is designed specifically for use to give warning in case of illicit or accidental storage or transport of radioactive material. Use for travel and shipment centers, power plants, hospitals, landfills, customs entry and exit points, border crossings, seaports, airports, etc.

Installing a network of DSI-2NT-ITS detector systems throughout any highly traveled area: city thoroughfares, shipping centers, border crossings, industrial complexes, etc. will provide enhanced security to the public or work place safety.

By networking a number of DSI-2NT-ITS detector systems will provide detection and tracking of radioactive sources.

EXAMPLE OF NETWORKED TRAFFIC SIGNALS:

Each installation of DSI-2NT-ITS detector systems will contain 1-3 detectors: choice of Low Gamma, Medium Gamma, or Neutron, or all three. The detectors and electronics are contained in a rugged, weather-proof case. In this example of traffic control systems: The electronics will be hard wired into the traffic signal box at each intersection. Data download from the traffic signal box to the traffic control center will piggy back on the existing infrastructure.

At each location a baseline of background radiation level is recorded and stored locally at the central control station. This provides the data required to provide an alarm of detection of any increase of radiation about the set baseline for that intersection.

REASON FOR NEUTRON DETECTION: Some fissile materials have only WEAK Gamma emissions which are hard to detect. These materials also have spontaneous Neutron emissions. Detection of even a few Neutrons is significant since the natural background Neutron count rate is ZERO. When the Neutron indicator comes on the operator knows that Neutrons from fissile material are present.

Terrorist Scenario

Three Time Periods:

1. **Baseline time period: Have Baseline Map** Available: Background varies from place to place, due to natural causes, and old pollution and uranium and potassium in road and building materials.
2. **Prior to Detonation:** The terrorist moves radioactive materials into an area, for storage or pre-positioning a dirty bomb or nuclear bomb.
3. **After Detonation:** An industrial accident, or a dirty bomb explosion releases large amounts of radioactive material in solid, liquid, or airborne form.

Specifications

| DETECTOR | LOW GAMMA | HIGH GAMMA | NEUTRON |
|---|---------------------------------------|---------------------------------------|-------------------------------|
| TARGETED AND OMNI-DIRECTIONAL DETECTORS | | | |
| Energy Interpretation | Below 400kev Nuclear Medicine | Above 400kev Dirty Bombs or waste | All Energies Nuclear Bombs |
| Sensor | Nal (or BGO) Scintillation Crystal | Nal (or BGO) Scintillation Crystal | BF3 Proportional Probe |
| Sensor Size | 2" dia x 2" thick | 2" dia x 2" thick | 1" dia x 8" L |
| Energy Range | 1 µR/Hr - 1mR/h | 1 µR/Hr - 1mR/h | 0-1000 µRem/h - 1 Rem/h* |



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