University of Maryland, Baltimore (UMB) Security Preparedness/ Response

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UMB Responds to 8 category 1 or 2 Radioactive Material Targets

- Targets at UMB Research Centers
  - 5 shielded dry research irradiators
- Targets at UMMC Hospital
  - 1 shielded dry blood bank irradiator
  - 2 Cancer therapy instruments

UMB's Security Plan

- Only individuals deemed trustworthy and reliable (T&R) are permitted to gain access to UMB's security plan
- Multi-layered/redundant alarm system and monitoring to detect unauthorized access or source removal
  - Door trip,
  - Motion detector,
  - Cameras,
  - Anti tamper,
  - Radiation detector
- Armed response required immediately to Category 1 or 2 alarms
- Responders required to wear personnel radiation detector (PRD)
- Target folders at target site for outside responder information

Security Goals

- Prevent the unauthorized removal of sources from devices or removal of devices from the foot print of the building.
  - Response to determine whether an actual or attempted theft, sabotage, or diversion has occurred
- If device or source removal is confirmed, immediate notification of Environmental Health and Safety (Radiation Safety Officer), State, and Federal Authorities.

Responding Officers' Duties

- Quick assessment of the security zone
  - Check exposure rate
  - Assure secured security zone
  - And if possible, assure source location
- Interdict / Interrogate Personnel
- Communicate with police communications operator (PCO)
  - Site assessment
  - T&R check
  - Receive exposure guidance
- If necessary:
  - Neutralize threat
  - Assure source within building foot print
  - Establish of a secure perimeter.

Responding Officers' Training

- Target characteristics
  - Source type
  - Size/form
  - Exposure risks/hazards
- Exposure determination
  - Personnel radiation detector (PRD) use
  - Exposure limits/turn back values
  - Stay times
- Personnel Interdiction
  - Suspicious activity
  - Insider threat
  - T&R verification
- Site familiarization
  - Target location
  - Expected PRD readings
  - Source verification

Exposure Guidance for UMB Response Plan

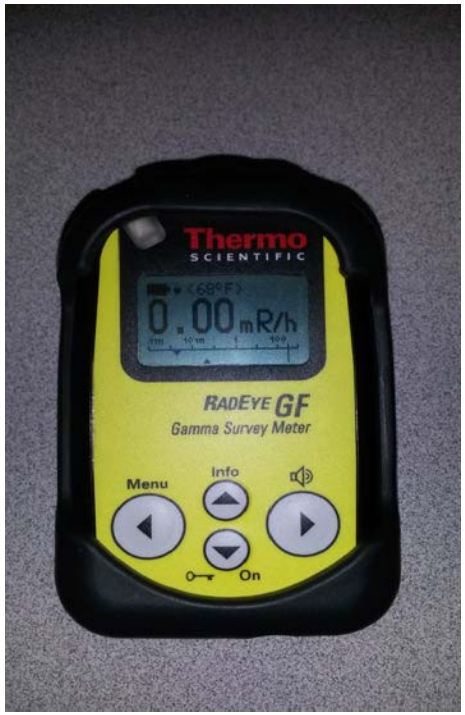
- The Environmental Protection Agency (EPA) Protective Action Guidelines are followed for emergency response.
- 25 rem/response – life threatening emergency response*

* Planning Guidance for Radiological Emergencies
EPA-400/R-17/001 | January 2017

UMB Response - Exposure Reporting & Turn Back

- Exposure meter alarms can be set for exposure rate(s) and total exposure(s)
- UMB Alarm Response exposure reporting and turn back values based on total exposure
- Dose reporting to Environmental Health and Safety, alarm at 15 rem
- Turn back, alarm at 20 rem

PRD - RADEYE GF Survey Meter



- Roentgen (R), amount of radiation exposure (~ r for gamma exposure)
- The meter's default display reads in mR/h (exposure rate)
- The meter's second display reads in rem (total exposure)
- Meter alarms at 15 rem and 20 rem

Radiation Exposure and Dose Determination

- Exposure
  - Responders will be equipped with a Personnel Radiation Detector (PRD)
    - Alarms for accumulated radiation dose(s)
    - Exposure rate and Total dose displays

- Dose Assessment
  - Environmental Health and Safety will document personnel exposure and report over exposures
    - PRD returned to EHS to be read
    - Environmental Health and Safety to issue emergency response exposure report(s) to personnel

Local Law Enforcement Agency (UMB) Response & Reports

- Local Law Enforcement Agency (UMB Police) must respond to all alarms
- Police communications operator (PCO) to notify Environmental Health and Safety of alarms
  - (6-7055) during business hours
  - (6-6665) emergency contact after hours
- Document non-false alarm activity in report