

## Worker Protection Areas Based on Exposure Rate



<b>A</b>	<p><b>EXTREME CAUTION AREA</b>                      Lifesaving only.                      Stay times: minutes to 2.5 hours.                      Area: 0.0010 km<sup>2</sup> Extent: 0.02 km</p>
<b>B</b>	<p><b>HIGH RADIATION AREA</b>                      Lifesaving and protection of major property only. Stay times: up to 25 hours for lifesaving, up to 10 hours for major property protection.                      Area: 0.003 km<sup>2</sup> Extent: 0.10 km</p>
<b>C</b>	<p><b>MEDIUM RADIATION AREA</b>                      High priority emergency response. Stay times: up to 250 hours lifesaving, up to 100 hours major property protection, up to 50 hours for all other work.                      Area: 0.07 km<sup>2</sup> Extent: 0.5 km</p>
<b>D</b>	<p><b>LOW RADIATION AREA</b>                      Low priority emergency work.                      Stay times: up to 500 hours.                      Area: 1.0 km<sup>2</sup> Extent: 2.2 km</p>
<b>E</b>	<p><b>ACCESS CONTROL AREA</b>                      Monitor radiation dose with dosimetry. Position response assets outside or upwind.                      Area: 4.4 km<sup>2</sup> Extent: 4.4 km</p>

### Assumptions:

- Areas shown are model predictions based on an estimated source term but no measurements.
- Residual radioactive ground contamination is the concern.

### Notes:

- Access is limited via Stay Times and Turn Back Limits to assure worker doses do not exceed limits.
- Different dose limits apply for lifesaving, protection of major property, and general response work.
- Workers must leave the Access Control Area upon reaching control limit.
- Assure health physics professionals supervise dosimetry in Access Control Area.

## **Text Description for Image**

### **Worker Protection Areas Based on Exposure Rate**

This map is applicable to both IND and Radiological Dispersal Device (RDD) incidents. The model is based on the assumed magnitude of the explosion and radioactive “source term” (i.e., the type(s) and amount(s) of radioactive material involved in the incident) and the predicted or observed meteorological conditions. It delineates areas where radiation dose rates due to radioactive materials deposited on the ground exceed pre-defined values, typically 10 R/h (100 mSv/h), 1 R/h (10 mSv/h), 100 mR/h (1 mSv/h) and 10 mR/h (0.1 mSv/h). Responders and decision-makers will use this map during all phases of the response to identify areas in which detailed mission planning would be required to due radiation levels, and to determine stay-times for emergency responders based on the nature of their mission (i.e., life-saving, protection of property, radiation monitoring, etc.).