Sample Dose/Dose-Rate Problems

1. A nuclear weapon was detonated on the surface of the ground. The dose-rate in a nearby area was 100r/hr at H+1. What will be the dose-rate at H+7?

ANS: 10r/hr

2. At 0700 a nuclear bomb exploded over the Monsanto Chemical Plant in Anniston. Four hours later the dose-rate at the Southern Railway Station was 175r/hr. What will the dose-rate be at 1400 the next day?

ANS: 23r/hr

3. The dose-rate at the air field control tower 30 minutes after a nuclear burst was reported as 100mr/hr. What is the dose-rate 2 hours after the explosion?

ANS: 20mr/hr

4. One hour after a nuclear detonation the dose-rate is 50r/hr in a shipyard. A monitor team is to enter the area 4 hours after the explosion. The command dosage is fixed at 80r for the mission. How long can the team remain without exceeding the command dosage?

ANS: 2 days

5. Command decision has set 20r as the radiological dosage limit for a certain operation. A detachment enters an area contaminated by fallout five hours after the explosion. If the dose-rate at the time of entry is 6r/hr, how long can the detachment remain without exceeding the dosage limit?

ANS: 5 hrs

6. A survey report three hours following a nuclear explosion indicates that the intensity is 25r/hr at the public works building. It is essential that the electrical switchboards be put back in operation. If the crew enters the area one hour later, and the estimated time to complete the job is 2 hours, what dosage will they receive on the mission?

ANS: 27 r

7. Six hours after a nuclear attack, a monitor enters the contaminated area and reads his meter as 10r/hr. If he stays 8 hours in the area what dosage will the monitor receive?

ANS: 44 r