

ASNT Study Guide: Industrial Radiography Radiation Safety

Text Corrections

The following text corrections apply to the first printing of *ASNT Study Guide: Industrial Radiography Radiation Safety*. Subsequent printings of the document will incorporate the corrections into the published text.

Page v:

The text in the top conversion table in the right-hand column should be changed to read:

$$2.7 \text{ mrem} = \del{270} \underline{27.0} \text{ } \mu\text{Sv}.$$

Page 12:

The first full paragraph should be changed to read:

The SI unit is the becquerel, which equals 1 dps or ~~2.7~~ 3.7×10^{-11} curies. It would be impractical to refer to typical radiation sources in the unit Bq because the resulting number would be excessively large. For example, a ~~40 Ci~~ 1 Ci source would be expressed as ~~40~~ 37 billion Becquerel or 37 000 000 000 Bq. ...

Page 19:

In Table 3.2, the **Whole Body Lifetime PSE** should be changed to: ~~5 rem (50 mSv)~~ 25 rem (250 mSv).

Page 39:

Question 8 should be changed to read:

8. Mathematically, the inverse square law is written as:

- a. $I_1 \times I_2 = D_1 \times D_2$
- b. $I_1/I_2 = D_1/D_2$
- c. $I_1/I_2 = D_2^2/D_1^2$
- d. $I_1 \times I_2 = D_2^2 \times D_1^2$

Page 72:

Question 15 should be changed to read:

Uncharged elementary particles with a mass nearly equal to that of a proton are called:

Page 77:

Question 82 should be changed to read:

82. According to the 49 CFRs, a shipping container labeled as a Yellow II:

- a. must have a surface reading of less than or equal to 50 mR/h (500 $\mu\text{Sv/h}$) and a transport index ~~of 1~~ no greater than 1
- b. must have a surface reading of less than or equal to 200 mR/h (2000 $\mu\text{Sv/h}$) and a transport index ~~of 1~~ greater than 1
- c. must have a surface reading of less than or equal to 200 mR/h (2000 $\mu\text{Sv/h}$) and a transport index of 10
- d. none of the above

The answer remains a.

Page 90:

The explanation for Chapter 5 answer 8 should be changed to read:

c. $I_1/I_2 = D_2^2/D_1^2$

The inverse square law is stated mathematically that intensity one (the first or known intensity) divided by intensity two (the second, or the unknown intensity) is equal to the square of distance two (the second known distance) divided by the square of distance one (the first known distance). $I_1/I_2 = D_2^2/D_1^2$

Page 91:

The answer to Chapter 6 question 5 should be changed to:

- c. Category I: source is exposed outside the shielded container by mechanical means; Category II: exposes the source through a shutter mechanism or rotation device in which the source never leaves the device.

Page 92:

The answers to the following review questions should be corrected as follows:

- | | | | | | | | |
|-----|---|-----|---|-----|---|-----|---|
| 16. | b | 21. | b | 78. | d | 89. | a |
| 17. | c | 48. | a | 80. | a | 92. | a |

Page 93:

The source for Figure 7.2 should read: From Robert Stevens, United Airlines.

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