

TYPE: OPEN REFERENCE

KA VALUE RO: 2.5 SRO: 3.1 KA REFERENCE: 2.3.4

REFERENCES: 1012.021, Exposure Limits and Controls, Rev 004-01-0, Steps 4.5, 4.7, 4.19, 6.2.2

EXAM LEVEL: RO

RO EXAM -- SUBJECT A.3

QUESTION 2:

A worker has been assigned the task of breaking Incore Flanges. The year to date dose for the worker is:

- Deep Dose Equivalent (DDE) = 0.3 Rem
- Committed Effective Dose Equivalent (CEDE) = 0.2 Rem
- Shallow Dose Equivalent (SDE) = 0.6 Rem
- Eye Dose Equivalent (LDE) = 0.7 Rem

What is the maximum time the individual can work in the area and not exceed his administrative Total Effective Dose Equivalent (TEDE) limit with a 1 R/Hr gamma dose rate in the area?

ANSWER:

$$\text{TEDE} = \text{DDE} + \text{CEDE}$$

$$\text{TEDE} = 0.3 \text{ Rem} + 0.2 \text{ Rem}$$

$$\text{TEDE} = 0.5 \text{ Rem}$$

Admin TEDE limit for rad worker is 2 Rem/yr.

Admin Limit – TEDE = Allowable dose

$$2 \text{ Rem} - 0.5 \text{ Rem} = 1.5 \text{ Rem}$$

Stay time = dose/dose rate

$$\text{Stay time} = 1.5 \text{ rem} / 1.0 \text{ rem/hr}$$

$$\text{Stay time} = 1.5 \text{ hours.}$$

COMMENTS:

EXAMINEE'S COPY

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