

Question #216

Answer: A

EPV of Accidental death benefit and related settlement expense =

$$(2000 \times 1.05) \times \frac{0.004}{0.004 + 0.04 + 0.05} = 89.36$$

$$\text{EPV of other DB and related settlement expense} = (1000 \times 1.05) \times \frac{0.04}{0.094} = 446.81$$

EPV of Initial expense = 50

$$\text{EPV of Maintenance expense} = \frac{3}{0.094} = 31.91$$

$$\text{EPV of future premiums} = \frac{100}{0.094} = 1063.83$$

$$\begin{aligned} \text{EPV of } {}_0L &= 89.36 + 446.81 + 50 + 31.91 - 1063.83 \\ &= -445.75 \end{aligned}$$