**Problem (5-50)**

NPW = PW of Benefits – PW of Cost

NPW of 8 years of alternate A

\[ \text{NPW} = \$1,800 \times (P/A, 10\%, 8) - \$5,300 - \$5,300 	imes (P/F, 10\%, 4) \]
\[ = \$1,800 \times 5.335 - \$5,300 - \$5,300 \times 0.6830 \]
\[ = $683.10 \]

NPW of 8 years of alternate B

\[ \text{NPW} = \$2,100 \times (P/A, 10\%, 8) - \$10,700 \]
\[ = \$2,100 \times 5.335 - \$10,700 \]
\[ = $503.50 \]

Select Alternate A.

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**Problem (5-57)**

Use a 20-year analysis period:

Alt. A  \[ \text{NPW} = \$1,625 \times (P/A, 6\%, 20) - \$10,000 - \$10,000 \times (P/F, 6\%, 10) \]
\[ = \$1,625 \times 11.470 - \$10,000 - \$10,000 \times 0.5584 \]
\[ = $3,055 \]

Alt. B  \[ \text{NPW} = \$1,530 \times (P/A, 6\%, 20) - \$15,000 \]
\[ = \$1,530 \times 11.470 - \$15,000 \]
\[ = $2,549 \]

Alt. C  \[ \text{NPW} = \$1,890 \times (P/A, 6\%, 20) - \$20,000 \]
\[ = \$1,890 \times 11.470 - \$20,000 \]
\[ = $1,678 \]

Choose Alternative A.

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**GOOD LUCK**