

36.3 A company purchases a factory for \$1M with a salvage value of \$300K in 15 years. Operations and maintenance costs are \$40K/year. At an interest rate of 8%, what is the equivalent uniform annual cost of the factory over the next 15 years?

- A. \$70K
- B. \$90K
- C. \$150K
- D. \$170K

Draw a cash flow diagram or make a list of cash flows. Since the problem is asking for EUAC, this solution treats costs as positive.

For year 0 there is a payment for the original purchase of \$1M.

For years 1 through 15 there is an annualized payment for operation and maintenance of \$40K per year.

For year 15 there is a positive cash flow of \$300K for the salvage value which partially offsets the costs.

Since the O&M cost in years 1 through 15 is already annualized, there is no need for further manipulation.

The initial cost and the salvage value need to be transformed into annualized cash flows and added to the O&M. Use the **Factor Table** for 8% to look up the required cash flow factors. Solve for the EUAC.

$$EUAC = \$40,000 + \$1,000,000 (A/P, 8\%, 15) - \$300,000 (A/F, 8\%, 15)$$

$$EUAC = \$40,000 + \$116,800 - 11,040 = \$145,760$$

Answer C