



## **Appendix D** **Glossary**

**Capital Costs:** Expenditures required to construct a remedial action. They are exclusive of costs required to operation or maintain the action.

**Constant (Real) Dollars:** Observed dollar values that are not affected by general price inflation. Typically used during FS cost estimating to compare relative prices over time.

**Contingency:** An amount added to a cost estimate to cover costs associated with unknowns, unforeseen circumstances, or unanticipated conditions that are not possible to evaluate from the data on hand at the time the estimate is prepared. Can include both scope (design) contingency, to cover costs due to scope changes during design, and bid (construction) contingency, to cover unknown costs associated with constructing or implementing a given project scope.

**Cost Element:** An activity identified for a remedial alternative that is used to estimate both capital, annual O&M, or periodic costs and help define the project. Cost element categories include construction activities, O&M activities, professional/technical services, and institutional controls.

**Cost Engineering:** The practice of total cost management over the life cycle of a project, facility, or manufacturing operation. Components include cost estimation, cost control, project management, planning, scheduling, and profitability analysis.

**Cost Estimate:** An evaluation of all the costs of the elements of a project or effort as defined by an agreed-upon scope.

**Discount Rate:** The interest rate used in calculating the present value of expected future costs. A nominal discount rate is an interest rate that has not been adjusted for any change in the general price level (inflation). Nominal interest rates are those that usually may be observed in the market, such as the published rate on a savings account or a bond. Nominal interest rates should be used to discount costs that are in current, or nominal, dollars. A real discount rate is an interest rate that has been adjusted to account for the effect of expected or actual inflation. Real interest rates can be approximated by subtracting the expected or actual inflation rate from a nominal interest rate. Real interest rates should be used to discount costs that are in constant, or real, dollars, which is the typical situation for FS present value analyses.

**Life Cycle Cost:** The total cost across the life span of a project, including design, construction, operation and maintenance, and closeout activities. Includes initial capital costs plus any continuing costs of operation and maintenance. For the purposes of this guide, excludes costs prior to design, such as investigation and study costs, and excludes government or program management costs.

**Nominal (Current) Dollars:** Values as they are observed in the market when transactions occur. Nominal dollars are real dollars that have been escalated to reflect the effects of inflation.

**O&M Costs:** Post-construction costs necessary to ensure continued effectiveness of a remedial action. Includes both short-term O&M and long-term O&M costs. Most O&M costs are estimated on an annual basis.

**Periodic Costs:** Capital or O&M costs that occur only once every few years or only once during the entire project timeframe. Because of their periodic nature, these costs are usually considered separately in the estimating process from initial capital or annual O&M costs.

**Present Value:** The present value of a future investment or payment that is calculated using a particular discount or interest rate. Total present value is the amount of money, which, if invested in the current year, would be sufficient to cover all the costs over time associated with a project.

**Sensitivity Analysis:** A type of uncertainty analysis that measures the project impact of changing one or more input values. For remedial alternative cost estimates, sensitivity analyses are typically completed for those factors that have a relatively high degree of uncertainty and that, with only a small change in their value, could significantly affect the overall cost of the alternative.

**Unit Cost:** A cost per unit of measure that is usually multiplied by a quantity to estimate the cost of an element or sub-element within the cost estimate of a remedial alternative. A unit cost is typically adjusted for decreased crew productivity, escalation to base year, geographic location, contractor markups (e.g., overhead, profit), and other factors, depending on the source of cost data (e.g., quotes, cost references, historical data).