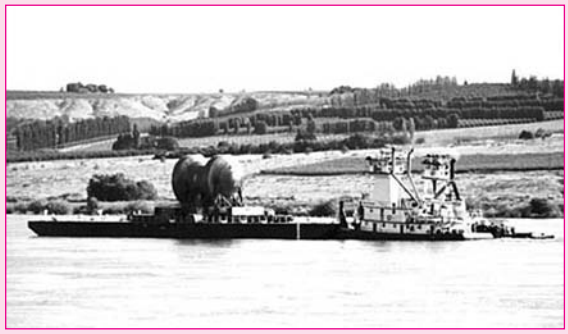
SNAPSHOT FROM PRACTICE Trojan Decommissioning Project

Portland General Electric Company has been charged with decommissioning the Trojan Nuclear Plant. This is a long and complex project extending over two decades. The first segment of the project of moving the used reactors to a storage location is complete and was awarded the Project of the Year, 2000, by the Project Management Institute (PMI). The remainder of the project—decontamination of the remaining structures and waste—is ongoing.

The Exhibit 13.2 on page 476 shows their earned value status report through December 2000. This report measures schedule and cost performance for monitoring the project. The report also serves as a basis for funding for rate filings with the Public Utilities Commission.

The SPI (0.94) suggests the project schedule is falling behind. Resolving issues with a major vendor and solutions for technical problems should solve these delay problems. The CPI (1.14) for the project is positive. Some of this good cost performance is attributed to partnering and incentive arrangements with vendors and labor unions.



Brendan McDermid/EPA/Landov.

Interview with Michael B. Lackey, general manager, Trojan, PGE (September 2001).

Another summary report is shown in the Snapshot from Practice: Trojan Decommissioning Project. Compare the differences in format.

Other Control Issues

Scope Creep

Large changes in scope are easily identified. It is the "minor refinements" that eventually build to be major scope changes that can cause problems. These small refinements are known in the field as **scope creep.** For example, the customer of a software developer requested small changes in the development of a custom accounting software package. After several minor refinements, it became apparent the changes represented a significant enlargement of the original project scope. The result was an unhappy customer and a development firm that lost money and reputation.

Although scope changes are usually viewed negatively, there are situations when scope changes result in positive rewards. Scope changes can represent significant opportunities. In product development environments, adding a small feature to a product can result in a huge competitive advantage. A small change in the production process may get the product to market one month early or reduce product cost.

Scope creep is common early in projects—especially in new-product development projects. Customer requirements for additional features, new technology, poor design assumptions, etc., all manifest pressures for scope changes. Frequently these changes are small and go unnoticed until time delays or cost overruns are observed. Scope creep affects the organization, project team, and project suppliers. Scope changes alter the organization's cash flow requirements in the form of

fewer or additional resources, which may also affect other projects. Frequent changes eventually wear down team motivation and cohesiveness. Clear team goals are altered, become less focused, and cease being the focal point for team action. Starting over again is annoying and demoralizing to the project team because it disrupts project rhythm and lowers productivity. Project suppliers resent frequent changes because they represent higher costs and have the same effect on their team as on the project team.

The key to managing scope creep is change management. One project manager of an architectural firm related that scope creep was the biggest risk his firm faced in projects. The best defense against scope creep is a well-defined scope statement. Poor scope statements are one of the major causes of scope creep.

A second defense against scope creep is stating what the project is not, which can avoid misinterpretations later. (Chapter 7 discusses the process. See Figure 7.9 to review key variables to document in project changes.) First, the original baseline must be well defined and agreed upon with the project customer. Before the project begins, it is imperative that clear procedures be in place for authorizing and documenting scope changes by the customer or project team. If a scope change is necessary, the impact on the baseline should be clearly documented—for example, cost, time, dependencies, specifications, responsibilities, etc. Finally, the scope change must be quickly added to the original baseline to reflect the change in budget and schedule; these changes and their impacts need to be communicated to all project stakeholders.

Baseline Changes

Changes during the life cycle of projects are inevitable and will occur. Some changes can be very beneficial to project outcomes; changes having a negative impact are the ones we wish to avoid. Careful project definition can minimize the need for changes. The price for poor project definition can be changes that result in cost overruns, late schedules, low morale, and loss of control. Change comes from external sources or from within. Externally, for example, the customer may request changes that were not included in the original scope statement and that will require significant changes to the project and thus to the baseline. Or the government may render requirements that were not a part of the original plan and that require a revision of the project scope. Internally, stakeholders may identify unforeseen problems or improvements that change the scope of the project. In rare cases scope changes can come from several sources. For example, the Denver International Airport automatic baggage handling system was an afterthought supported by several project stakeholders that included the Denver city government, consultants, and at least one airline customer. The additional $2 billion in costs were staggering, and the airport opening was delayed 16 months. If this automatic baggage scope change had been in the original plan, costs would have been only a fraction of the overrun costs, and delays would have been reduced significantly. Any changes in scope or the baseline should be recorded by the change management system that was set in place during risk control planning. (See Chapter 7.)

Generally, project managers monitor scope changes very carefully. They should allow scope changes only if it is clear that the project will fail without the change, the project will be improved significantly with the change, or the customer wants it and will pay for it. This statement is an exaggeration, but it sets the tone for approaching baseline changes. The effect of the change on the scope and baseline