Chapter 10

Project Management

Substation Guidelines

ABSTRACT

Well-organized and astute project management methods are indispensable in the equipment installation development. The strategy team evaluates the correct electrical equipment installation process from a flawless good start standpoint. The transition from the conceptual renewable energy incorporation activities to the detailed requirements of process design as well as the resource commitment is imperative for the implementation of the capital-intensive project. The model must have exceptional management commitment to execute the technology within the current infrastructure. One of the key elements for delivery of the desired results within the scheme is the specification or scope. Strict adherence to the plan is expected throughout the project lifecycle. The manager is responsible for control of the project by monitoring its progression, identifying risks and resolving issues, and providing status of completed milestones.

PROJECT MANAGEMENT OVERVIEW

Efficient and judicious project management techniques are essential in the equipment installation processes. The various electrical components housed within a substation, for example, requires several degrees of equipment integration, complex methodologies that involve many levels of quality, specifications, resources, and time. The management of the various aspects of the installation, specifically for electrical equipment upgrades, is a business requirement that encroaches on practically every responsible department as well as the suppliers. Moreover, the planning, organizing, implementing, and control of capital-intensive ventures are fundamental elements in project management (Jones, R., 2007). All of these processes are highly-integrated and inter-related with tentacles in the financial, engineering, quality, and construction arena. Additionally, effective project management necessitates some form of business, system, and technical responsibilities that defines the field, structure, technology, techniques and applications of the equipment installation process. The coordination is in essence, a delicate balanc-
ing act between man and machine to achieve a desired goal when properly implemented. Some electrical utility companies excel in the project management field whereas others consistently produce cost/schedule overruns in practically every single venture. The equipment may arrive on time at the wrong substation with the supporting resources. Conversely, excessive delays are incurred when the specialized resources are diverted to other projects (demand maintenance, fix-it-now activities, etc.) with little or no notice. The electrical equipment integration problems are compounded by other forces affecting the venture – land, permit, engineering issues – to mention a few, that will cease all activity in the assign project. The political will to shepherd a project to a successful completion is encompassed within every responsible department. Key individuals in these organizations must be accountable for every aspect of the electrical equipment installation process – not just specific departmental elements of the implementation. Project status meetings must entail some form socio-technical system (goal setting, job enrichment, participative approaches, etc.) to increase the effectiveness of the work effort to date (Feigenbaum, A., 1991). Effective leaders are motivators of men and women. The utilization of a project visibility program, for example, is strategically displayed for all to see of the progress for each venture. The apparent psychological effect imposed on the employees of the organization is designed to create a spirited competition for a successful project implementation.

*Fall down seven times. Stand up eight. (Japanese proverb)*

A report from a regional manager at an update meeting stated that the turbine blade shipments was late should prompt several questions as to why. In fact, with incisive project management techniques in conjunction with logistical contingency schedules from high-performance vendors, the turbine blades should have been installed on time, on budget, and most importantly, *on strategy*. The astute project manager is expected to perform due diligence on the supplier that include the correct utilization of vendor surveillance and quality conformity within the strategic bandwidth. Additionally, vendor audits, past performance results, and supplier conferences are expected project management criteria to minimize any corrective action and material discrepancies. Therefore, the key communication channel is between the project manager and the vendor (as opposed to the capital project status meeting) to ensure that the causes of the discrepancy are eliminated and corrective action is permanent. The plan and resolution development is implemented well before project update sessions occur.

The project risk assessment and management is a systematic process of categorizing and identifying potential threats and seeking ways to mitigate these dangers. Risk is generally classified as two types – certain and uncertain. The decision-makers must choose an approach and plan the risk management activities for a project. Potential risks are active within the astute project manager’s arena at all times. The identification of these risks assists with the determination of the specific characteristics of the potential threat and how it can affect the project (Kerzner, 1992). Ideally, a qualitative analysis is performed and prioritized to evaluate the conditions and effects of the project outcome. Subsequently, a prioritized list of quantified risks are developed and measured against the venture’s time, budget, and performance constraints. Modeling tools utilized in this process are analytical, mathematical, statistical, and graphical for the quantitative evaluations. Managerial, anecdotal, empirical, and to some extent management games, are employed for the qualitative area. The project modeling tools may utilize some form of simulation, graphs, project software, or statistical analysis as part of the expansion process (Taguchi, 2001). Procedures are developed as part of the risk response plan, to enhance the opportunities while reducing the
Related Content

Solar PV Residential Grid-Tie System for Optimizing Installation and Performance

Case Study: System on a Chip for Electric Stimulation
[www.igi-global.com/chapter/case-study/155059?camid=4v1a](www.igi-global.com/chapter/case-study/155059?camid=4v1a)

Optimization of Nigerian Restaurant Waste Cooking Biodiesel Reaction Parameters using Response Surface Methodology

Thermodynamic and Energy Study of a Regenerator in Gas Turbine Cycle and Optimization of Performances