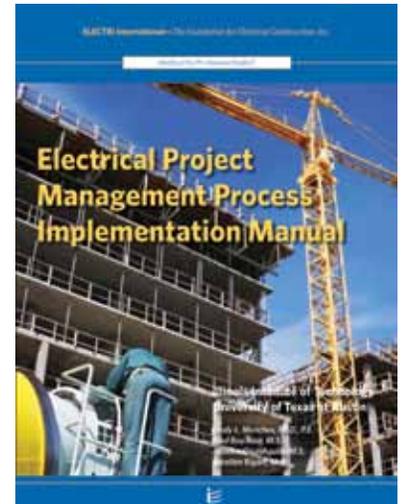


# Electrical Project Management Process Implementation Manual

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## Executive Summary

In 2007, ELECTRI International—The Foundation for Electrical Construction, the research arm of the National Electrical Contractors Association (NECA), funded a research project to develop a model electrical project management process that could be used by NECA members to improve their management practices. The study critically evaluated the relationship between project management and project performance. As part of the research process, in-depth project-specific information was collected on the management effort and project outcome for several “successful” and “less-than-successful” projects. This data collection effort culminated in a detailed analysis of the project management practices of these two groups to identify clear differences between “successful” and “less-than-successful” projects. Ultimately, 25 randomly-selected companies from 12 states agreed to participate in an

interview for the research project. Data was collected on 50 “successful” and “less-than-successful” projects.

The management activities that were performed on the successful projects were used to develop the model Electrical Project Management Process. The model process was fashioned after those projects that performed good management and achieved a successful outcome. As such, the model management process incorporated the best management practices in the electrical construction industry. The management processes of the successful and less-than-successful projects were compared to the model process, and, ultimately, it was discovered that those projects that implemented processes that more closely matched the model resulted in more successful performance.

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## Project Management Effectiveness and Outcomes

The results of the study revealed that projects that received more effective project management were also more likely to achieve successful outcomes. “Success” was defined by electrical construction contractors as:

1. The project was profitable
2. The customer was satisfied
3. The project resulted in repeat business
4. The project resulted in good working relationships between the electrical contractor, the general contractor, and the owner
5. The worksite was safe and there were no accidents
6. The project was completed on time
7. The workers took pride in the completed project
8. There was good communication and cooperation between the electrical contractor, the general contractor, and the owner
9. The quality of the work was excellent
10. The project achieved its budget goal

By examining several well-managed projects, 81 activities that occurred during the project management stage were identified. These 81 activities were further divided into fourteen categories of project management activities, including: (1) mobilization, (2) coordination, (3) documentation management, (4) communication, (5) scheduling, (6) scope & change control, (7) cost control

& billing, (8) subcontractor management, (9) materials management, (10) tools management, (11) labor management, (12) safety management, (13) quality control, and (14) project closeout.

## Practical Application

The research resulted in the creation of the model electrical project management process that is designed to complement the model electrical pre-construction planning process. Both processes were modeled after several of the most successful electrical construction projects in the industry. Contractors should implement both processes so that during pre-construction planning, the systems are set up to manage the project once it has been executed. After execution, the model electrical project management process serves as a constant reminder of the tasks that need to be performed to increase the likelihood of achieving a successful project outcome. A significant number of checklists and examples have been provided in this implementation guide so that users can refer to the checklists frequently to ensure all tasks are being completed.

A list of factors that impacted the success and relative lack of success on several projects has been provided to serve as a reminder of the other influences that can be a benefit or barrier to successful project performance. Hence, in addition to implementing standardized planning and management processes, contractors should become aware of other factors that can positively or negatively influence performance.

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### 3.3 Strategies for Successful Implementation

Provided below are several strategies for successfully implementing a standardized project management process on all electrical projects.

- Top managers must reinforce their commitment to a standardized management process and must ensure proper management is performed on every project.
- The model management process should be tailored to each project based on the characteristics of a project. For example, a small project might spend only five minutes on some of the activities, whereas a large project might spend several

hours or days on the same activities.

- A system for tracking the success on projects that are well-managed and followed the model management process will demonstrate the benefits of implementing a standardized management process.
- In addition to implementing the model management process, consider implementing a “double-check” system, where the supervisor double checks the management that was performed by the project manager. This will ensure management standardized project management process is used consistently across the company.