

Member Communication Experience

The Power of Excellence in Utility Construction Management

Written by: Scott Gregg, Director of Construction Management, TRC Companies, Inc.

Utility engineering and construction initiatives can be complicated and difficult, perhaps now more than ever. The demands of the energy transition – significant grid modernization upgrades and initiatives, rapid technological advances, emerging physical and cybersecurity issues, and changes to operational processes and systems – require detailed planning and precise execution. The power industry faces considerable workforce challenges with the potential to hinder progress toward meeting project goals. If not given proper attention, impacts to utility construction can be particularly problematic, with financial, safety, quality, and legal ramifications.

Tackling the complexities of utility project construction requires dedicated, expert resources to lead tasks from contract administration to field coordination and oversight. Excellence entails everything from robust safety program implementation to quality program administration, contractor schedule management, specification conformance, project submittal coordination, change order management, materials management, project communication and reporting, construction document control, environmental conformance, and final design/as-built documentation. Outsourcing this critical and specialized role is often the best solution to ensure project success in today's complex utility landscape.

Impacts of an Inadequate Construction Management Process

Whether insufficiencies stem from a lack of dedicated or skilled resources or are a result of not wanting to spend additional



funds for outsourcing, there can be significant and costly risks if a utility lacks a robust construction management program and it can impact all areas of operations.

- » **Increased Costs:** A lack of focus on the construction management phase can result in delays, rework, and additional expenses, ultimately leading a project to go over budget and increase overall costs to the utility. According to a [2016 report from the Project Management Institute](#), for every \$1 billion spent on projects in the U.S. there was a waste of roughly \$122 million due to poor management, counterproductive behaviors, and bad decision making.
- » **Quality Problems:** Ineffective construction management can contribute to substandard work and reduced project quality, which if corrections are later

required can lead to additional costs, delays, and potential safety issues. [Research shows](#) that construction project rework can cost 5-9% of the total contract value. That means a utility undertaking a \$10 million project could potential spend \$500,000 – \$900,000 on construction rework costs. Prioritizing construction management best practices can help prevent costly quality problems.

- » **Safety Risks and Legal Liabilities:** Protecting worker and public safety is essential during complex and dangerous utility construction projects. But without proper management of this phase, accidents, injuries, and even fatalities can occur resulting in legal, financial, and reputational consequences. An [article from KPA](#) explains that the average cost of one lost-time injury on a construction job is \$35,000 and that 6-9% of construction project costs are related to workplace injuries. Preventing accidents with sound construction management practices can save billions in financial losses from workers' compensation claims, insurance costs, and reduced profit margins.
- » **Regulatory Compliance and Reputational Damage:** Any delays that may occur during the construction phase can impact a utility's ability to meet regulatory requirements and hinder the delivery of reliable services to customers. Failing to meet regulatory requirements can lead to fines and penalties but can also damage a company's reputation in the community particularly if a project causes significant disruptions or safety incidents. Failure to implement system changes to meet the requirements of NERC standards can result in violations of mandatory NERC standard requirements. NERC fines for standards violations can be extensive. Today the upper limit is around \$1.4 million per day per violation, although in aggregate settlements are usually less costly, depending on the severity of the violation and the violation risk factor.

It is clear that a lack of dedicated construction management resources can have significant costs and risks. Prioritizing effective construction management is essential to ensure that projects are completed safely, on time, and within budget.

The Benefits of Outsourcing Utility Construction Management

The complexity of today's utility initiatives to address grid modernization, decarbonization, and reliability, combined with ongoing workforce challenges and the high operational risks of not meeting regulatory and customer expectations on time and within budget has led to a growing trend toward outsourcing critical project construction management programs to specialist firms.

Partnering with a trusted advisor that has specialized expertise in the power industry broadly and with managing utility construction projects specifically can help ensure that work is completed on time, within budget, and to the highest quality standards. Outsourcing to the right team can give a utility piece of mind that the major issues will be handled and risks minimized, freeing up constrained management staff and field engineers to focus on other critical work. Working with an outside construction team offers deeper accountability with a primary project point of contact on site to take ownership of shepherding the work successfully to completion. And while it may often be seen as an added expense to outsource work, a utility can ultimately save money working with a third-party team. Cost savings come from a reduced need for in-house staff and equipment- a flexible outsourced team can staff resources up or down as needed over the project, reducing overhead costs, and improving efficiencies. Not to mention the costs that can be saved from preventing delays, rework, and potential injuries. Efficiencies can also be gained on project planning, scheduling, and coordination, helping to ensure that work is completed in a timely and efficient manner. And with a dedicated team with boots on the ground of a given project, by outsourcing you will always have constant quality assurance monitoring in a way that wouldn't be possible using internal staff who may be assigned to several sites at a time.


The ideal construction management team will be proactive, rather than reactive, helping to anticipate constructability obstacles, forecast budget impacts, escalate critical issues, and formulate solutions that ensure optimal project outcomes. An expert's review of preconstruction activities can uncover mistakes that a utility's engineering team may miss because they are not tied into the field. While something may work conceptually on paper, only a utility construction management

specialist can understand if and how it will come together successfully in practice. Utilities should look for support from construction management teams that have built a culture of safety and bring that with them to the job as a top priority.

Consider an Owner's Engineer

When utilities outsource, they often turn to an Engineering, Procurement and Construction (EPC) model. But to optimize the critical construction management phase, an independent Owner's Engineer (OE) can be invaluable, leading to cost savings, improved quality assurance, and greater efficiencies. An OE provides the oversight and expertise necessary to ensure that a construction project meets the utility's needs and industry best practices. And unlike an EPC, an OE can manage materials procurement, while eliminating costly procurement markups.

As a team of experts that serve as an advocate for the utility, an OE supplements internal resources and represents the utility's interests, not only during construction management but through all phases of a project. A good OE understands the utility's standards, goals, technical scope, schedule and budget and advocates for critical operations and management functions, guiding projects to successful completion. An OE can support everything from conceptual design to final construction, coordinating and verifying the work of project engineers, contractors, vendors, and suppliers.

Having an OE can help ensure a contractor is delivering the project to the utility's specifications and needs, rather than prioritizing their own interests. An OE makes the construction process more flexible, allowing the utility to manage the work as needed, helping adjust project scope, timeline, and budget without having to rely on the EPC contractor. OEs can also help utilities save money by ensuring that construction projects are completed efficiently and within budget. They can identify cost-saving opportunities and help negotiate better prices for materials and services. 



About the Author

Scott Gregg is the Director of Construction Management at TRC Companies, Inc.

Republished from TRC [News & Insights](#), TRC is a leading, global consulting, engineering, and construction management firm that provides environmentally focused and digitally powered solutions across key markets that include power and utilities, transportation, real estate, water, and government, as well as environment and sustainability, and digital solutions.

Any views and opinions expressed in this article may or may not reflect the views and opinions of the Construction Management Association of America (CMAA). By publishing this piece, CMAA is not expressing endorsement of the individual, the article, or their association, organization, or company.