

Beyond the Bid: An Agile Framework for De-Risking Future Transmission Projects

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Moving beyond a low-cost bid to proactively manage early-stage risk is the new key to success in transmission development. This paper details a dynamic framework for de-risking projects early. By adopting a fail-fast mindset, teams can better navigate complexity, provide cost certainty and demonstrate the superior execution needed to win.



The energy landscape is undergoing a radical transformation. Spurred by historic levels of investment and critical policy drivers like FERC Order 1000 — which requires large, regional transmission projects to be competitively bid — the race is on to build the next generation of America’s electrical infrastructure. From long-haul transmission lines, adding reliability and resilience to the grid, to the high-capacity interconnects demanded by power-hungry large load centers, the opportunities are immense. However, so are the risks.

In this extremely competitive environment, transmission owners often can fail long before the first shovel ever breaks ground. The most common culprit is not a lack of technical know-how, but an inability to navigate the crucial early stages of development, when unforeseen costs and complexities can stop a project in its tracks or render an otherwise competitive bid unviable.

Success in this era requires a shift. The winning approach is no longer about merely submitting the lowest-cost bid; it is about

demonstrating a superior ability to execute and maintain a cost cap. This is achieved through a proactive, analytical and agile approach to de-risking that provides cost certainty, enhances project viability and ultimately helps protect the interests of ratepayers.

The Fail-Fast Imperative in Capital Projects

In the world of project development, time and capital are finite. Whether developing a long-haul transmission line or a smaller generator interconnect, the goal is the same: Identify and eliminate uncertainty as quickly and cheaply as possible. This is the “fail-fast” mindset. No one wants to sink a year of resources into a project only to discover its fatal flaw after costs have already escalated.

The earlier a team can get to a “no” on a nonviable route, a problematic permit or a financially unworkable design, the more capital is preserved. This mindset, borrowed from the fast-paced world of software development, is not about celebrating failure, but about embracing rapid, cost-effective learning.

Anatomy of Risk: The Cascade Effect of Early Decisions

The most significant risks are often embedded in the earliest decisions. A project's route is a primary example, representing a complex balance among such factors as cost, constructability, environmental constraints, public perception and regulatory compliance. The wrong choice can lead to a cascade of costly consequences.

Consider the selection of a conductor. This single engineering decision dictates:

- **Equipment costs:** The conductor's specifications influence the cost of associated hardware as well as the economics of operating the line over its asset life.
- **Structural design:** The conductor's weight and tension characteristics determine the design, placement and quantity of support structures.
- **Foundations:** Heavier structures require more substantial and expensive foundations.
- **Access:** The more complex a structure and its foundation design, the greater need to create roads and access for implementation.

A suboptimal choice made early on can inflate costs across the entire project life cycle. A diligent, upfront conductor economical selection study — analyzing everything from joule losses to maximum operating temperatures — is not an extraneous expense. It is one of the most powerful de-risking tools available, providing the cost certainty needed for a competitive and credible bid.

An Agile Blueprint for Engineering Success

To manage these competing interests under intense deadline pressure, a more dynamic approach is needed. Traditional linear project management is too slow and siloed. By adapting the Agile Scrum project management methodology, project development can be transformed into a highly collaborative and transparent process.

This framework involves:

- **Cross-functional teams:** Assembling a bespoke team of specialists for each project — skilled and experienced routing professionals, as well as permitting leads, engineers and risk managers, all working in parallel. Crucially, this team is matched on the client side, creating a single, integrated unit working toward a shared goal.
- **High-tempo sprints:** Instead of a long, linear process, the work is broken into short, focused sprints lasting just a few days. Each team works to optimize its segments, understanding that

a change in one discipline will impact others. Rapid iteration is powered by a sophisticated digital toolkit in which advanced GIS mapping and real-time data overlays allow all disciplines to work from a single source of truth.

- **Rapid, data-driven decisions:** Sprints culminate in cost-benefit analysis reports presented to the project owner, enabling critical decisions to be made within one to two days. The owner is not a passive recipient of a report; it is an active participant in the review, empowered by transparent data to make the appropriate strategic choice alongside our team before the next sprint begins. This speed is essential to iterate on solutions and meet tight bid windows from the independent system operator (ISO) or regional transmission organization (RTO).

This Agile framework balances competing interests in near-real time, fostering a holistic understanding of risk and strategy that is impossible to achieve in a siloed environment.

Winning on Competence, Not Just Cost

In a FERC Order 1000 solicitation, the goal is to convince bid evaluators that a proposal is not only cost-effective, but also completely executable and has a high likelihood of success. ISOs, RTOs and regulators are increasingly recognizing that the lowest bid is not always the right one if it carries hidden risks that ultimately will be borne by ratepayers.

The rigorous diligence produced through an agile development process — documented through detailed methodologies and decision trees in the technical section of a bid — provides that proof. It demonstrates a thorough command of the project's complexities and a clear, credible plan for execution. It tells evaluators that the team has not just priced a project, but has truly understood it.

In the end, entities building the grid of the future will be those that can master this new dynamic. They will pair deep engineering knowledge and experience with an agile, fail-fast mindset to navigate uncertainty, deliver on their promises, and build projects that stand the test of time.

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