

# White Paper

## RESPONDING TO CAPITAL PROJECT MANAGEMENT CHALLENGES CREATED BY COVID-19

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It's no secret that in the wake of COVID-19 business as usual is a thing of the past, at least for the time being. This is certainly true for the exceptionally multi-faceted construction industry, and more specifically, power utility projects and the individuals who manage them. The fact that the power industry is an essential service has not spared it from efficiency losses, delays, cost increases, and profound challenges in planning. While current operations and maintenance continue (albeit under greater duress) plans for larger capital projects have come under doubt. This is due to a climate of general uncertainty, as well as a reluctance on the part of service providers to risk public relations fiascos. After all, if a worksite fosters an outbreak, it is likely the associated project will become an example of one that should have been deferred. Therefore, the ability to balance system reliability, cost, and safety is an increasingly valuable commodity for project managers in the power utility space.

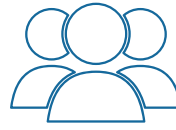
In the medium-term, an anticipated second wave of the virus promises no end to these severe impacts to life and livelihood in all sectors, including power utility. The World Economic Forum (2019) suggests that in the longer-term, since pandemics are projected to become more frequent, economic resilience is tied to developing best practices for managing these profound challenges. To that end, Maven Consulting has leveraged its extensive and successful project management experience in power utility during the COVID-19 crisis to produce this white paper.

Project management professionals can use this resource to level up their capabilities, particularly as they navigate challenges related to logistics, supply chain delays, rising costs, and service quality maintenance. As such, this publication will hopefully contribute to the greater resilience of the power utility sector as a whole.

## **What project managers (PMs) can learn from this white paper:**

- The key challenges PMs are facing due to COVID-19
- How a PM should respond to project management barriers created by COVID-19
- How to prepare for disruptive future conditions

*As this industry grapples with the complex challenges ahead, Maven is inviting all those who wish to learn more after reading this white paper to reach out. Maven Contact: Alex Caw (email: [acaw@mavengroup.ca](mailto:acaw@mavengroup.ca), Phone: (604) 818-5853)*



As PMs in the space know all too well, power utility projects are particularly vulnerable to logistical disruptions. In its review of the impact of COVID-19 on capital and construction projects, Deloitte (2020) observes that “increased absenteeism of resources due to sickness, the need to care for others, or restrictions on travel...impact project efficiency.” Border closures, reduced flights, and rapidly evolving safety protocols have conspired to impact both the flow of crew members, and their availability for work. Those safety protocols include physical distancing rules limiting the number of staff on-site, and mandatory self-isolation for workers traveling internationally, or even interprovincially.

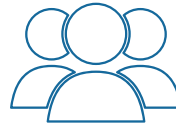
Sheldon Pinto, Maven’s Director of Project Delivery, explains why sourcing far-flung crews is normative—but currently problematic—for the industry: “If, for example, you wanted to do work in the Northwest Territory and it was emergency work, you bring someone in from Calgary. But they then need to do two weeks of paid self-isolation before they can start work which obviously slows things down.”

## Solutions

To address the safety and efficiency challenges bound up in these logistical disruptions, Maven utilizes the *following strategies*, all of which reflect a risk-management approach.

### *Secure key paperwork or source locally*

Ensuring adequate human resources on-site necessitates a two-pronged approach: secure key paperwork and source local workers. When moving workers from other provinces or countries is preferred, essential worker documentation can sometimes prevent the need for costly self-isolation periods. But when that option is not available, the ability to source workers local to the project area is key. Certainly, PMs with healthy local networks do have an advantage when it comes to implementing the latter solution. As Maven Principal and Co-Founder Trevor St. Germain, explains, “We have years of experience working in certain places—especially remote areas in Western Canada—so we know what alternative local resources are available.” Developing these networks is a key future capability for power utility PMs.



## *Ensure health and safety*

In all things related to logistics, Maven takes a risk management approach. This is especially true as it concerns the health and safety of workers. Exercising proactivity in this matter yields many benefits, from well-being of people to reduction of project delays. St. Germain explains, “We want our people to be healthy and safe. When we mobilize a crew, we ensure they understand their risks and how to manage them. We have our own in-house safety subject matter experts who prep our crews and clients as to what’s expected and what the health and safety regulations are.”

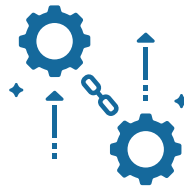
This effort entails updating fit for duty and sick leave policies to reflect the reality of operating in a pandemic. These should include protocols for when workers are symptomatic on site or have been traveling or exposed to COVID-19. Of course, a comprehensive plan for limiting equipment sharing and ensuring physical distancing is also essential.

## *Build agility*

Maven’s experience aligns with the findings of the Project Management Institute’s latest research. In this report, executive leaders rated “organizational agility” as the most important factor for achieving success in the future. As Government Executive (2020) put it: “Agility and iterative approaches are a natural fit for recovery efforts, as fixed and inflexible delivery structures and methodologies often fail to account for real-time changes occurring on the ground.”

Making best use of available human resources means skillfully re-organizing project workflows and schedules as needed to mitigate delays. For example, early ordering and off-site storage are two ways to mitigate the supply chain issues that can hamper progress. After all, delays in this sector can be more significant and costly than in others; as Pinto explains, “A lot of areas in the North have short construction windows, so if you end up delaying, it pushes the project into the next year.”

Finally, exercising strong PM leadership in circumstances like a global pandemic means adjusting methodology as required. Failing fast and pivoting promptly are in order when conditions become more unpredictable. But to ensure that these pivots do not result in organizational chaos, regular communications between staff and clients is key. Daily briefings on what the protocols and expectations are will smooth operations.



It is difficult to overstate the complications that congested, constrained, and chaotic supply chains have brought upon the global economy. Accenture (2020) reports that 94% of Fortune 1,000 companies experienced supply chain disruptions in the wake of COVID-19. As a result, 75% of these companies were negatively impacted.

In the power utility industry, according to Pinto, “with procurement, we have noticed slowdowns. There are a lot of projects considered urgent, where the reliability of equipment is tantamount to public safety, or it relates to populations having their power needs met. That work is going ahead. But doing it [under these conditions] has a cost; it impacts capital project budgets.”

The supply chain “slowdowns” that cause cost increases derive from many factors. Certain suppliers, vendors, subcontractors, or contractors are delayed in receiving permits. Others have become insolvent or bankrupt. However, the most significant factor driving bottlenecks and delays is slower domestic shipping and restricted international shipping.

## Solutions

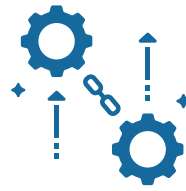
To navigate supply chain issues in order to ensure best long-term outcomes, Maven continues to emphasize a high-level risk management approach. To that end, Maven PMs leverage the following strategies.

### *Start with risk analysis*

Maven’s emphasis on risk management is especially significant when it comes to navigating supply chain problems. After all, as St. Germain explains, “We want to employ as many smart tactics as we can to meet the originally planned scope, schedule, and cost, but a high-level risk management analysis can sometimes show us that deferment is the right answer.”

A high-level analysis using a risk register at the outset of a project allows a PM to evaluate critical factors such as worker safety, rising costs, and, of course, supply chain disruption. When deferment is truly the only sensible option, the register can make this clear. In the long run, this informed and realistic approach can save valuable time and resources.





## *Build in contingencies*

PMs who carefully build contingencies into plans will reap the benefits. A robust risk register should reveal the likelihood of delays or product shortages. Working closely with procurement managers, PMs can then identify secondary suppliers who can work with expedited lead times when necessary.

It is also important to communicate regularly with primary and secondary suppliers to gauge how resilient their operations are even under pandemic conditions. This allows PMs to create realistic contingency plans.

## *Cultivate supplier relationships*

To build in contingencies, PMs and their procurement managers need access to a healthy network of suppliers. If the two top preferred suppliers are unable to meet a project's needs, it is an opportunity to build new relationships and grow this network.

However, it is important to note that navigating supplier relationships is a sensitive process and there are limits to a PM's ability to leverage contingencies. As St. Germain notes, "It's easy to say, 'Let's just find another supplier', but it's not always that easy, because we have valuable contracts in place with existing suppliers who expect revenue. [Currently,] you can defend getting a couple of quotes rather than going through a public process. But [the COVID-19 crisis] is not like a natural disaster situation where you can sole source a large amount of supplier services to a single vendor."



# RISING COSTS

All of the complications described thus far in this white paper clearly fuel cost increases. From two-week quarantine protocols to supply chain delays, a huge number of factors combine to push power utility projects over budget. As Tech Republic (2020) puts it, “If you are able to secure most or all of the products, supplies, or services required, chances are even after COVID-19, the costs may have increased, pushing your project over budget.”

As Maven Senior Project Manager Mark Abraham explains, project components in the industry have also become more expensive. Reflecting on the first six months of the pandemic, he says, “When it came to purchasing materials like breakers, those prices came in much higher than expected. A risk we didn’t realize was that there might be a surge of work [happening in the industry] because power utility provides essential services. Or the opposite might have happened and many projects were cut and suppliers shut down. Whatever the reason, we had high prices for even off the shelf material. The biggest impact has to do with exchange rate; most materials came from the US. Overall, COVID-19 has caused turmoil in markets, and suppliers are passing on those costs.”

Finally, a more fraught environment for decision-making has created delays that stoke costs. It is extremely difficult for power utility clients to make safe and strategic choices with existing budgets under pandemic conditions. Hence, decisions can be more drawn out, or put off until “the crisis passes” or “the market stabilizes.”

This creates difficulties for PMs who must then re-organize budgets and re-schedule projects. In the event that crews and equipment have already been mobilized, finding storage options that do not create quality concerns or cost increases is difficult.

## Solutions

Maven’s risk management approach allows our PMs to adjust scope and manage client expectations—a critical capability in a milieu of rising costs and fraught decision-making. To that end, Maven’s PMs utilize the following strategies.



# RISING COSTS

## *Adjust scope, manage expectations*

Armed with a realistic assessment of cost, PMs are able to better manage client expectations, and adjust scope whenever necessary. As Tech Republic (2020) correctly observes, “As most of the world has been experiencing the same supply shortages and procurement challenges, chances are a discussion about rising costs won't be unique in your company.” Depending on the urgency of the initiative, Maven PMs have chosen to simply pay cost increases or alter scope for current work and delay planned projects.

## *Conduct financial analysis*

Once again, executing a robust risk register enables power utility PMs to more accurately determine costs, and revise budgets accordingly. Key to this process is accounting for storage costs—especially as they concern overseas components—as well as those incurred by performing maintenance work on idle equipment.





We end our discussion of major PM challenges under COVID-19 with a look at maintaining service quality. As this paper has already shown, these challenges are interconnected, and service quality is no exception.

The delays that necessitate storing materials and equipment can compromise quality. Of course, suppliers are also fighting the same battles and their materials may reflect that. According to Tech Republic (2020): “Even if your procurement specialist is able to secure the products needed to keep your projects or operations moving, the quality of those products may not be up to the specifications needed.”

Finally, the enhanced safety protocols that complicate logistics can also hamper the effectiveness of a team, impacting project quality. Namely, for outfits unaccustomed to remote work, losing access to a hands-on style of overseeing can undermine project outcomes.

## Solutions

In maintaining quality, Maven’s PMs are well served by capabilities that existed prior to the outbreak of COVID-19. These include, once again, sophisticated risk analysis and effective communication protocols. During the pandemic, they have utilized the following strategies.

### ***Facilitate risk-informed, regular communication***

Upfront, risk-informed customer engagement and planning always minimizes unexpected costs and quality losses. Good protocols ensure that communication with team members and clients is well organized and conducted at regular intervals. As St. Germain says, “Our high level of engagement and planning [ensures that] issues don’t fall through the cracks. That yields benefits in quality. There’s a cost to ensuring quality, but there’s also a cost to not ensuring quality. There’s a saying that every dollar of time spent planning saves eight dollars in the field. Because we know that, we invest in upfront planning and communication.”



## *Invest into remote work—for the long-term*

Connected to the need for regular, high quality communication is the importance of good remote work infrastructure and protocols. Increasingly, strong remote work capabilities appear as though they will become a basic requirement for well-run organizations—long after the COVID-19 pandemic passes. In fact, when the analyst firm Gartner (2020) polled 229 Human Resources leaders in April 2020, they discovered that 41% of employees will continue to work remotely post-COVID.

To align with this new reality, power utility projects must have cloud server access, devices for all staff, and a robust training program for remote work. Of course, to ensure the effectiveness that protects quality, PMs must look beyond mere technology and training. They must also invest into what Business 2 Community (2020) calls a “culture that promotes transparency, sharing, collaboration, and teamwork over individual brilliance.”

Fortunately, Maven’s early investment into the infrastructure and culture of remote work smoothed the way for maintaining project quality after COVID-19 hit. Abraham notes: “The good news is what Maven did well working remotely before COVID. I was working from home before and worked from home after. I was already set up with a virtual meeting device and working on Box software. That’s one advantage that Maven had that other companies didn’t. For example, I know of one company whose financial and procurement departments couldn’t print out cost reports or access financials remotely. We didn’t have those issues. We can get employees up to speed quickly when they work remotely.”

## *Build quality assurance culture*

Maven has long been an Organizational Quality Management (OQM) certified organization. This type of intentional, structured quality assurance culture-building helps maintain a high level of professional service regardless of external circumstances. Furthermore, the OQM approach gives Maven PMs a process for reviewing deliverables and maintaining records. This quality management system has been endorsed by engineers and geoscientists across British Columbia. Externally validated structures and systems like this help power utility PMs to practice industry-leading excellence—and take the guesswork out of what that should look like.



Since the initial COVID-19 outbreak, power utility PMs have been on a steep learning curve. Tasked with helping to provide essential services for large populations, they have had to navigate tremendous challenges under considerable duress. In the process, they have acquired new insights and strategies that will inform emerging best practices in an industry with a strong history of collaboration.

This white paper represents Maven's contribution to this proud tradition of knowledge-sharing. It is a resource for PMs as they work through an anticipated second wave, as well as a future marked by more frequent pandemics. These types of resources are critically important, because the risks ahead are considerable. In a recent CBC article, University of Ottawa's Robert Smith (2020) notes, "Second waves are much more difficult to predict. We will start to build back society, there will be limited travel and then travel will increase, and then probably when we're not quite looking at it, there will be another wave." Furthermore, as the World Economic Forum's Outbreak Readiness and Business Impact report (2019) states, "the number and diversity of infectious disease outbreaks are gradually but inexorably increasing, as is their capacity to send shocks through our global economic systems."

Maven has identified logistics disruptions, supply chain delays, rising costs, and quality losses as the main, ongoing challenges facing the power utility industry in the wake of COVID-19. The strategies detailed in this white paper address these challenges in specific ways, but it is important to note an overarching theme. This theme is the essential nature of risk management in building agility. As Accenture (2020) says, "In the long-term, risk response will need to become an integral part of business-as-usual protocols."

As power utility PMs strive to complete projects on time, on budget, and in accordance with quality standards, they should adopt a risk-management approach above all else. Conducting a robust and comprehensive risk register at a project's outset allows PMs to leverage strategies like adjusting scope, accessing contingencies, and facilitating informed communication between stakeholders. These are all facets of agility in action, and allow for the best outcomes even during conditions of constant disruption. These are the precisely the conditions that assiduous power utility PMs should anticipate.

# ABOUT MAVEN



Maven is one of Canada's fastest growing engineering and construction consulting firms for the Power Industry. Our team has a proven track record of leading engineering, project management and construction projects for power utilities. The Maven Principals have operated engineering consulting and program delivery companies servicing the Canadian utility industry for more than 15 years. We pride ourselves on delivering dependable results so utility clients can be assured that their projects will be handled with competence and professionalism.







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