

The Challenge of the Global Frontier

Quality Assurance in a Third-Party Process

Gail Cook Johnson, Ph.D.

Executive in Residence
Ted Rogers Leadership Centre

Grigor Edward Cook, P.Eng.

External Business Advisor
Ted Rogers Leadership Centre

Ethical Leadership Case Study Collection
Case Number 015-002
October 2015
©Ted Rogers Leadership Centre

Table of Contents

Introduction	1
About Muni Corp.....	1
Third-Party Management Critical to Muni Corp.’s Success.....	2
The Driving Cause for Ranjeet’s Steering Group.....	3
Ranjeet’s Sets Up His Steering Group	3
Suppliers from the Global Frontier	4
The Green Valley Project	6
The Diversity of Views Within the Steering Group	9
Questions	10

The Challenge of the Global Frontier
Quality Assurance in a Third-Party Process

Gail Cook Johnson, Ph.D.
Executive in Residence, Ted Rogers Leadership Centre
and
Grigor Edward Cook, P.Eng.
External Business Advisor, Ted Rogers Leadership Centre

Ethical Leadership Case Study Collection
Case Number 015-002
October 2015
©Ted Rogers Leadership Centre
Ted Rogers School of Management, Ryerson University

Keywords: quality assurance; global business; ethical leadership, supply chain, water management

Introduction

Ranjeet Joshi, the senior vice-president of development, water division, at Muni Corp, is proud to be selected by his CEO to lead the company's new Steering Group. These Steering Groups drive innovation and change at Muni Corp, and the individuals the CEO has chosen in the past to lead the groups usually have gone on to bigger and better things. Ranjeet's Steering Group was being tasked to recommend what the company should do to ensure their third-party contractors continue to provide the quality assurance guarantees required, given the increasing trend to source construction materials through China, India, Indonesia or other countries that do not follow the quality assurance practices common in North America. Muni Corp. refers to these developing countries in the supply chain as the "global frontier." Ranjeet's mandate is to make recommendations about how Muni Corp. should contract with the global frontier.

About Muni Corp.

Muni Corp, a publicly-traded company headquartered in Toronto with an annual revenue in excess of \$2 billion, designs, builds, and manages critical services for municipalities. In addition to the water division, Muni Corp. has divisions for roads and bridges, transit systems, environmental sustainability, and hydro-electricity generating installations. The increasing need of municipalities to find a way to replace aging infrastructure or to put in place new infrastructure, without having their taxpayers fund the full capital outlay up front, fuels the growth of companies like Muni Corp. Municipalities provide long-term contracts to Muni Corp. to upgrade and maintain essential municipal services. In return, Muni Corp. foots the up-front capital costs, collecting fees for the services rendered over the contract. For each project, Muni Corp. expects to gain a rate of return of 5-6%, an acceptable margin, but one that nonetheless requires careful management. Consequently, Muni Corp. needs to keep overhead low.

Third-Party Management Critical to Muni Corp.'s Success

In the interests of keeping them manageable, Muni Corp. only employs experienced high-level professionals and experts. For example, under Ranjeet in the water division, there are only six senior project managers who collectively have the technical, financial, legal and management background to oversee projects. Other divisions in Muni Corp. are similarly organized.

At any one time, Ranjeet's small group manages upwards of 20 projects in various stages of development, with the "heavy lifting" of the actual construction typically being subcontracted to other companies. For example, an engineering firm is usually contracted to complete the performance requirements for a capital project; this firm is also instrumental in shortlisting contractors, finalizing the request-for-proposal (RFP), and selecting the successful contractor. Contractors are usually chosen to provide turnkey construction—that is, to engineer, procure and construct (EPC) the project before turning it back to Muni Corp. for management. In turn, the EPC contractor will subcontract to third parties to provide key materials needed for the project.

Muni Corp. considers the use of EPC contractors desirable because under such an arrangement the contractors, rather than Muni Corp., assume the risk of cost over-runs. Additionally, to be a qualified EPC contractor, a company needs to demonstrate that they have the expertise and experience as well as the financial resources to complete the job. Hence, because they have this background and financial capacity, EPC contractors have the blue-chip track record that Muni Corp. can sell to their municipal clients. From the construction company's point of view, an EPC job, while riskier, can reap a 10- 15% return, which is two to three times the yield of construction-only projects.

The Driving Cause for Ranjeet's Steering Group

Muni Corp.'s desire to solve emerging problems related to third party contractors is triggered by several recent projects where Muni Corp. ran into quality problems with manufactured goods sourced from "the global frontier," which includes emerging markets such as China, India, Indonesia and other Asian countries. One such project is a water project that Muni Corp. has just completed for their municipal client in Green Valley, British Columbia. From a quality and safety perspective, the project has been successfully concluded, but it had been touch and go for a while, largely because of quality issues with the penstock pipe contracted to China by ABA-Dixon Construction, the EPC contractor selected to do the job.

Ranjeet, with over thirty years' experience in all aspects of the industry, has learned the hard way that if a conflict with third parties degenerates to irreconcilable differences, everyone loses and nobody wins. For Muni Corp., a contractor's inability to deliver on their tendered performance requirements has an impact not only in terms of time and money (with a hit on Muni Corp.'s share price), but also results in nervous clients, who, as politicians, typically go publicly-loudly and negatively on the defensive. Such public trashing of a corporate reputation can be the death knell for firms like Muni Corp. Ranjeet can recite the details of several cases in which a deterioration in a third-party relationship only results in making lawyers rich, as each party sues and counter-sues over a period of years. It is like a dangerous virus, the threat of which just never goes away.

Ranjeet's Sets Up His Steering Group

Ranjeet has scheduled a two o'clock meeting with Rolland Petrov, his assistant, to discuss the arrangements for the following week's Steering Group session. As Rolland enters Ranjeet's corner office, Ranjeet says, "Thanks for scrambling to prepare for this meeting. Where are we on arrangements?" "Well," replies Rolland, "we will be eight people in all. In addition to the senior vice-president of finance and head of legal, we have five others who all have had experiences like that of Green Valley. Andrea Knowles, our senior project

manager, will kick us off with a post-mortem analysis of Green Valley, and then others can jump in with their stories. By the end of the first morning, we should have a good sense of what are the common issues and themes. To help this along, I have also completed, as best I could, interviews with a variety of people, mostly outside of the firm, to understand their experiences with the global supply chain.” “That’s great,” exclaims Ranjeet, “Let’s get this material out to the others as soon as possible. There is one more thing I would like you to do. I want to be better informed about what our participants are thinking in terms of possible solutions. To this end, please set up calls for me with each person on the Steering Group.”

Suppliers from the Global Frontier

Rolland interviewed 30 people with procurement expertise in preparation for the meeting. While some of them work at Muni Corp., most work in procurement in a variety of other industries. Rolland’s investigations have found that:

- Outsourcing to the global frontier is on the rise and will likely be a reality going forward to remain competitive. Products from these regions are attractive for three reasons: 1) they are cheaper, although Rolland finds wildly varying reports in this regard¹; 2) if goods can be shipped by sea and transported by short-haul trucking to the project, transportation costs are negligible, particularly for projects located near the ports on the west coast of North America; and 3) delivery times for products are considerably shorter.

4

¹ Some of those interviewed stated that the products they were outsourcing to the global frontier were as much as 30% to 40% cheaper. Yet, some studies, such as those from Boston Consulting Group, report that the cost differential for goods outsourced to some global frontier countries, like China, is now considerably less favourable. See, Harold L. Sirkin, Michael Zinser, and Justin Rose, “The Shifting Economics of Global Manufacturing: How Cost Competitiveness is Changing Worldwide,” August 19, 2014, BCG Perspective.

- Hard times have hit the steel business in North America. As a consequence, there are few available suppliers. While their products are of reliable quality, it is increasingly difficult to get favourable pricing and delivery agreements for fabricated steel products made in North America.
- While there is a recognized international vocabulary for product specifications that is generally understood by all international suppliers, attempts to enforce common global practices for quality-assurance assessment have not been highly successful.
- There are some common challenges with regard to products sourced through the global frontier. When first asked for samples manufactured to the desired specifications, the foreign firms almost inevitably provide prototypes that fully meet requirements. However, quality reportedly tends to become variable once the full production run is contracted. In many cases, this is because the firms in question are more motivated by cost factors than quality and also view quality-assurance programs as a needless expense. The final manufactured products use lower-quality components than those used to make the first samples. There is also sometimes a failure to understand that doing work “once, right” is the most cost-effective manufacturing practice.
- A number of manufacturers also found that the firm they had originally contracted with to provide a product would go on to subcontract all or part of the production to firms in other countries; these firms, in turn, might again subcontract to others. One prominent seller of sports equipment, for example, related how they had originally contracted with a Japanese firm to have their skates manufactured. When problems with quality arose, they found that none of the skates were actually being produced in Japan. When following the chain of subcontract to subcontract, they found that their skates were being produced by a sub contractor with factories in five different countries and that the final producer had no direct relationship with the Japanese company first contracted.

The Green Valley Project

Green Valley, located in the interior of northern British Columbia, was a municipality that was growing fast, owing to the development of oil and gas projects in the region.

Consequently, the water supply to the area was becoming inadequate in quantity. Moreover, in the previous two summers, the existing reservoir supplying the town had become infected with an intestinal parasite that causes “beaver fever” (technically referred to as giardiasis), which meant that residents had had to boil all water for two months.

Muni Corp. won the contract from Green Valley to provide access to a larger glacier-fed lake farther up in the nearby mountains. This reservoir of fresh water will not only be adequate for Green Valley’s needs for decades to come, but is also a renewable resource free of pollution by the parasites that cause beaver fever.

To connect the lake to the municipal water supply, Muni Corp. needed to run 20 kilometres of penstock pipe down the steep slope of the mountain to the water-treatment facility at the bottom of the valley. Given the experience of residents over the last two summers, the municipality also wanted the project fast-tracked, with delivery in 18 months, rather than the 30 months that would be typical for a project of that scale.

Andrea Knowles, Muni Corp.’s senior project manager for the Green Valley project, hired Waterworks Engineering to run the EPC contractor selection. ABA-Dixon Construction was the successful bidder, having submitted a bid for \$50 million, and guaranteeing delivery in the 18 months required by the town. The construction company was confident in their ability to deliver in time and on budget, in large part because they knew they could subcontract the fabrication of the 20 kilometres of steel penstock pipe to the Changdu Steel Company in China. This pipe, which needed to come in 20-meter lengths with a two-metre diameter, is not commonly available stock, requiring very specific design standards to be able to withstand the pressure and vibration created by the downward flow of water from such a high elevation.

From an engineering perspective, the quality of the pipe was critical to the safety and long-run performance of the water system.

ABA-Dixon Construction is relatively new to the EPC world. They had grown considerably, and over the last decade had acquired the financing clout that allowed them to participate in EPC projects. The vetting process also highlighted that the firm had a great construction-only track record for successfully laying pipe in a variety of similar projects. Their submission to the RFP clearly laid out the credentials for Changdu Steel, showing how quality testing of a pipe sample demonstrated the firm's ability to deliver a high-quality product. Muni Corp.'s contract with ABA-Dixon also clearly spelled out that ABA-Dixon needed to provide Muni Corp. with quality-assurance oversight into every aspect of the project.

As the project began, Andrea immediately began to ask ABA-Dixon for ongoing quality-assurance test results for the raw steel and the fabrication of penstock pipe provided by Changdu Steel. But initially, at least, test results were not forthcoming in a timely fashion. Only after Andrea threatened to trigger non-compliance penalties included in the contract did ABA-Dixon provide Andrea and her team with some quality-assurance reports.

Andrea and her team looked at those reports with alarm. While North American quality-assurance records show separate test results for each piece of pipe, the test results provided by Changdu Steel were confusing at best; it was not clear what was being tested and what standards were being used. As the Muni Corp. team went into panic mode, those at ABA-Dixon were not forthrightly dealing with Muni Corp. project staff and were pushing the issues up the command chain to avoid discussion. The problem became magnified when the first shipment of pipe arrived in Canada. Because of the lingering quality-assurance discussions, Muni Corp. insisted that ABA-Dixon perform additional local inspections and, depending on the outcome of the tests, Muni Corp. would reimburse ABA-Dixon if the pipe met the contracted specifications. However, it was found that both the steel quality and pipe fabrication was not compliant with the requirements specified within the EPC contract. Based on this finding, Muni Corp. exercised its contractual right to take

over direct oversight with regard to quality, and Muni Corp. sent an Australian inspection team over to Changdu Steel to assess the quality-assurance process. As with the initial shipment, completed work at Changdu Steel was also found to be wholly non-compliant.

While Andrea knew the cost impact of this would ultimately fall on ABA-Dixon as the EPC contractor, she was well aware that a missed schedule and quality issues could have a negative impact not only on the project's safety performance, but also on Muni Corp.'s reputation with Green Valley and other municipal clients. She also knew that Muni Corp. could not directly take over management of the EPC contract: Muni Corp. did not have the resources to do so, and besides there was a binding contract with ABA-Dixon. Somehow, she needed to remain with "the dance partner she came with" and so a solution needed to be negotiated with ABA-Dixon.

ABA-Dixon's original design called for all the pipe to meet the same specifications, even though pieces of pipe at higher elevations need to withstand significantly less pressure than the pipe at the bottom. Consequently, ABA-Dixon came up with a quality-assurance testing process for each section of pipe and redesigned the water delivery system so that each section of pipe met the requirements of the specific location in the pipeline. Ultimately, the project was completed on time, operating safely, although Andrea felt the process had exposed Muni Corp. to an unacceptable level of risk.

The Diversity of Views Within the Steering Group

After sharing the evidence, Ranjeet's Steering Group members express points of views that are, at times, both conflicting and extreme. Some, like the senior vice-president of finance, for example, are very sensitive to escalating costs, and want to resist any changes that imply additional oversight costs for Muni Corp. The head of Legal tends to think Muni Corp. can better guarantee the safety of its projects only if it hires contractors on a construct-only basis. Some project managers, now suspicious of all products sourced from the global frontier, want a buy-North America rule for all contractors; others see sourcing to the global frontier as inevitable but want Muni Corp. to provide more resources and solutions for quality oversight, or, at least, to develop a list of approved global frontier suppliers. Ranjeet has his work cut out for him if he is to reconcile these diverging views and lead the Group to set of recommendations that they can live with and that will serve the needs of the company and the municipalities.

Questions

Ranjeet thinks the Steering Group needed to answer some key questions before developing their final recommendations:

1. What are the implications for quality and safety performance if Muni Corp. continues to operate in the same way?
2. What is the criterion against which Muni Corp. will assess the solutions or options the Steering Group develops? For example, to what extent does a recommendation: 1) uphold the safety needs of the operations they manage for municipalities, and 2) build in the quality oversight they need, and so on?
3. Should this Steering Group submit a set of firm mandates that will become requirements for Muni Corp. in procurement on all future projects?
4. Does Muni Corp. need to accept that procurement through the global frontier is inevitable? Or, should Muni Corp. just keep to tried and tested North American suppliers? If the decision is to stick with trusted suppliers, what are the implications?
5. Should Muni Corp. pre-qualify suppliers for EPC contractors? Why or why not?
6. Do they have to do their own external audits of both new and previously used vendors? What are the implications of that?
7. Does Muni Corp. need to look at contracting and managing third-party partnerships differently?
8. Their internal legal department reminds them that all the above considerations need to be implemented in a manner that maintains their arm's length relationship with their major contractors. How do we ensure that we are not taking on more risk when subcontracting?