SNC·LAVALIN

OLRT LESSONS LEARNED

MITIGATION PLAN/ 2- Liquidated Damages, 8-Subcontractors, 10-Rolling Stock Provider

MARCH 2021

Issue:

The Subcontract of the rolling stock and service provider was lacking strong contractual protection to cover the risks and Prime Agreement requirements resulting in delays and noncompliance.

Findings:

The Alstom Citadis 1500V was a prototype hybrid vehicle with its first test runs on the OLRT project and therefore was a continuous trial and error scenario. Per the Prime Agreement, a Canadian Content requirement within a certified manufacturing facility with experienced and skilled workforce was to be achieved as well as Service Proven history demonstrated. However, the provider failed to meet such contractual criteria this resulting in the manufacturing to take place within the Maintenance Service Facility by local unskilled workers, and the risk of such decision absorbed by the Project.

Furthermore, the vehicles represented repeat offenses, multiple failures on same issues, lack of skilled workers, limited technical experience and no vehicle know how, as promoted by the Alstom provider at time of bid.

It was also noted that:

- No involvement from the rolling stock provider for the first two years;
- Staffing hired did not have the qualifications or experience of the complexity of the work;
- There was no product knowledge to integrate and handover from the Alstom team abroad;
- Workforce was sourced locally without specific rail or systems experience;
- Learning curve was longer than expected to have resources up and running; and address technical issues;

Overview:

Prior to bids and negotiations, a Strategic Plan should be in place surrounding the acquisition and delivery of the rolling stock, including expectations.
During negotiations of contract award and at bid, a review, audit and approval of the potential proponents manufacturing plan and service proven history, in like conditions, should be obtained

prior to Contract signature. All plans should demonstrate the experience and ability to interface with related functions and systems.

Negotiate a stronger Subcontract with the rolling stock provider including LD's, reliability and non performance penalties and integrate early in the project, the rolling stock provider to provide feedback and inputs of functionality.

Tools & Recommendations:

Tool	Recommendation	Owner
1. Knowledge and expertise on the model of the rolling stock procured, functionality and maintenance	➢ Investigate common markets, failures and issues within service vehicles, benefit from existing car design in revenue service to ensure compliance and avoid unknown integration issues ➢ Ensure service proven history and compliance to Prime Agreement and local requirements prior to selection of rolling stock provider ➢ Obtain vehicle oversight plan	➢
2. Subcontract to be strengthened and be more stringent	➢ Better definition of scope ➢ Clear definition of requirements and deliverables ➢ LD caps should not be accepted unless fully evaluated across the Project, including other entities to claim. Risk profile analysis to be performed ➢ LD on schedule delays should never be accepted ➢ Obtain a true MFL including names, dates, durations, functions, to match requirements, make sure not under resourced ➢ Limit rolling stock providers to what they know, not infrastructure	➢
3. Subcontractor involvement	➢ Involve Subcontractors early in the Design and Construction phase to review and vet operational decisions that will affect maintenance of the proposed design ➢ Integrate main Subcontractors with Rolling Stock Provider to ensure alignment and optimized integration and performance	➢

	➢ Include in the Contract lifecycle or maintenance plan to facilitate handover	