

Case Study: Driving Supply Chain Resilience in a Volatile Market

Introduction

Supply chain volatility emerged in early summer 2021 when issues of significant material shortages and the rapidly rising prices were experienced across the globe. Delays in deliveries were linked to Brexit and global demand issues arising from shipping freight logistics, shortages of key materials and resurgent global demand for key raw materials and products.

Since summer 2021, supply chain volatility has worsened with the impact being felt much wider than materials. Energy, shipping, fuel, and labour have also experienced unprecedented levels of volatility which has been linked to a number of global and domestic factors, including:

- Delay in Nord Stream 2 Pipeline
- Aftermath from Covid – global demand surge.
- Brexit and the Northern Ireland Protocol
- Russian invasion of Ukraine
- Government Legislation changes (Rebated Diesel)
- Shipping container availability and cost
- Raw materials availability and costs

These factors resulted in Contractors providing feedback to Northern Ireland Water (NI Water) regarding the pressures they faced in terms of the spiralling fuel/energy, materials, and labour costs. As a result, NI Water put in place a number of initiatives and actions to review and improve its approach to dealing with price volatility and material/labour shortages across its supply chain to ensure the continued delivery of its Capital Works Programme.

Objectives

- To develop a fair and consistent approach to the reimbursement of Contractors to deal with the volatility of prices being experienced over 2022/23 and a simple approach, aligned with regulatory parameters, for future projects.
- To develop a greater depth of knowledge of NI Water's supply chain related to its Capital Works Programme.



- To identify initiatives across the end-to-end procurement lifecycle which can improve the resilience of supply chains in order to provide security of supply, thereby reducing the risk of disruption to the delivery capital projects associated with the essential delivery of water/wastewater services to customers.

Actions / Outcomes

The Capital Procurement Team in conjunction with the Client Project Management Office, issued the following three guidance notes to Contractors on NI Water's existing construction frameworks to ensure a consistent approach was implemented to deal with price volatility across its supply chain:

1. Dealing with Abnormal Inflation on 'live' projects which was to be applied in-line with the following principles:
 - Encourage proactive discussion to mitigate the impact on Prices and Programme by raising early warnings and efficiently providing detailed evidence through the normal NEC change control process;
 - Provide compelling evidence, on an open book basis, that clearly demonstrates the Cost or Programme impact on each affected contract, which a diligent contractor could not have reasonably anticipated;
 - Assess the change to the Prices based on applying a Net Price Adjustment. The cost impact is to be shared up to a maximum of 75% of the Net Price Difference;
 - Net Price Adjustment to be corrected for normal inflation for longer duration projects
 - Assess the Net Price Adjustment on defined cost i.e. not subject to any mark up for profit, overhead or other fee;
 - The effect of the Red Diesel rebate from 1st April 2022 will be assessed separately under Compensation Event X2.1.
2. Dealing with Abnormal Inflation on 'new' projects in-line with the following principles:
 - The adoption of a more simple and flexible inflationary approach to address the volatile price environment on the Capital Works Programme;
 - Remove the need to include price inflation in Contractors quotations, as inflation will be recovered throughout the duration of the contract;



- Replaces the previous administrative open book targeted approach with a simple global approach to measure inflation throughout the life of the contract;
 - Alignment with the Regulatory approach to inflation;
 - Introduction of an additional provision to inflate adjusted published list (CECA 2019 at time of framework tender), to address the rising fuel prices;
 - The effect of the Red Diesel rebate from 1st April 2022 will be assessed separately under Compensation Event X2.1.
3. Assessing the Impact of the Removal of Red Diesel Rebate in-line with the following principles:
- The effect of the removal of rebated Red Diesel rebate from 1st April 2022 to be assessed under Compensation Event ref X2.1;
 - The cost impact will be assessed by applying a global % uplift to affected equipment after 1st April 2022;
 - The assessment will be based on a simplified one-off forecast cost assessment based on predicted equipment usage as opposed to an administrative remeasurement approach.

Furthermore, to address uncertainties and challenges around resources, volatile prices and lead-in times etc, NI Water shared a two year look ahead of work load with its tier 1 contractors, in order to give greater visibility of the programme. This enables our Contractors to plan their resources earlier which benefits not just NI Water but also the wider supply chain. This approach has been supported by the introduction of the Project Execution Strategy methodology for each Contractor which ensures cost and output targets are shared, workload is managed at the programme level and a collaborative way of working is adopted to seek early input into more efficient delivery practices. NI Water has also taken steps to implement and embed a performance management culture through the use of a number of dashboards which allow the monitoring of the supply chain through a common data environment.

In addition to this, the Capital Procurement team have also introduced the following initiatives / actions as additional practices:

- Prior to establishing a procurement strategy for a new tender process, market engagement exercises have been undertaken to understand the capacity, capability and length of our existing and potentially new supply chains.



- In order to embed supply chain resilience into procurement activity, the Capital Procurement team considers the following when developing new procurement strategies:
 - Lotting structures within Frameworks (based on discipline / work type) to encourage local suppliers, SMEs & Joint Ventures which results in the shortening of supply chains.
 - Restrictions put in place in terms of the number of Lots a Supplier can be successfully appointed to which reduces the over reliance on any one Supplier.
 - Assessing the Supplier's supply chain in terms of security of supply as part of the Framework tenders.
- Inclusion of contractual clauses for successful Suppliers to ensure they carry out supply chain mapping exercises to capture information associated with the below headings:
 - Interruption to Supply
 - Supply Restrictions
 - Compliance & Regulation
 - Environment & Climate
- Contracts are aligned to comply with the legislative requirements of the Human Rights Act 1998, Modern Slavery Act 2015 and other legislative standards. Supply chain mapping exercises will also aid identification of human rights and modern slavery risks and ensure plans are in place to mitigate these risks.
- As part of the Social Value Delivery Plan for call-off contracts, the Supplier will develop, implement and maintain a strategy to continuously monitor and improve the supply chain's resilience and capacity on the contract.

Conclusion

Recent events have highlighted the fragile nature of supply chains in a global market and a need to improve the resilience of supply chains in order to provide security of supply. NI Water has made significant steps in addressing uncertainties and challenges within its supply chain regarding volatile prices and material/labour shortages, to ensure the continued delivery of its Capital Works Programme. Through the mapping of its supply chain, NI Water will continue to adopt a risk based approach to identifying risks within its supply chain, implementing mitigation actions where necessary to drive compliance with PPN 03/21 Supply Chain Resilience.

