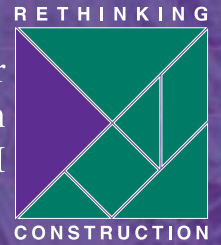


- ✓ **PRODUCT**
development
- ✓ **PROJECT**
implementation
- ✓ **PARTNERING**
the supply chain
- ✓ **PRODUCTION**
of components

PROJECT 152

Movement for
Innovation
M⁴I



JULY 2001

Aquarius: the new age construction team

Water Service adopts integrated team working for Northern Ireland infrastructure

Public sector projects have traditionally been procured with client and contractor in opposing camps. But integrated team working on the £32m Aquarius Mourne Water Project has proved to be an astonishing success. The two-stage scheme comprising 42km of 1200mm dia steel pipes, 1.2MW pump station and break pressure tank replaces a 100-year-old conduit from the Mourne Mountains to Belfast. Farrans Construction stepped bravely with the client's project manager WS Atkins into a partnering style NEC contract previously untested in Northern Ireland.

Water Service project sponsor Dermott McCurdy recalls why they adopted the integrated team approach: "We were well used to projects going over budget, with contingencies usually exceeded, especially on large projects. So we wanted a complete change in strategy – everyone working together." WS Atkins project manager Paul Harper is sold on the approach. "Traditional relations with contractors have been *you against me and the problem* but on Aquarius it's *you with me against the problem*," he remarks.

Benefits of the integrated team at Aquarius Mourne Water Project

Delivery on time – Farrans project manager Kevin Corley explains how the integrated team keeps to programme: "It's about better communication – things get sorted much quicker which means deadlines are easier met and... the client receives a much better service." McCurdy observes: "In the past when problems arose, the contractor would expect the client to resolve it. On Aquarius, our round table brainstorming produce an avalanche of solutions."

The power of value engineering unleashed – The integrated team has proved an ideal environment to practise value engineering. By a combination of eliminating waste and extending the scope of work in stage 1, Water Service estimates a 10% increase in value while not exceeding their budget. With site personnel now driving design decisions, an even better result is expected in stage 2.

Reduced resources – The Aquarius team shares an office, keeps one set of data and eliminates much of the man-marking necessary in an adversarial contract. Contractor personnel have wide responsibilities for inspection and client inspectors have authority to make good minor defects.

Profitability – The pain/gain formula rewards initiative. Further, Farrans are forecasting to complete early, so reducing overheads and hence increasing profitability on the contract.

CASE HISTORY



(from left) Dermott McCurdy of Water Service, Kevin Corley of Farrans and Paul Harper of WS Atkins

“ We wanted a complete change in strategy – everyone working together ”

Dermott McCurdy, Water Service



Sophia Copeland



Beth Banks

Aquarius painting competition winners



CREDITS

Client - Northern Ireland Water Service

Contractor - Farrans (Construction) Ltd

Project and Cost Manager - WS Atkins

Designer - McAdam Design

M&E Contractor - Jones Environmental (Irl) Ltd

Aquarius: the new age construction team

The challenge

The common thread in unsatisfactory Water Service projects was disputes leading to delay and ultimately time and cost overruns. The Aquarius Mourne project was to demonstrate how integrated team working could remove conflict and make construction a successful enterprise for everyone. But no one in Northern Ireland had undertaken public sector work in this manner before.

The solution

With project manager WS Atkins already committed, selecting the right contractor was next. It was one of the first NEC contracts in Northern Ireland (Option C Target Cost), signalling that traditional tactics were off the agenda. They sieved through 15 applicants, comparing their technical and financial competence as well as attitudes to health and safety, quality and environmental issues. Above all they were looking for enthusiasm to try integrated team working and participate openly in value engineering. Four were invited to price the work and Antrim contractor Farrans was selected.

The phase one budget price was £16m. Farrans, supported by the whole Aquarius team, committed to achieving a target cost of £14.6m, incentivised with a pain/gain formula. The anticipated 10% (and more) savings were realised through the team's value engineering.

Farrans took the initiative in negotiating significant variations in the route. An *Environmental Assessment* allowed planners to optimise the route to avoid areas of environmental and cultural interest. The *Project Charter for Pipelaying on Private Land* was supported by environmental, lands and archaeological advisors who kept watch throughout the project.

Liaison with stakeholders (affected landholders, the Roads Service, RUC, Environment and Heritage Service and local community) was accomplished by personal contact, supported by the project magazine *Pipeline* and a Web site.

Future development

Water Service has adopted integrated team working as the model for future construction and Aquarius provides a bank of knowledge to take forward. Their experience highlights the need to focus on getting the right people at tender stage, which goes beyond traditional assessment of contractor companies.

Innovation case history

This case history is a snapshot of just one innovation making construction in the UK more profitable for the supply chain and the Client. Further details will be found in the Knowledge Exchange or you should contact the Innovator directly or M⁴I.

How to run profitable integrated team meetings

Adopt the Aquarius meeting rules:

1. The project's success rests largely with you
2. Enter into discussions enthusiastically
3. Give freely of your experience
4. Confine your discussion to the problem
5. Say what you feel
6. Only one person to talk at a time
7. Avoid private conversations while someone is speaking
8. Be patient with other team members
9. Appreciate other points of view
10. Have fun!

Contact

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Links

Aquarius: www.aquarius-project.co.uk
Water Service: www.waterni.gov.uk
Farrans: www.farrans.com
WS Atkins: www.wsatkins.com



Related Topics

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The M4I Strategy Model applied to this innovation

