ALLIANCE CONTRACTING DRIVES VALUE FOR WATER PROJECTS

Insights gained from the Australian experience

Establishing the right delivery framework is a requisite for carrying out increasingly complex infrastructure projects. Alliance contracting, also referred to as integrated project delivery, has proved successful in Australia over the past 20-plus years; insights from the Australian experience can guide application of this collaborative contracting method in other areas of the world.

In the following Q&A, WSP water-sector experts explore how alliance contracting has paved the way for projects to succeed in Australia and how it can enhance projects in Canada toward delivery of vital water services. The article concludes with a look at the Logan Water Alliances program in Australia.

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What are the core elements of alliance contracting and how does this approach compare with traditional forms of contracting?

Dean Toomey: With traditional forms of contracting, each party to the contract is assigned separate obligations, and risks are also generally allocated to one party or the other.

With alliance contracting parties share obligations as well as risk and opportunity. This sharing results in an alignment of interests between all participants in an alliance, working within a contractual framework where the commercial interests are aligned with actual project outcomes. The sharing of risk and opportunity is generally in equal proportions between the owner and the non-owner participants [NOPs], such as the contractor and designer. The NOP risk and opportunity are typically capped at the value of their corporate overhead plus profit. This arrangement ensures there is financial incentive to deliver the project within budget, or according to target outturn cost, with the owner and NOPs either winning or losing together.

There is typically an incentivised key performance indicator [KPI] regime in place that identifies non-cost attributes of the project, such as stakeholder satisfaction, environmental outcomes, quality, safety, and performance, that are key to the successful delivery of the project. The inclusion of these KPIs ensures a balanced view of success, which extends beyond cost alone.

A cornerstone of the alliance model is that all participants work as part of an integrated team, with continuous transparency. For example, the NOPs' corporate overhead and profit is based on audited financial accounts. The KPI regime is typically developed by the combined team, and performance is jointly measured and scored. This joint process, from the start, assists all participants to gain a deeper understanding of what success looks like and how it will be measured.

Figure 1 – Loganholme Wastewater Treatment Plant

Can you describe the process yielding successful results?

Dean Toomey: Infrastructure delivery alliances involve the owner, designer and constructor in a collaborative environment where all participants are driving toward shared outcomes. This combination of factors provides alliances a unique ability to leverage expertise from planning, design, construction, operations, maintenance and asset management. In turn, such a capability provides alliances with a significant opportunity to develop solutions with optimized whole-of-life outcomes.

The question is, how do you ensure that the ingredients come together to achieve the desired results? On the Logan Water Infrastructure Alliance, the team travelled to meet the operators in their environment, where possible used 3D visualization tools and took the time to explain to the operators how their previous feedback had been incorporated into the planning and design of the works.

The other key ingredient the Logan Water Alliance uses to unlock the value of the diverse inputs into the planning and design of works is to hold structured workshops at appropriate intervals. These workshops—known as Planning Opportunity and Risk Workshops (POAR) in the planning phase and Design Opportunity and Risk Workshops (DOAR) in the design phase—ensure constructor and operator input early in the delivery lifecycle and forge greater interaction between all the parties. The workshops are structured to include elements of value engineering and safety in design. On the Logan Water Alliance, the team conducted a POAR workshop on a large wastewater transfer project that had been planned prior to the formation of the alliance. The outcome was to reduce the capital value of the project from more than AUD 100 million to AUD 60 million,[1] with significantly improved operational and maintenance outcomes.

Looking further at the Australian experience, can you cite other areas where alliance contracting has generated value?

Dean Toomey: Alliancing started in Australia more than 20 years ago. Over that time there have been a number of alliance variants developed—pure, competitive, hybrid—and a range of related collaborative models developed, such as delivery partner, risk allocated maximum price, new engineering contract, or NEC.

One aspect that is consistent with all the various collaborative models is the transparent approach to risk and opportunity [R&O]. The price, including the R&O allowance, is developed collaboratively. This ensures all participants have a much deeper understanding of the actual risk and opportunities, the mitigations and possible impacts. Most risks will be shared by the participants which eliminates the potential for one party to shift risk on to another party that may not be best placed to manage the risk. This removes ambiguity about ownership of specific risks and opportunities, as they are shared unless specifically stated otherwise. The shared

[1] CAD 97 million to CAD 58 million

ownership is a significant contributor to a main attribute of these models—there are very few formal “disputes” with collaborative contracts.

What culture change might the alliance contracting approach bring to projects in Canada as well as other countries?

Stephen Horsman: As water sector seeks to balance risk allocation with realizing economic efficiencies, the traditional design-bid-build and, more recently, design-build project delivery models often lack the collaborative environment that leads to overall project success through win-win outcomes. These more traditional project delivery models can lead to protectionist behaviors, where contracting parties lose sight of the broader project success factors as they seek to maximize or preserve their individual benefit.

An alliance-contracting model could favourably change the decision-making context for owners-operators, construction and design stakeholders. The process provides a shared understanding of what the project is trying to achieve. With alliance contracting, a single entity representing all stakeholders’ interests allows for change, minimizing adversarial zero-sum-game dynamics; instead an envisioned win-win, lose-lose outcome guides behaviour and decisions. Flexibility is introduced. This capability coupled with synchronicity, or, put another way, alignment of objectives, counteracts the emergence of unsurmountable bumps in the process and forges efficiency. Alliance contracting incentivizes relationship-building at the start, strengthening the foundation for productive relationships sustained throughout the project.

Trust is innately established through the commitment to common objectives and transparency regarding the success factors for each party—the owner, designer, builder and operator. An environment of transparency can preclude cost overruns or set the stage for innovative solutions that can help get back on budget quickly.

While this collaborative project delivery mindset is often organically embodied by successful project managers, without the structural change in the alliance contracting approach, the compilation of a truly collaborative owner-designer-builder-operator relationship is often left to chance. To set the stage for the alliance-contracting process in Canada, a major shift in the owner’s organizational procurement and governance approaches is required. For example, the alliance-contracting model invites outside entities into the owner’s organizational processes to become partners in the project, and with this shift comes a new language and terminology; effective communication within the enterprise is essential, as it takes a fair bit of organization to prepare for the shared decision-making approach that is to come.

Where do you see the greatest potential for real change as projects adopt alliance contracting?

Gurjit Sangha: It is difficult to overestimate the value of people dynamics and the multiplying effect of true collaboration. The right dynamics can be set from the get-go, to build trust more quickly with the owner-operator involved; the operators can voice their concerns and provide any helpful input early.

The alliance-contracting model’s use of common KPIs and success factors fundamentally shifts the motivation from the individual to the collective good. Where tension was previously applied through each party holding their cards close, now all the cards are on the table with all parties contributing to achieve the predefined set of common outcomes. The parties are

incentivized to deliver great KPI results through a range of mechanisms, such as financial, additional work and ability to tender future work.

Having all parties at the same table supports ongoing direct client interaction, further developing trust over the project lifecycle. Where traditional delivery models have focused on risk transfer, the alliance-contracting model allows for collective ownership of project risks so that individual capabilities and strengths can be leveraged, as and when needed, to address potential or real risks events. This then eliminates the need for parties to carry overlapping contingencies, where parties seek to protect their individual interests.

With all parties "on the same team," mutual understanding is gained through transparency, and there is greater focus on essential actions; every party is clear about the responsibilities assigned to each of the stakeholders involved. An integrated team makes it more likely that time is well spent for all stakeholders, provides greater capacity for cost savings, and facilitates the best outcome for project participants and end-users.

Figure 2 – Cedar Grove Wastewater Treatment Plant with associated wetlands and solar farm

Case Study: Logan Water Alliances

The Logan Water Alliances is a program alliance between the Logan City Council, a construction partner (Downer) and engineering partners (WSP and Cardno). The program has grown to more than AUD 100 million a year and spanned three contracts: Logan Water Alliance from 2009 to 2015, Logan Water Infrastructure Alliance from 2015 to 2020 and the current Logan Water Partnership from 2020 until at least 2025.

Within the partnership, an integrated multi-disciplinary team delivers infrastructure services from planning, design, construction and commissioning of Logan's water, wastewater and recycled water network and treatment assets. Over the 12 years of operation, the capital program has grown from delivering AUD 40 million per annum (pa) to over AUD 120 million pa. Additional functions have been included in the alliance, such as asset management, maintenance and operational support.

The alliance was established to allow Logan City Council to efficiently plan and deliver solutions within their rapidly growing community. The alliance operates a value register and the team has generated more than AUD 120 million of savings. These savings have been generated by applying the diverse skills of the integrated team (engineering, operations, construction, maintenance, asset management) at every stage of the asset lifecycle, underpinned by systems and processes that drive innovation and the pursuit of value.

Another feature of the alliance is its ability to reliably plan, develop, design and deliver a vast range of assets within budget and on time. As the maturity of the alliance has grown, so too has the surety of delivering the budgeted annual program of work. For the past three years, the alliance has delivered an impressive 97-102% of

its annual program, providing Logan Water with real surety of delivering vital services to its customers.

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