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Owners Perspective on Dispute Boards

The application, learnings and future direction of Dispute Resolution Boards in TMR

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Introduction

- I'll start by outlining the department's role in terms of the Queensland State Government and its strategic priorities.
- During the past 80 or so years, the Department of Transport and Main Roads (TMR) has developed into an agency that prides itself on engagement with communities to deliver Value for Money (VfM) transport infrastructure.
- Our strong technical capacity and capability gives us the ability to manage Queensland's transport infrastructure assets comprised of 33,000km of state road network valued at \$50b, 29km of dedicated busways valued at \$2.4b and \$700k of marine infrastructure
- At the same time we must continue delivering of a record program of works, identified through our transport plans.
- At the ground level, this means extensive consultation with communities and businesses in planning and constructing projects, while simultaneously managing the infrastructure assets.
- From a broader perspective, we continue to develop close working relationships with industry, to investigate new methods of contract and project packaging, principally through Early Contractor Involvement (ECI) and various forms of alliancing.
- In essence, our department's main mission is to connect Queensland through the provision of safe and reliable fit for purpose transport infrastructure.

Some history 1960 to Present

- To understand the future, it is instructive to first review the history of road construction in Queensland over the past 30 years (or so).

The 1960's and 70's

- During this period the construction of roads was a fairly well defined process with an emphasis on engineering solutions in reasonably well defined risk regimes. The work was either undertaken by day labour or contracted out under lump sum or schedule of rates contracts.
- The then Main Roads (MR) engineering supervision and inspection ensured that the appropriate quality was achieved. Contractors learnt, on the job, what Main Roads required and consequently long term relationships were formed.

The 1980's

- Some of the audience will remember the construction environment in the 1980's in Australia.
- The early eighties saw a downturn in the level of road construction activity with new players entering the game (e.g. Jennings Industries, Roche Brothers, PBM, CITRA). The effect was an increase in the level of competition for a smaller market, which in turn drove prices and margins down to unsustainable levels.
- Contractors adopted a strategy to "bid low and litigate up". Consequently an adversarial approach emerged to recover cost through any avenue. Frivolous and vexatious claims flourished. And the concept of a long term business relationship was replaced with a strategy to maximise the financial position of each project.
- Recognition of the parlous state of the industry towards the end of the 1980's came in the form of the various inquiries with the "No dispute" document being recognised as the watershed report.¹
- This report highlighted the futility of continuing in the adversarial way and proposed a number of changes including the need for more co-operation and better relationships between the parties.

The 1990's

- In the early 1990's Partnering was introduced in Australia after achieving some major benefits on projects in the USA. The Partnering concept was based on the creation of an environment where the project team could develop behaviours which would promote good communication and trust such that they could solve issues effectively in the best interests of the project.
- Rekindling good relationships between the client designer and constructor was back on the agenda.
- Additionally, the 1990's saw the introduction of a number of statutory and policy requirements which had significant impacts on the road construction industry (environmental/cultural heritage/public consultation/economic logic).
- From these ashes the seeds of relational contracting were sewn – proaction to avoid dispute itself.

The modern era 2000 to present

- Before considering the history over the recent era, there were three significant factors that influenced project delivery. They were:
 - Value for Money (VfM)
 - appropriate risk allocation
 - relationship contracting.

What is VfM and how is it measured

- TMR defines VfM in terms of the whole of life costs required to achieve the non-cost and cost project outcomes.

▪ ¹ NPWC/NBCC Joint Working Party "No dispute I Strategies for improvement in the Australian building and construction industry" Canberra, NPWC, June 1990.

- Measures of VfM are:
 - non-cost – quality, durability, fitness for purpose
 - cost – acquisition, operation, maintenance.

Risk and its allocation

- Typical risks that push back against VfM are:
 - tight timelines driven by government and user expectations
 - state of readiness to commence project delivery (for example, maturity of scope definition)
 - certainty of cost outcome
 - market capacity and capability to respond and its preparedness to participate (competition)
 - innovation – ways to drive innovative solutions, reduce rework, increase productivity.

Risk transfer – a few thoughts

- It is unrealistic to think that absolute transfer of price risks can be achieved.
- Infrastructure Australia paper in January 2009 - Guidelines on Procurement - talked about risk allocation, and pointed out that different types of risk should be borne by the party best able to manage it.
- Contracting is a common risk transfer tool, however, no matter how skilled my procurement team is in contractually transferring such risks, in reality, the government is still accountable to the public for the overall network performance.
- Risks need to be allocated to parties in the best position to manage these risks, rather than by the person with the highest influence or lowest price.
- Managing risk also includes responsibility for the consequences.
- Realistically, clients need to be very careful that VfM is actually achieved when paying for contractual risk transfer which, when realised, may be of little or no effect.
- Relationship Contracting, or Collaborative Contracting as it is now often referred to, has proven to be the most effective means to best manage risk.
- Project delivery methods used on all TMR projects are set after careful consideration of the project characteristics including the best means to allocate and manage risk.

Relationship contracting

- By the end of the 1990's the relationship contracting approach had started to take shape as a result of the experiences with projects such as the Pacific Motorway Upgrade. Alan McLennan posted the following definition:

“Relational Contracting is the way, in new complex environment, to maximise project outcomes for all by adopting a conscious approach to establish and manage relationships alongside the co-operative application of ever improving project delivery systems and processes”.

The 2000s to pre GFC 2008

- Early in this period construction activity was flat however, 2003 ushered in a new era of construction activity with the Beattie governments South East Queensland Infrastructure Plan and Program (SEQIPP) initiative.
- Main Roads' capital works program increased from \$738m in 2001-02 to a total of \$3.05b in 207-08 (see Chart 1).
- Main Roads embarked on the implementation of the largest roads program in Queensland's history. The 2007-08 to 2011-12 Roads Implementation Program (RIP) provided \$13.3b over five years and represented an increase of \$1.75b from the 2006-07 to 2010-11 RIP. In addition, Queensland Motorways Limited was delivering the \$1.88b Gateway Upgrade Project over the period to 2011.

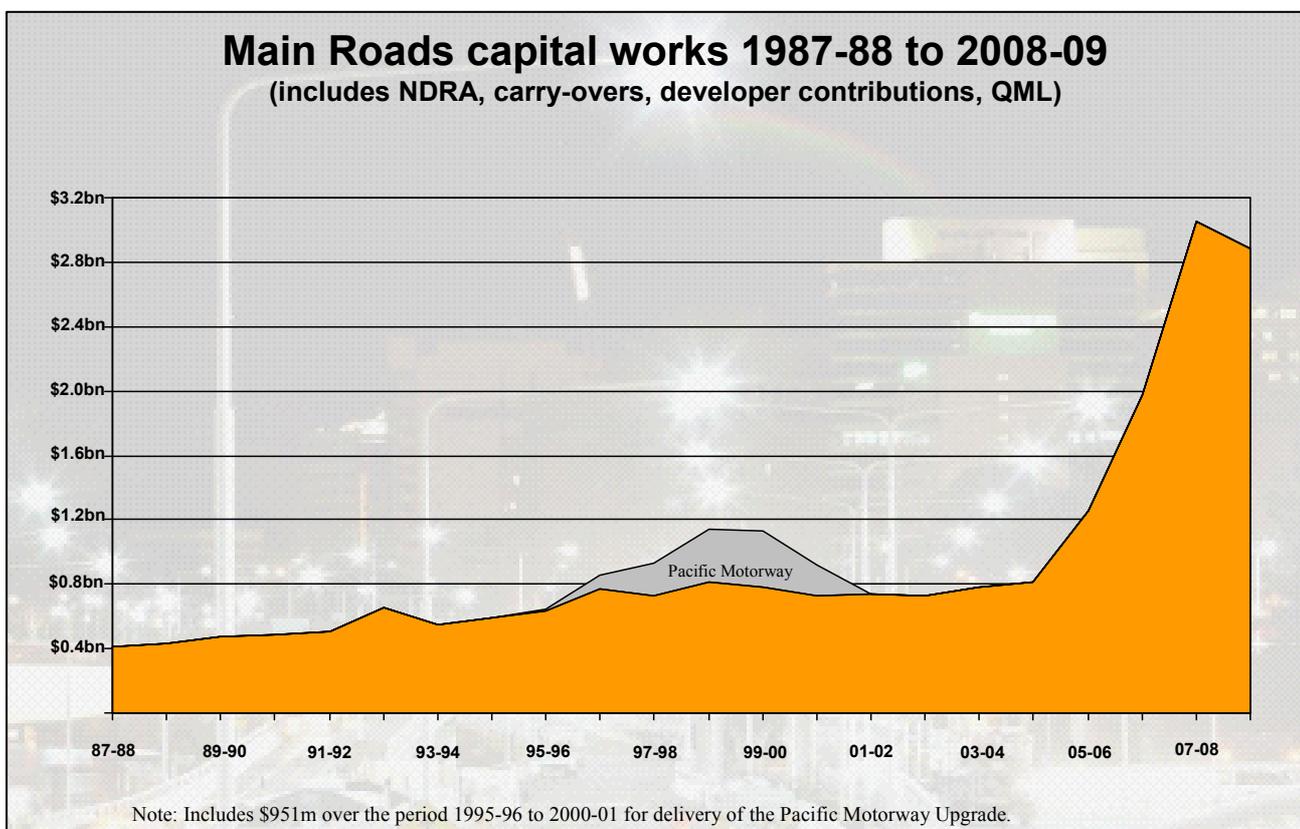


Chart 1

Project delivery experience pre GFC and VfM

- The record shows reliance on traditional delivery methods, based on hard-dollar contracting with its focus on price and maximum risk transfer, frequently failed to delivery VfM for other than routine projects because of:
 - cost and time overruns
 - poor quality and rework
 - poor stakeholder/community relations
 - dissatisfied clients, contractors, designers.

- Achieving VfM in the pre GFC environment was further exacerbated by:
 - demand (for projects) exceeding supply (contractors, designers etc) – capability v capacity issues
 - contractors/designers appetite for different types of projects – affected by risk transfer
 - tight timelines (set often by government e.g. SEQIPP)
 - brownfield construction sites – construction under traffic in existing corridors (80,000 – 100,000 vpd)
 - active media and community focus with often conflicting complex stakeholder/community issues.

Project delivery experience post GFC and VfM

- Post GFC the Queensland Transport Road Infrastructure Program for roads for the period 2011-12 to 2014-15 has reduced to an average annual expenditure of approximately \$3.5b.
- Post GFC the market has shifted from supply to demand driven. At the same time because of the financial position of government clients there has been a re-emergence of price contestability and a move to adversarial forms of contract.
- In response to this TMR now uses contestable forms of collaborative contract such as Early Tenderer Involvement (ETI) and ECI to deliver complex projects where the characteristics and risk allocation are best dealt with under a relationship based form of contract. Both of these forms of contract are embodied in what we term our Collaborative Project Agreement.
- For routine projects (our most common form of contract) TMR continues to use its Road Construction Contract which is a Principal’s design put to tender (design, bid, build).
- Chart 2 shows major project delivery performance against budget for the period 2008 – 2012.

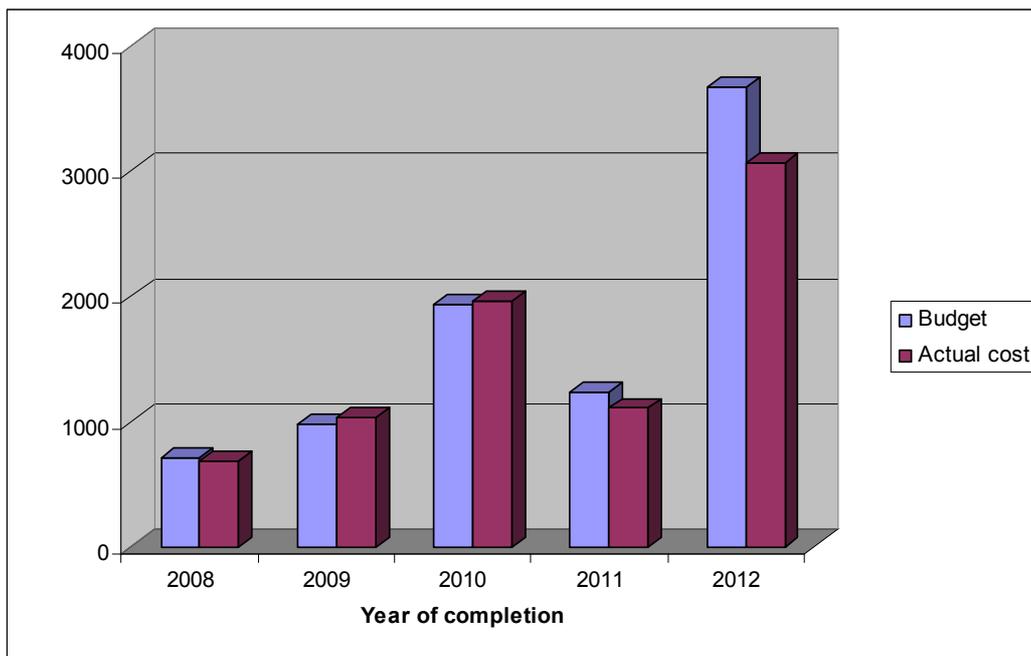


Chart 2

Dispute avoidance and resolution processes used by TMR

- Over the years TMR and MR before it has used a range of processes to resolve contractual issues and claims. In the early days (1960's and 1970's) this was done very much through the appointed Engineer for the Contract (otherwise known as the Superintendent). Where the issues became protracted many were resolved through negotiation and where this failed to deliver the general recourse was arbitration.
- In the 1980's there was a growth in claims with arbitration, mediation, Alternative Dispute Resolution (ADR), and litigation being the main methods used.
- By the end of the 1990's other processes such as expert determination and expert appraisal had been used on projects such as the Pacific Motorway Upgrade between Brisbane and the Gold Coast.
- This period formed a significant watershed as the benefits of relationship contracting built around partnering were used to identify issues early and develop processes to reduce the impacts and costs co-operatively between the contracting parties. This was the start of dispute avoidance processes.
- Post 2000 the concept of Dispute Resolution Boards (DRBs) were introduced initially as a means to settle issues when they arose at the project. The concept was to appointment "three wise men/women" at the start of the contract who would visit the project during its construction and with the contracting parties discuss potential issues and provide advice. Their main role however was to independently deal with the issue when it became a claim.
- TMRs first involvement with DRBs was in 2005 when the option to include a DRB as a means of dispute resolution was introduced into TMR's Design and Construct (D&C) contract.
- To date the projects that have appointed a DRB are;
 - The Ipswich Motorway Logan Motorway Interchange, delivered through a D&C (approximate value \$322m) – three person board.
 - Gateway Motorway upgrade (included second Gateway bridge), delivered through a Design, Construct and Maintain (DC&M) (approx value \$1.88b) – three person board.
 - The Pacific Motorway Upgrade Section B (PMU(B)) at Springwood, delivered through a competitive ECI (approximate value \$375m) – three person board.
 - Bruce Highway Cooroy to Curra Section B package 1, delivered through an ECI (approximate value \$100m) – three person board.
 - Douglas Arterial Duplication, delivered through a competitive ETI (approximate value \$110m) – a one person board.
 - The Bruce Highway Cardwell range project, delivered through a competitive alliance (approximate value \$115m) – a one person board called the IRA (Issue Resolution Advisor).
- I will say more on some of these projects in the case studies however, the interesting point here is the application of the DRB approach initially to a hard dollar D&C and DC&M, followed by collaboratively based competitively bid D&C's and finally a competitively bid alliance a fully relationship based form of contract.

Experience with DRBs Case Studies

Case study 1 – Ipswich Motorway/ Logan Motorway Interchange



- The Ipswich Motorway/Logan Motorway Interchange (ILM) upgrade project provided for the major reconstruction of the existing motorway to motorway interchange and a 2.2km stretch of the Ipswich Motorway. The initial total project budget was in the order of \$280m.
- The project was delivered through a hard dollar design and construct (D&C) contract.
- This delivery method was adopted to drive innovation and best contain the design and construction interface risks within the contract.
- Tenders were invited on 19 December 2005 and closed on the 4 May 2006. The contract was awarded on the 3 November 2006.
- Construction commenced in February 2007 with an initial construction period of 26 months (i.e. initial contract completion date of 1 January 2009).
- At the 31 January 2009 the contractor's forecast completion date was 8 October 2009, and slipping at the rate of one week per month. At this rate of progress it was most likely the project would not be completed until possibly beyond December 2009.

- The complexity of the project, its restrictive work areas, the significant amount of temporary works and highly complex traffic staging, the shortage of highly experienced personnel, excessive wet weather and the increasing focus on claims were key reasons for program slippage.
- Consequently the focus on site shifted from project delivery to claims and dispute management.
- Contract claims progressively increased over the six to 12 months leading up to January 2009 with 115 claims lodged by the contractor. The majority of the claims were extremely complex and either in or heading for dispute.
- If elevated to arbitration/litigation past experience had shown that it could take several years and possibly cost in the order of \$10m in legal and expert fees before final determinations were made on all the claims and the final project price known.
- Without intervention final project costs could have been in excess of \$150m of the project budget.
- Under the design and construct contract, the usual process is very consumptive of skilled project and external specialist resources who would otherwise be better engaged in the delivery of the project.
- Following discussions between senior representatives of the Principal and the Contractor agreement was reached to approach the independently constituted DRB to consider a claims resolution process that would efficiently and fairly address the outstanding claims.
- The DRB proposed a global approach to resolve all issues/claims that they would lead and facilitate.
- A probity auditor was engaged to ensure that strict probity processes were followed throughout the global approach. The probity auditor's final report states that “ *the process of reaching a negotiated settlement has been disciplined and thorough, has been conducted with high regard to principles of probity and accountability and has provided a robust, accountable and cost effective process for resolution of claims...*”
- The global approach included strengthening the governance process by:
 - extending the role of the DRB to oversee the process
 - senior members of the Principal and the Contractor attending regular meetings with the DRB to resolve issues and expedite the process
 - implementing a Project Leadership Team (PLT) to manage the day to day aspects of the process. The PLT consisted of a facilitator (non-voting), who was a member of the DRB, one representative from both TMR and the Contractor, and a non voting representative from the project's Contract Administrators.
 - all PLT decisions were to be unanimously agreed by TMR and the Contractors representatives.
 - PLT issues not unanimously agreed were referred to the DRB
 - appointment of a Probity Advisor to ensure transparency in the application and management of the process.

- The global approach divided the contract into two stages. Stage 1 up to 31 January 2009 and Stage 2, 31 January 2009 to completion.
- Stage 1 included resolution of all claims up to 31 January 2009. Part of the process included a top down approach which involved an independent audit of the contractors direct costs (i.e. costs excluding margin). From this information the DRB determined an amount in full and final settlement of all claims arising in Stage 1.
- Stage 2 involved independent estimators undertaking an independent assessment of the costs from 31 January 2009 to complete the project to establish the basis for an agreed guaranteed maximum price to complete the project.
- At the completion of the project all parties agreed that the DRB, through its management of a global approach to issue resolution, had provided the means to give certainty to time and cost issues, while establishing a focus on site to complete the project.

Lessons Learned and key findings – DRB Processes ILM

The formation and role of the DRB

- Upfront it is important to note that this was the first DRB for all parties including two of the members of the DRB. This was a key factor in why the role of the DRB initially focussed on dispute resolution rather than avoidance.
- Another important feature of this DRB was its membership in that the three members had complementary skills which covered relationship development, commercial acumen and contract law. A learning was DRBs need to be comprised of members who have a range of professional skills best suited to the type of project.
- This experience confirmed the primary role of a modern DRB is to have the parties resolve issues with dispute resolution a last resort.
- A condition precedent for the successful operation of a DRB is the creation of a project environment where there is good collaboration and relationships between the contracting parties. Without this, the “leap of faith” required to openly discuss issues wont be present when the tough issues arise.
- It was noted that the DRB agreement used focussed on the old view of the DRB process i.e. dispute resolution. For example:
 - there was no procedure for without prejudice discussions
 - the indemnity clause missed the current view of how a DRB should work.
- The general view was the role of a DRB was (in order of precedence):
 - dispute avoidance.
 - informal resolution – reconciliation / mediation.
 - procedure for decision if required (timely and cost effective).
- On the issue of the timing of the appointment of a DRB it was noted that:
 - DRBs work best if they are engaged at the very start of the contract.
 - in a D&C contract a lot of things are locked in at the design phase and some of these would have benefitted from input from the DRB.

- On this project the DRB was appointed too late. The contract was awarded in November 2006 and the DRB went through the appointment process in March/April 2007 and they did not come to terms with the project until June 2007.
- In a relationship based contract (ECI) an alternative process for appointing the DRB by discussion and resolution as part of the ECI process can result in the DRB being appointed before award of contract.

Cost of DRB

- The cost of the DRB was 0.135% of the final contract price. This compares very favourably with recorded American practice where the average cost is quoted as 0.20% of final contract price.

Participation / Responsiveness of Teams

- DRB meetings in the early days had a focus on raising issues and questions rather than looking for direction. Some people did not understand the DRBs broader role in dispute avoidance.
- In terms of avoidance people went away from the early meetings with different views.
- Once the decision was made to adopt a new model things went well.
- It is important that the team has confidence in the DRB when they are undertaking their broader role.
- A DRB can only create an environment that encourages the parties to discuss and resolve issues in a 'without prejudice' environment.
- The DRB has to maintain its flexibility and responsiveness and work with the parties to resolve issues while maintaining its independence.

The effectiveness of the Stage 1 and Stage 2 processes

- The DRB saw the introduction of a proper governance structure into the contract as part of the Stage 2 process as a major step forward.
- It is of critical importance that senior off-site management representatives from both the Contractor and the Principal attend DRB meetings.
- The Stage 1/Stage 2 processes provided a circuit breaker for all and allowed the key site team to focus on job completion rather than dispute resolution.
- This process eventuated because the senior manager from each party was able to recognise that the project was in distress and action was required to ensure timely and cost effective completion.
- Where appropriate use mini mediations as part of the ongoing process and deal with variations/issues within a short time period (say one month) and where agreement cannot be reached elevate issues (Project Management Team (PMT) to Project leadership team (PLT) to Governance Board/DRB) and attempt to achieve resolution at lowest possible level.
- The DRB stated that once they understood the facts they were able to assess liability on each issue.
- The contract governance structure put in place (PMT/PLT/Governance Board/DRB) with responsibility and authority as detailed in the Deed of Amendment was seen as a good model for use on future contracts.

- The required joint reporting processes at PMT/PLT level was a good process for keeping senior management and the DRB informed.

Designer Involvement in DRB Meetings and Processes

- The DRB considered that it would have been beneficial to all if a senior designer representative attended the DRB meetings. This large complex project presented many design challenges and it is fair to say that the lack of involvement of a senior designer representative at DRB and other management team meetings was the root cause of a significant number of issues.

Case Study 2 - Pacific Motorway (Section B) Upgrade (PMU(B))



- This project is a \$375m upgrade of Pacific Motorway over 3.2km from Springwood (south) to Daisy Hill including:
 - new interchange at Loganlea Road
 - pavement reconstruction and provision of auxiliary lanes on motorway
 - upgrading of local service roads
 - improved pedestrian and cycle connectivity (including section of veloway along the motorway)
 - provision of a Park n Ride facility.
- It is being delivered through a competitive ECI delivery method with a guaranteed maximum price and sharing of project savings.

- Detailed design and construction was awarded in September 2009 with the main contract due for completion mid 2012. Two significant variations were treated as separable portions with completion due late 2012.
- Project challenges included:
 - multiple client initiated variations were ordered after award of the detailed design and construction
 - construction under traffic with 140000vpd on the motorway with restrictions on lane closures
 - significant level differences between new and old construction of up to 3m
 - tight political timeframes for delivery of key milestones
 - difficult site access to central median areas on the motorway
 - higher than average wet weather
 - joint venture comprising three separate construction contractors and three different designers.

DRB arrangements

- The contract provided for the establishment of a DRB comprising three members.
- TMR and the Contractor each selected a DRB member and the third member was then selected by the other two DRB members.
- Two of the DRB members were eminent civil engineering professionals with many years of experience in delivering major civil infrastructure projects and the third member was a practicing lawyer with degrees in Civil Engineering and Law.
- A three party agreement setting out the operating provisions for the DRB was signed by TMR, the Contractor and each of the DRB members at the formation of the DRB.
- The DRB membership was reduced from three persons to two partway through the project by mutual agreement of the PLT.

DRB Experience on PMU(B) Project

- At the commencement of the project, there was considerable effort expended in establishing strong working relationship among the site based PMT with a commitment given to resolve all issues on site as a unified team.
- On that basis, it was agreed among the PMT, PLT and DRB members that the DRB would meet every three months on site (rather than the more usual monthly meetings) coinciding with every third PLT Meeting.
- To date there have been no issues escalated to either the PLT or the DRB. All issues have been resolved at the site level by the PMT – including some significant client ordered variations with substantial impacts on time and cost. This is attributed to the strong “one team” relationship that has been fostered on the project.

- As a result of this, the DRBs involvement has been largely one of monitoring progress and offering suggestions to ensure that issues were resolved promptly and efficiently. Specifically, the DRB has provided targeted reviews and confirmation of robust contract administration practices in the following areas to avoid disputes:
 - establishment and maintenance of various registers including variations, EOT, NCR and lot registers
 - timely submission and processing of variations and claims
 - time and cost performance of the project and techniques for effectively monitoring these
 - project delivery processes such as the design review process
 - safety performance.
- Due to a number of significant client ordered scope variations to the project, the DRB was also engaged to independently review the methodology for assessment of the variations and confirm the robustness of this process and compliance with the provisions of the contract. This enhanced governance and provided confidence in the outcomes obtained.

Key learnings from the DRB experience on PMU(B)

- Commitment to the development of strong collaborative arrangements by all parties early in the project is a key factor in avoiding disputes. This includes the development of a charter with an agreed set of behaviours/values and monitoring the health of relationships throughout the project.
- The focus of DRBs should be on dispute avoidance rather than resolution. DRB members should be eminent professionals with expertise relevant to the particular project with so that they can offer guidance on the most effective way to deliver the project.
- DRB arrangements should be sufficiently flexible so that they can be tailored to suit individual projects to ensure best VfM. On collaborative or relational contracts, it is suggested that a single Dispute Avoidance Advisor (DAA) would suffice rather than a DRB. Under such an arrangement, the PLT would generally assume the role of peak body for escalation of issues and the DAA would act as an expert advisor to the PLT.
- The frequency of DRB/DAA attendance at the site also needs to be flexible. Where issues are being effectively managed at site level, it is suggested that site attendances could be quarterly, however if there are multiple issues that require DRB/DAA guidance, more frequent meetings (say monthly) would be appropriate.
- There is value in using the DRB to oversee and review the evaluation of significant variations or claims to validate the methodology used and thereby provide an increased degree of robustness to project governance with respect to contract administration.

Some comparisons with the Ipswich Motorway/Logan Motorway Interchange (ILM)

- At the ILM the decision of the DRB was binding up to a predetermined value of \$2m. This coupled with the fact that there was a lack of clarity around the requirements for submissions to the DRB meant that both parties went to extraordinary lengths to substantiate their respective positions including:
 - engagement of independent technical experts
 - engagement of lawyers and legal advisors
 - engagement of expert programmers and schedulers
 - preparation of comprehensive submission documents (some of which were hundreds of pages) comprising photographic records, expert reports, drafted plans and drawings, extensive program analyses.
- On one occasion a DRB member commented that the submissions were more comprehensive than some submissions he had seen in the High Court of Australia. The process led to both parties becoming entrenched in a battle to “win” favour with the DRB.
- This was contrary to the general principles of a DRB which is intended to be a relatively simple and efficient mechanism to resolve disputes. Accordingly, there needs to be better guiding principles to ensure the DRB process remains simple with the focus on provision of guidance to the parties to avoid issues.
- On the ILM project, the PLT had no contractual role or responsibilities – they were not a party to the contract and could not make contractually binding decisions. In hindsight this was not effective and on subsequent projects the PLT do have a contractual role.
- My view is that the PLT should comprise senior members from each organisation who have the authority to make contractually binding decisions and the PLT should be the peak body to resolve issues through an escalation process.
- In the absence of a DRB, a DAA could be used to provide guidance to the PLT.

Some observations of other transport infrastructure agencies

- My enquiries show the use of DRB/DAA arrangements is uncommon in other state agencies. The common feature for the agencies canvassed was established good relationships with their suppliers
- In one state an independent reviewer may be appointed with the agreement of the parties when an issue arises that is not resolved through the Superintendant.

Some concluding comments

- The overall view is the application of DRB/DAA to complex transport infrastructure projects has delivered bankable savings. The ability to have an independent group of eminent professionals on tap to provide advice on issues which could, if left unnoticed, develop into significant claims/disputes is unquestionably the preferred dispute avoidance methodology.
- For these arrangements to work there needs to be a highly developed collaborative relationship at the project. In that regard TMR’s preference is to use (and improve) its Collaborative Project Agreement form of contract as the basis for hard or soft dollar delivery methods.

- For most TMR major projects, particularly when a collaborative structure is in place, the use of a DAA rather than a DRB would suffice. The PLT should be the peak body for escalation and resolution of issues taking advice and guidance from the DAA. The addition of senior representatives from the client and contractor organisations to form a Governance Board with the DRB is recommended for very complex projects.
- The involvement of the DRB may be warranted where very complex issues are anticipated at the outset of the project or when using an adversarial form of contract. In all cases the DRB members should be carefully selected based on their expertise and ability to provide appropriate guidance at the preconstruction phase.
- It is essential to keep the DRB Three Party Agreement flexible or subject to change by agreement so that the parties, if required, can agree an alternative process more suitable for the project.

Conclusion

- The use of DRBs on complex projects has proved to be highly beneficial. This is especially so where relationship contracting principles are applied because the DRB process neatly complements and enhances the dispute prevention benefits inherent in the relationship/collaborative contracting philosophy.
- The use of a DAA/DRB on complex and adversarial is considered essential.
- TMR will continue to use the DRB process on future complex projects.

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