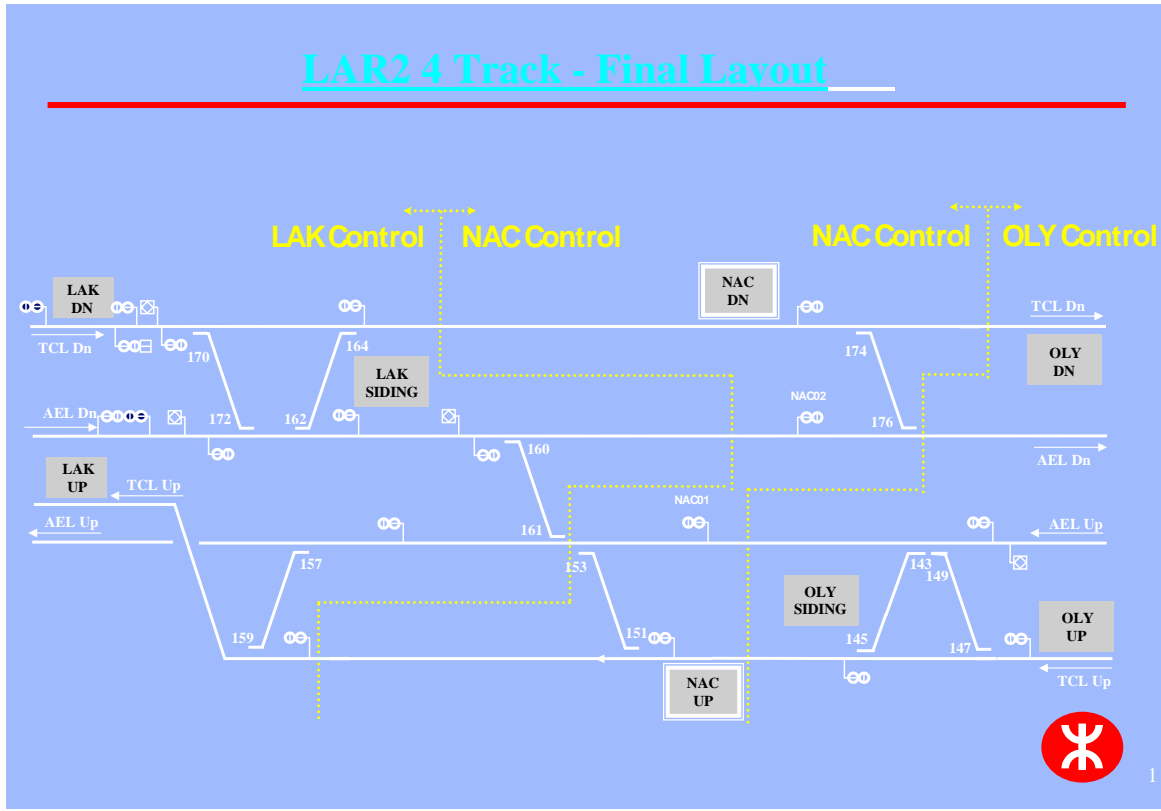




Partnering for Signalling of a New Section of 4-track railway – MTRC contract number 552A



1. Brief Description of Project.

Two additional tracks were constructed between Lai King Station and Olympic Station to allow interchange of passengers between MTR Corporation's Tung Chung Line (TCL) and Kowloon-Canton Railway Corporation's West Rail, at Nam Cheong station (NAC), without obstructing the passage of MTR Corporation's Airport Express trains

This project included the signalling of the new sections of track, allowing the TCL trains to stop at NAC, without impacting on the journey time of the Airport Express trains, which continue to use the existing tracks of the Lantau and Airport Railway (LAR)

The signalling works included a complex implementation of new equipment to interface between the existing railway and the new tracks. Testing and commissioning could only be performed during a narrow window of time in the early hours of the morning, between the normal operating hours of the existing railway.

The final outturn cost is estimated at HK\$82.0 Million, this is a variance of HK\$ 8.7M against the initial estimated cost of HK\$73.3m. 93% of the variance is related to the exercising of a Contract option to upgrade the system user interface hardware; the remaining 7% is related to the provision of spares, not originally included in the Contract.

The Contract was awarded on 8 June 2001, with scheduled completion on 15 April 2004. Actual completion was on 31 January 2004, 11 weeks early.

This was a Lump Sum Contract between the Client, MTR Corporation and the Contractor, Alstom Transport Information Solutions who were also the participants in the Partnering arrangement. Partnering consultants were John Carlisle Partnerships (JCP).

2. Background to the decision to introduce Partnering.

MTR Corporation have previous, successful experience of Partnering on their Tseung Kwan O Line extension. Consideration was given to using this experience on the signalling contract as in the first 6 months of the contract, the Contractor's performance was well below expectation. Not one milestone was achieved and the contract was basically 6 months late. Partnering, commencing with a 2 day workshop, was introduced by MTR Corporation with sceptical agreement from the Contractor. This was the turning point of the Contract. It had the effect of "jump starting" the signalling team into positive action and helped them to recognize the benefits of building relationships at all levels. A rapid improvement occurred initially, followed by a steady increase in performance. Communications improved dramatically and relationships blossomed to the extent that within 6 months of the workshop, the Contract was back on schedule with final completion, some 2 years later, 2 months ahead of schedule.

3. Key Characteristics of Partnering on this Project.

- MTR Corporation have successfully used Partnering on other major projects, they were therefore pre-disposed to extend the use of Partnering to this Contract;
- the Contractor had three geographically separated offices and the staff that undertook the work were located in, France, Australia and Hong Kong. The design, software and most of the hardware were produced in France with a small portion of design and software produced in Australia, with the installation, testing and commissioning being undertaken in Hong Kong;
- MTR Corporation initiated the first workshop. The facilitator (JCP) selected to run the 2-day workshop interviewed key members of the Contractor's and Client's teams in advance, to have an understanding of personalities and perceptions and to prepare them for the workshop. Those attending were selected primarily on the basis of the key roles played in the project;

- after the initial workshop, Partnering activities were continued by the team in many ways. One was the Contract Partnering Steering Group who monitored and steered the relationship towards building a united Client/Contractor team. This group consisted of a senior manager from each of the Client's and the Contractor's organizations, together with their respective project managers;
- perceptions about the Contract and the Partnering issues were rated by all team members, collated by the Client and discussed every month at the Progress Meeting. This provided valuable insight into the way team members felt about the relationship and the progress of the Contract and allowed members to express concerns and suggest improvements;
- Partnering review sessions were held at intervals not longer than every six months. These were one-day sessions with the Partnering facilitator to continue the relationship building and to reaffirm the benefits of Partnering. It was also a good opportunity to introduce new team members into the spirit of the arrangements;
- on a social level, after achievement of major milestones, team gatherings were organized, taking the form of a dinner, or a breakfast after the night shift changeover. These were encouraged and financially supported equally by Client and Contractor;
- towards the end, a close-out review workshop was held in a special location (one that could be remembered by all). The workshop was primarily to reflect on and capture the good and not-so-good aspects of the Contract and the Partnering relationship, to celebrate the success of the Contract and in recognition of the efforts of the team and the good working relationships established;
- A number of Key Performance Indicators (KPIs) both "soft and "hard", were used during the Contract to measure its success.

Soft KPIs were split into two categories:

- Mutual Objectives and Values; and
- Behaviours.

These were measured as perceptions by all the MTR Corporation and Alstom staff working on the Contract. They proved to be invaluable in directing the focus towards areas where the overall score for a particular category had declined from the previous month's score.

Hard KPIs were:

- achievement of milestones and critical dates;
- timely submissions, responses and re-submittals;
- quality (non-conformances);
- safety issues raised;

- disruptions to train services;
- public complaints; and
- number of claims.

MUTUAL OBJECTIVES	
1) Meet all milestones and agreed project program	4
2) Reduce cost and waste	5
3) Quick resolution of technical problems	5
4) Efficient resolution of commercial issues	5
5) Quality implementation	5
6) Delivery of a safe system	5
7) No disruption to operational service	5
8) Provide and maintain a good working relationship	5
Average 4.875	

VALUES and BEHAVIOURS	
9) Trust	5
10) Openness and honesty	5
11) Cooperation	6
12) Consistency	5
13) Joint problem solving	5
14) Proactive conflict resolution	5
15) Customer Focus	5
16) Commitment	5
17) Effective communication	5
Average 5.1111	

JOHN CARLISLE PARTNERSHIPS

PARTNERING SCORE INPUT SHEET FOR CONTRACT

The purpose of this survey is to help us gain a better understanding of our progress as a team, to help identify areas for improvement and differences in perception.

Would you please spend a few minutes scoring in a range from 1 to 6 how you feel the team are performing in achieving each of the objectives set out in the Charter.

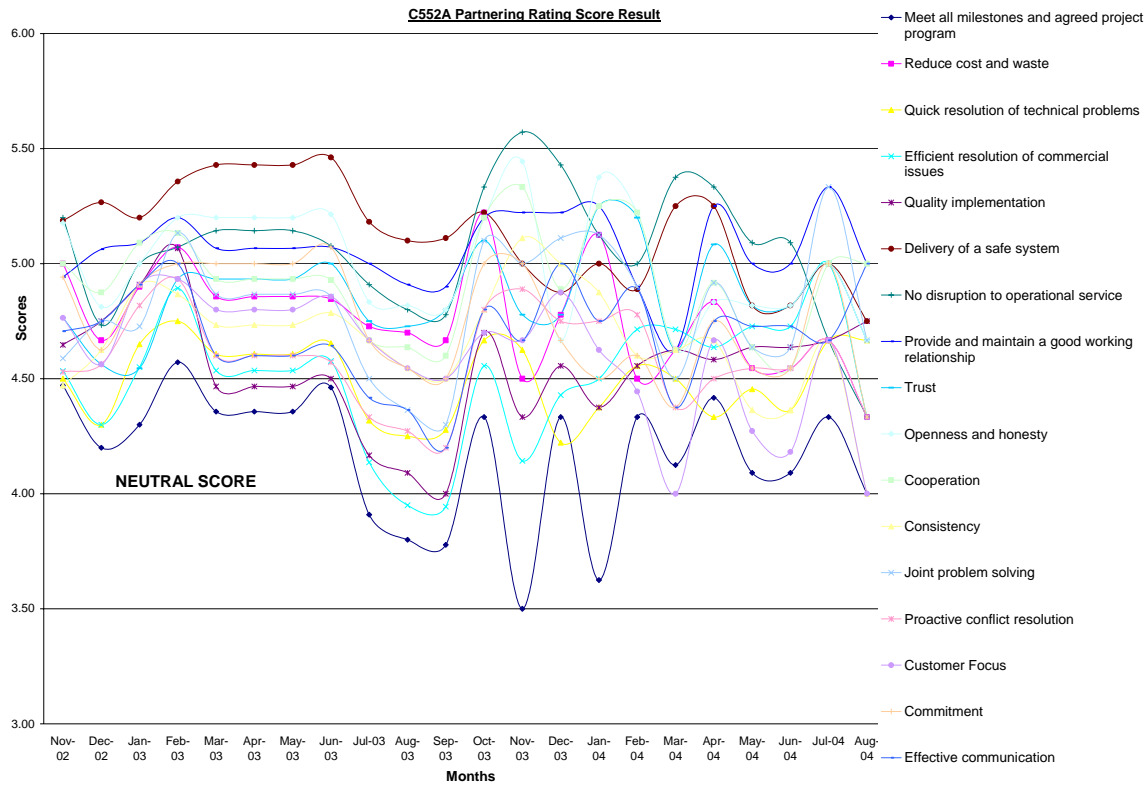
Please return the survey sheet by email to warwick@mtr.com.hk

Please score as follows:

- 1 = Strong disagreement
- 2 = Medium disagreement
- 3 = Weak disagreement
- 4 = Weak agreement
- 5 = Medium agreement
- 6 = Strong agreement

Finally, please fill in your name here:

These scores will be compiled and discussed at the Monthly Partnering Steering Group meeting



4. Partnering Highlights.

What went well at the beginning was the absolute commitment of the Alstom senior management to the Partnering concept. Their influence and participation allowed their team to realize their potential. The initial workshop was well received by all participants with the Contractor's senior management attending stating that it was excellent. A Partnering Charter was drafted in the workshop and later finalized and signed by all attendees.

During the Contract, and with relationships firmly established, some difficulties arose which threatened to cause serious disruption of several months to the overall project unless immediate action was taken. In the spirit of the no blame culture that was part of the Contract, the decision was taken that someone from the MTR Corporation's project team should travel to France to assist the team through these difficulties. The Senior Construction Engineer elected to undertake this because of his overall knowledge of the project. In the following 6 weeks, alternate strategies were discussed and debated in Paris on how the Contract could be brought back on track. A recovery strategy was developed with the outcome that the remaining activities on the Contract were completed ahead of schedule. The causes of the slippage were analyzed later and judged to be due to a failure in communication on a specific issue.

The mainstay of the success of Partnering was the relationships that developed, although it was not all plain sailing and some friction did occur at times, the knowledge that all were working towards the same goal, i.e. overall Project success encouraged people to work hard at maintaining the relationship and it proved to be the successful formula.

5. Partnering Performance.

The overall performance of the project can be measured by the following:

- no claims;
- no safety issues raised nor injuries sustained;
- completion ahead of program, by 11 weeks;
- original contract scope completed within budget;
- no outstanding commercial issues on completion; and
- outstanding minor works resolved 12 weeks after completion.

The success of the Four Tracking Signalling Contract spurred a value engineering workshop on a subsequent contract between the parties. The workshop identified savings that resulted in gross savings of HK\$12 Million that was shared 50:50 between the parties. This could not have been achieved without the success of the relationship developed on the Four Signalling Tracking Contract.

The follow-on contract is now in progress between the parties and although there are new people in the team the Partnering approach remains entrenched. There is a realization that

there is no better way to do a project than to partner because issues are dealt with quickly at all levels and rarely is there one that requires escalation to a higher approval authority. This has the effect of removing frustrations and the accompanying bad feelings which can linger. People are happier on the job and enjoy their work. They know they are empowered to deal with issues without fear of reprisal and in the knowledge that someone will assist with resolving them, regardless of which at side of the party he belongs. This leads to greater productivity and appropriate solutions to problems.

The success of the Four Tracking Signalling Contract was a major factor in the overall Project Team gaining an MTR Corporation Grand Award for Outstanding Contribution in October 2004.

