

## **Kowloon-Canton Railway Corporation**

### **Review of Payments to Contractors for the West Rail Project**

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## **1. INTRODUCTION**

### **1.1 Background**

- 1.1.1 West Rail Phase I (“West Rail”) is a 30.5 kilometre railway with nine stations, a maintenance centre and headquarters building housing a central operations control centre.
- 1.1.2 The route commences in the south at Nam Cheong Station in Sham Shui Po, follows the West Kowloon Expressway northwards and enters Mei Foo Station in Lai Chi Kok Park. It then continues through the Kwai Tsing Tunnels and enters Tsuen Wan West Station.
- 1.1.3 The route continues northwestwards into the Tai Lam Tunnel, enters the Kam Tin Valley, and then curves slightly to the west to enter the elevated Kam Sheung Road Station. Crossing Route 3, the railway heads for Yuen Long Station, and follows northwards to Long Ping Station. It remains elevated before reaching Tin Shui Wai Station. Finally turning south, the route heads for Siu Hong Station, and then Tuen Mun Station, which is the northern terminus of West Rail.
- 1.1.4 The original budget for the construction of West Rail, which amounted to HK\$64 billion, was approved by the Executive Council in September 1998. However, the current final cost is now estimated to be approximately HK\$46.4 billion.
- 1.1.5 The principal cost savings have come from reduced land acquisition costs, more competitive construction contract pricing, a lower inflation rate, and reduced financing costs due to the downturn in the economic environment. Benefits have also been achieved from value engineering.
- 1.1.6 The construction of West Rail has been funded by an equity injection from the Government into KCRC of HK\$29 billion, from external borrowings of HK\$5.5 billion, and with the balance being generated from KCRC’s internal cashflows.
- 1.1.7 On 28 January 2002, a number of articles appeared in the local newspapers, which disclosed details of a supplemental agreement that KCRC had entered into with Siemens involving an additional payment of HK\$100 million.
- 1.1.8 Following these articles, there was further coverage in the press, which raised concerns over a number of other supplemental agreements that KCRC had executed in relation to West Rail.
- 1.1.9 In response to questions in the Legislative Council, KCRC revealed that it had executed 27 supplemental agreements to make additional payments to various contractors on the West Rail project. The additional payments amounted to approximately HK\$1.6 billion.
- 1.1.10 In order to address public concern about these supplemental agreements, KCRC sought an independent review by a firm of certified public accountants, of the circumstances relating to the supplemental agreements.

## **1.2 Terms of reference**

- 1.2.1 In early February 2002, KCRC appointed KPMG to carry out a review of the supplemental agreements. However, after five weeks of work, KPMG withdrew because KCRC was not able to come to an agreement with them on the terms of their engagement.
- 1.2.2 Following the withdrawal of KPMG, on 8 March 2002 Ernst & Young were engaged by the Managing Board of KCRC to complete the review within six weeks using the same terms of reference as those agreed with KPMG.
- 1.2.3 As part of our terms of reference, the Steering Committee decided that three contracts, for which supplemental agreements had been signed, should be selected for review. The contracts selected by the Steering Committee were as follows:
- Contract No. DB-1500 for the Telecommunications System;
  - Contract No. CC-213 for the civil construction of the Tuen Mun Station; and
  - Contract No. CC-404 for the civil construction of the Mei Foo Station.
- 1.2.4 In general terms, we were asked to determine whether KCRC's procedures and practices in the tender, negotiation and conclusion of contracts had been followed in respect of the three selected contracts.
- 1.2.5 Furthermore, we were asked to consider whether KCRC had followed normal and appropriate procedures in monitoring the performance of the three contracts, and in negotiating the supplemental agreements, which came into existence at a later date.
- 1.2.6 Our terms of reference were to conduct our review on the basis of KCRC's own records. Further details of our terms of reference are set out in Appendix I.

## **1.3 Our Approach**

- 1.3.1 Following our appointment, we met with KPMG to gain an understanding of the work that they had performed over the previous five weeks. KPMG briefed us on the areas that they had covered and provided us with copies of the documentation that they had gathered to date.
- 1.3.2 In order to obtain the necessary technical expertise to perform the review of the supplemental agreements, KPMG had appointed a quantity surveyor and a lawyer specialising in major construction contracts,
- 1.3.3 The two experts who had been selected were:
- Quantity surveyor – Mr. Bruce Humphrey of Bruce Humphrey Consultants Limited; and
  - Lawyer - Mr. Glenn Haley of Deacons.

We met with Messrs. Humphrey and Haley in order to agree their scope of work and the progress that they had made to date.

- 1.3.4 To complete the panel of technical experts, we arranged for the appointment of Mr. Niels Kraunsoe, who has addressed the engineering aspects of our review. The appointment of all three experts was subsequently approved by the KCRC General Counsel.
- 1.3.5 Details of the relevant expertise and experience of Messrs. Humphrey, Haley and Kraunsoe are attached in Appendix II.
- 1.3.6 Having gained an understanding of the work that had been done to date, we developed a work plan based upon each of the questions to be addressed under our terms of reference. Responsibility for addressing different issues under each question was allocated amongst and agreed with the technical experts and ourselves.
- 1.3.7 KCRC undertook to provide us with all the documentation that they considered to be relevant, and during the course of our work we reviewed this and held a number of meetings with various KCRC personnel. We have no reason to believe that documents relevant to our review have been withheld from us.
- 1.3.8 To confirm and expand our understanding of the procedures and facts identified from our review of the documentation, we have also held meetings with the following KCRC personnel:

• Mr. K Y Yeung	Chief Executive Officer
• Mr. Vincent Lo	Member of the Managing Board
• Mr. Nicholas Ng	Member of the Managing Board
• Mr. Denys Connolly	Member of the Managing Board
• Ms. Denise Yue	Member of the Managing Board
• Mr. Tim Chung	Member of the Managing Board
• Mr. James Blake	Senior Director, Capital Projects
• Mr. Ian Thoms	Director, West Rail
• Mr. David Fleming	Company Secretary and General Counsel
• Mr. Alan Donnet	General Manager, Project Support
• Mr. Jaya Jesudason	General Manager, Construction
• Mr. Siddarth Patel	Construction Manager, Rail Systems

- 1.3.9 The panel of technical experts and ourselves conducted a physical inspection of West Rail, which included visits to the sites of the Tuen Mun, Siu Hong, Kam Sheung Road, Mei Foo and Nam Cheong Stations, and the Pat Heung Maintenance Centre. During each stop, we were provided with the opportunity to discuss the progress of work and the major issues encountered with site personnel.

#### **1.4 Interaction with the Steering Committee**

- 1.4.1 KCRC has established a Steering Committee comprising of:

- Mr. Michael Tien
- Sir John Swaine
- Mr. Brian Stevenson (Resigned upon our appointment)
- Professor Lee Chack Fun
- Mr. Denis Levett

1.4.2 The Steering Committee's functions, as determined by the Managing Board of KCRC, are:

- To oversee and guide the E&Y investigation;
- To ensure that the E&Y investigation covers all aspects of its instructions; and
- To study the E&Y final report and, in the light of E&Y's findings and recommendations, either advise the KCRC Board to accept those recommendations or offer alternative actions for the Board to pursue.

1.4.3 At the end of March, we met with the Steering Committee to inform them of our progress and findings, and to satisfy them that the scope of our investigation did cover all aspects of our instructions.

1.4.4 During the meeting, we provided a report on the work that had been performed during the two week period commencing 11 March 2002 and an overview of our preliminary concerns in relation to general matters and the Siemens contract. We also discussed and agreed on the KCRC personnel with whom we would hold meetings.

## **1.5 Structure of our Report**

1.5.1 Following this Introduction is an Executive Summary, which provides a high level overview of our findings and recommendations arising from our review. This includes key conclusions arising from our review of the three contracts plus a number of more general comments on management structure and on monitoring procedures.

1.5.2 Chapters 3 and 4 contain our review of corporate governance and the contracts process, including our review of KCRC's contract philosophy and strategy, its procurement policies and how these compare with industry norms.

1.5.3 Chapters 5 to 12 contain our review of Contract No. DB-1500 with Siemens for the Telecommunications System, and our conclusions.

1.5.4 Chapters 13 to 20 contain our review of Contract No. CC-213 for the civil construction of Tuen Mun Station, and our conclusions.

1.5.5 Chapters 21 to 28 contain our review of Contract No. CC-404 for the civil construction of Mei Foo Station, and our conclusions.

1.5.6 Chapter 29 contains our review of the further supplemental agreements currently under consideration.

1.5.7 We have attached a number of appendices, which contain our terms of reference, details of the expertise and experience of the technical experts who have assisted us in carrying out the engagement and the abbreviations used in this report.

## **1.6 Limitations in Scope**

- 1.6.1 Our review of the three contracts has been based solely on the documentation that has been provided to us by KCRC and on the interviews with KCRC personnel. We have, therefore, relied upon KCRC to ensure that the documentation provided to us is complete.
- 1.6.2 We have not had access to the documentation maintained in respect of the three contracts by the relevant contractors, nor have we discussed these contracts with personnel from those contractors.
- 1.6.3 The findings and recommendations contained in this report reflect the perspective and views of the contractors in so far as they are identifiable from the documents we have reviewed and the meetings we have conducted.
- 1.6.4 We believe that we have presented as balanced a view as possible with the information and documents available to us.
- 1.6.5 We have only considered whether the three contracts selected comply with the policies and procedures of KCRC. Accordingly, it should not be assumed that our findings and recommendations in respect of the review of these three contracts can be extrapolated to all contracts managed by KCRC in respect of West Rail.
- 1.6.6 We have performed our review over a period of six weeks, but nevertheless believe that the depth and detail of our review is sufficient to support our findings and recommendations.

## **1.7 Confidentiality**

- 1.7.1 In the General Conditions of each of the three contracts and in the supplemental agreements, which for this purpose adopt the General Conditions, there is a prohibition against KCRC divulging any information provided by the contractor in accordance with the contract or supplemental agreement. This is an obligation owed by KCRC to its various contractors.
- 1.7.2 In performing our review, we have considered documentation and information provided to us by KCRC. We do not express any view on whether that information or documentation is covered by the confidentiality provisions of the contracts. We understand that KCRC is obtaining its own legal advice about confidentiality issues.



## **2. EXECUTIVE SUMMARY**

### **2.1 Introduction**

- 2.1.1 In this executive summary, we have sought to provide the reader with a broad overview of our findings, and to put these into perspective we have included comments on the West Rail project and its impact on KCRC.
- 2.1.2 We have also included comments on KCRC's contract philosophy for West Rail because it is important to understand the effect that such a philosophy has had on the way that KCRC has managed the project.
- 2.1.3 We have provided comments on the role and composition of the Managing Board in relation to the West Rail project, and on the way that they interact with senior management and on the flow of information which they receive.
- 2.1.4 We have included general comments on the quality and operation of the processes established for the management and monitoring of the project as a whole.
- 2.1.5 We have also provided an overall assessment of how supplemental agreements came to be negotiated on the three contracts which were selected for our review (the Siemens telecommunications contract and the contracts for the construction of stations at Tuen Mun and Mei Foo).
- 2.1.6 We would like to emphasise that our comments and findings are principally based on our review of the documents provided by KCRC and on a series of meetings which we held with some members of the Managing Board and of the senior management. We have not talked to the relevant contractors who are involved in the three selected contracts and have not had any access to their records or documentation. It is possible that some of our conclusions on the three contracts might be different if we had had access to the personnel and records of the relevant contractors.
- 2.1.7 However, we believe that we have presented the contractors' position as far as possible based on the documents we have reviewed and the meetings we have conducted with KCRC personnel.

### **2.2 The West Rail project**

- 2.2.1 In order to understand the rationale for the decisions taken by the Managing Board and senior management in relation to contractual issues on West Rail, it is important for the reader to understand the size and complexity of the project being undertaken.
- 2.2.2 West Rail entails the construction of a railway line, stations and related railway infrastructure through difficult terrain and in densely populated areas at a cost of about HK\$46.4 billion, and in order to carry out the project over 50 contracts have been awarded.

- 2.2.3 These contracts are complex, for large amounts of money, and require the different contractors to carry out their work in a relatively short timescale. Furthermore, many of the contracts are interrelated such that delays which are incurred on one contract are likely to have a consequential impact on a number of other contracts.
- 2.2.4 Thus, in determining the appropriate course of action to be taken in resolving the problems on any one contract, KCRC management cannot consider that contract in isolation. Consideration must also be given to the impact which the problems on that particular contract may have on other contracts, and senior management has to arrive at the best solution to the problem from the perspective of the project as a whole.
- 2.2.5 There are a number of similarities between the MTRC, the Airport Authority and KCRC as they have all been involved in the construction and management of major infrastructure projects. However, one obvious and major distinction is that the Airport Authority and the MTRC started life as development / major project companies, which then became operational after their construction phase was completed.
- 2.2.6 This does not apply to KCRC because it was already established as a railway operating company, which then took on a massive construction project.
- 2.2.7 This project has had to be handled and managed while the normal operations of the railway have continued. It has therefore been necessary for senior management to establish new systems and procedures, and to recruit additional management resources with the necessary experience of construction and major infrastructure project management.
- 2.2.8 The development of West Rail has also provided substantial additional responsibilities and challenges for the Managing Board. A whole range of new problems have had to be addressed for a period of years during the construction of West Rail, and these are not directly related to the day-to-day operations of a railway.
- 2.2.9 In major construction projects, it is generally recognised that there are three key factors which have to be addressed and balanced at all times. These are achieving the necessary quality of construction, within a satisfactory timescale, and within a reasonable budgeted cost. If any serious problems arise with any of these three factors, there is a consequential impact on the other two.
- 2.2.10 Based on our work, it is clear that the dominant factor for KCRC has been to complete and open the railway on time in September 2003.

### **2.3 Contract Philosophy**

- 2.3.1 KCRC is a body corporate, having been set up by the Kowloon-Canton Railway Corporation Ordinance (Cap 372). Under Section 12 of that Ordinance, KCRC is expressly obliged to conduct its business “according to prudent commercial principles”.

- 2.3.2 In order to implement and observe this overriding statutory obligation, KCRC has developed a contract philosophy which reflects current international best practice in contract management and dispute avoidance. It has therefore adopted an approach whereby it seeks to work in partnership with its contractors as far as possible on the basis of mutual co-operation, and this approach to date has generally appeared to work quite well.
- 2.3.3 One of the features of the philosophy was that KCRC decided to take the risk of unforeseen ground conditions on the civil engineering contracts. This means that it would set out in the tender documents the ground conditions that the contractor could expect to encounter in the performance of the contract based upon KCRC's own site investigation. As noted in a recent industry report commissioned by the HKSAR Government, KCRC's philosophy in this respect is consistent with international practice.
- 2.3.4 If ground conditions were discovered to be different during the performance of the contract, the contractor would be entitled to additional compensation depending on the conditions encountered and the delays that might be caused.
- 2.3.5 In the circumstances of large complex contracts in difficult locations such as the Tuen Mun nullah and Lai Chi Kok bay, it could be considered almost inevitable that problems outwith the contractors' responsibilities under the contract would arise.
- 2.3.6 These would be to KCRC's account, but it should be noted that, in accepting this risk and the likely additional costs thereof, KCRC could have expected to receive considerably lower tenders from the contractors.
- 2.3.7 Major employers such as KCRC take on risk such as unforeseen ground conditions because they should be better able to manage such risks and their resultant costs. If all such risks were passed to contractors, they would normally have to make substantial provisions in their tenders leading to higher tender prices.
- 2.3.8 After the contractor has commenced his work, the nature of the ground conditions would become clear. In many cases, such conditions would cause additional work and a delay in the contractor's work programme.
- 2.3.9 Resolution of the financial impact of these two issues would need to be agreed. The favoured and efficient mechanism for recording the resolution of these issues is the supplemental agreement. This mechanism is favoured because it avoids prolonged and costly disputes on the project, but also it allows the project team to ensure that there remains in place a set of completion dates by which the contractor is bound. This second advantage often can be secured only through the use of a supplemental agreement.
- 2.3.10 The use of supplemental agreements is favoured by recent industry reports. The use of supplemental agreements is not confined to Hong Kong. Experienced practitioners in the United Kingdom regard interim (timely) settlement of disputes to be a desirable aspect of project management. Practitioners in the US also regard "change orders" to be part and parcel of almost any construction project. In Australia, the term "supplemental agreement" is not widely used, but experienced practitioners regard the implementation of timely, ad hoc agreements as being good management practice and common sense.

- 2.3.11 Accordingly, it was almost inevitable that a large number of supplemental agreements would need to be negotiated with contractors, but it would not necessarily mean that the existence of such agreements represented higher overall costs to KCRC.

#### **2.4 Role and composition of the Managing Board**

- 2.4.1 Our comments in respect of the role and composition of the Managing Board are limited to their involvement in the West Rail project, as it is outside our terms of reference to review how they perform their duties as a whole.
- 2.4.2 From our review of the existing available documents and following the meetings held with some members of the Managing Board, it became clear to us that they see their role in relation to West Rail as one whereby they seek to monitor what the KCRC management is doing and, where appropriate, to provide approval for major decisions, in particular whenever this involves the spending of sums in excess of HK\$50 million.
- 2.4.3 We noted that the composition of the Managing Board includes only one executive director (the Chief Executive), and this board generally meets on a monthly basis. Given the size and complexity of the issues which the Board is required to consider for KCRC as a whole, we do not believe that, under the existing structure, they have adequate opportunity to assess and discuss specific problems arising on individual contracts that form part of the West Rail project.
- 2.4.4 We also believe that consideration could be given to appointing one or two non-executive directors with specific knowledge and experience of major projects. This would usefully complement the existing board's knowledge and experience.
- 2.4.5 We recognise that a West Rail Steering Committee was originally set up comprising the Chief Executive and a number of board members. Its terms of reference and title has subsequently been expanded so that it is now called the New Railway Projects Steering Committee.
- 2.4.6 Unfortunately, this Committee at present only meets generally on a quarterly basis. However, we believe that it could meet much more regularly and could also have a number of members who could be drawn from outside KCRC and who could have appropriate technical skills such as expertise in construction, engineering and legal issues.
- 2.4.7 This Committee would provide a forum at which the senior management could present problems arising on individual contracts in more detail together with alternative courses of action. It would then be able to consider and recommend appropriate solutions, and where the financial impact was large enough these solutions could be passed for approval to the Managing Board.
- 2.4.8 This could reduce the huge volume of papers on the West Rail project which the Managing Board have to consider before each of their meetings. It would also mean that the solutions being proposed by senior management to address problems arising on individual contracts could be properly discussed by the Steering Committee, with the Managing Board considering the solutions proposed by the Committee.

2.4.9 The greater involvement of the Steering Committee would in turn enable the Board to receive a brief report each month from the Committee on the problems being encountered on contracts and the proposed solutions. Based on that report and their confidence in the Committee's work, the Managing Board could then concentrate on critical issues relating to the project.

2.4.10 In summary, our concerns about the role and composition of the Managing Board in respect of the West Rail project could be largely addressed if the New Railway Projects Steering Committee was given additional resources with revised terms of reference and some delegated authority.

## **2.5 Monitoring and management procedures**

2.5.1 Based on our review of the Procurement Manual, we are pleased to report that the detailed systems for the management of the West Rail project appear to be of a high standard and reflect current industry norms and practices.

2.5.2 We have reviewed the application of these procedures in the management of the three selected contracts and have found that the procedures adopted generally comply with those laid down in the Procurement Manual.

2.5.3 However, we have identified a number of areas where we believe improvements could be made to these procedures.

2.5.4 These improvements, which are described in detail in Chapter 4, relate to the number of pre-qualified tenderers, parallel technical and financial evaluations, liquidated damages, risk assessment of contractors' claims and independent review of commercial settlement calculations.

2.5.5 *[This paragraph in the original Report dealt with the issue of liquidated damages in KCRC's construction contracts. This paragraph has been deleted on the advice of KCRC's external legal advisers because of its commercially sensitive nature and because its disclosure would be prejudicial to the Corporation's interests].*

2.5.6 With regard to the monitoring of the project, we believe it can be argued that in general senior management provide sufficient information prior to the Board Meetings to keep the Board informed. However, we believe that the reporting process, in terms of both format and timeliness, could be improved.

2.5.7 As noted earlier, we are recommending that the Steering Committee should have a greater involvement in the monitoring of the project and, if this recommendation is accepted, that would have an impact on the reporting process.

2.5.8 We recommend that greater use of summary and exception reports should be made and these could be considered in detail by the Steering Committee before any critical issues are presented to the Managing Board.

**2.6 The Siemens Contract (DB-1500)**

- 2.6.1 If one were to look at the circumstances related to the Siemens contract from the perspective of that contract alone, the approach taken by KCRC might have been different. For example, they might have decided to take a strictly “contractual” route, seeking to compel Siemens to meet the original terms and dates of the contract (notwithstanding that Siemens was alleging that it had some claims for additional time and money that needed to be addressed).
- 2.6.2 However, if they had taken that strictly “contractual” route, it appears that the Siemens contract would have fallen seriously behind schedule with consequent imposition of liquidated damages and disputes over variations and other claims.
- 2.6.3 Having reviewed the available information, we are of the view that termination of the Siemens contract (either under the contract or at common law) was not really a viable option. Indeed, our view is that, had KCRC purported to terminate the contract, it would not have been acting according to prudent commercial principles.
- 2.6.4 Since the Siemens contract is closely interrelated with a number of other West Rail contracts, we do not believe that it is appropriate to consider the actions that could have been taken to resolve the issues on the contract without considering the consequences on the project as a whole. In our view, had KCRC failed to take into account the consequences for the project as a whole, this would have been a failure to act according to prudent commercial principles.
- 2.6.5 KCRC management was very concerned about the impact that any delay on the Siemens contract could have had on the timely completion of the West Rail project as a whole, and was also concerned about the financial impact which such a delay was likely to have on a number of other West Rail contracts.
- 2.6.6 It is clear that the management was also concerned that, even if it had been possible to replace Siemens with another contractor, there would have been significant time and cost implications. Furthermore, the Siemens contract price had been much lower than both the second lowest bidder and the original amount anticipated by KCRC.
- 2.6.7 Management therefore concluded that the negotiation of a supplemental agreement with Siemens would provide the opportunity of getting the contract back on schedule, and this in turn would avoid the project as a whole being seriously delayed. Furthermore, the financial impact of the proposed supplemental agreement on the overall budget was relatively small.
- 2.6.8 Therefore, given all the factors mentioned above, the senior management decided to recommend to the Managing Board that a supplemental agreement with Siemens should be concluded. We believe that the decision to adopt this approach was the correct one in the circumstances.
- 2.6.9 This resulted in a commercial settlement which appears to have been in the best interests of KCRC because, following the execution of the supplemental agreement, most of the problems previously encountered are now being satisfactorily addressed and the contract is at present back on schedule.

- 2.6.10 While we believe that the strategy adopted by senior management was the right one in the circumstances, it is clear that the Managing Board were not made aware at a sufficiently early stage of the problems on the Siemens contract and the approach that senior management intended to adopt.
- 2.6.11 The first time that the Managing Board became aware of the severity of the problems was when they were informed of the negotiation plan for the proposed supplemental agreement.
- 2.6.12 We think that this is very unfortunate because although we do not believe that the Managing Board would have disagreed with the actions being proposed by senior management, they should have been properly informed. The problems were sufficiently large that they were in danger of jeopardising the timing of the West Rail project as a whole, and for this reason the Managing Board should have been made aware of the issues at an early stage.
- 2.6.13 Because the problems on the Siemens contract were only brought to the Managing Board's attention when they were informed of the proposed negotiation plan, it was already too late for them to consider any alternative course of action.
- 2.6.14 Two possible alternatives which senior management had already considered were to continue trying to compel Siemens to comply with the contract as negotiated or to replace Siemens with another contractor, but senior management concluded that negotiating the supplemental agreement was the appropriate course of action in order for the railway to open on time.
- 2.6.15 In Chapter 12, we have commented on a number of issues that arose during our review and have also included some recommendations on how these can be addressed.
- 2.6.16 These matters relate to the original contract strategy, the limited number of conforming tenders, the low tender price, the award of the contract, the management and monitoring of the contract, the quantification of the supplemental agreement and liquidated damages.

## **2.7 The Tuen Mun Station contract (CC-213)**

- 2.7.1 As already described, KCRC had determined at the start of the West Rail project that it would take the risk of unforeseen ground conditions, on the civil engineering contracts. As a result, it set out in the tender documents the ground conditions that the contractor could expect to encounter in the performance of the contract based upon KCRC's own site investigation.
- 2.7.2 If ground conditions were discovered to be different during the performance of the contract, the contractor would be entitled to additional compensation and possibly also extensions of time to the completion date, depending on the conditions encountered and the delays that might be caused.
- 2.7.3 On the Tuen Mun contract, work on the foundations of the station, which were to be built in the Tuen Mun nullah, were restricted by the fact that such work could only be performed during the six month dry season between October and April of the following year.

- 2.7.4 Due to the fact that the ground conditions were found to be different from those anticipated, this delayed the progress of the foundation work that was planned during the first dry season. This delay then had a consequential impact on the construction work that was planned during the first wet season, resulting in the contract being some nine months behind schedule after fifteen months.
- 2.7.5 At this point, KCRC had the choice between allowing the contract to progress as best it could or to put in place a delay recovery programme to recover the lost time through the use of additional resources.
- 2.7.6 Had KCRC taken the first option, this would not only have had an impact on other related contracts, resulting in claims for additional delay-related compensation from other contractors, but would have also jeopardised the opening date of the entire West Rail project.
- 2.7.7 Therefore, KCRC decided to develop a delay recovery programme with the contractor in order to accelerate the progress of work on the site and thereby get the whole contract back on schedule.
- 2.7.8 The contractor had a contractual entitlement to be compensated for both the unexpected ground conditions as well as the cost of the additional resources that were required to accelerate the rate of work. Consistent with its contract philosophy and the objective of seeking to resolve disputes in a timely way, KCRC negotiated with the contractor and settled the contractor's claims. The settlement was documented by way of a supplemental agreement.
- 2.7.9 Clearly, on this particular contract, the question remains as to whether a more extensive site investigation would have identified more of the unforeseen ground conditions. Such an investigation would have involved additional expense in itself, and could have resulted in different and potentially higher tender prices.
- 2.7.10 We do not believe that it is possible to determine whether the overall cost of the contract, including the supplemental agreement, would have been different if a more extensive site investigation had been carried out by KCRC before the tender process.
- 2.7.11 However, we do believe that in future KCRC should reconsider the amount of site investigation work that is performed before the issue of tender documents, particularly in the case of those sites where major construction constraints, such as limitations of work to the dry season only, are known to exist.
- 2.7.12 While we believe that potentially damaging delays to the contract and to the project as a whole were avoided, we have similar concerns about whether the Managing Board was made aware of the problems on the contract at a sufficiently early stage.
- 2.7.13 Because this contract was being run in conjunction with CC-212, the amounts of money involved were sufficiently large that we believe the Managing Board should have been briefed on what was happening.
- 2.7.14 In the end, the settlement amounts in the supplemental agreements on CC-212 and CC-213 totalled HK\$430 million but we have seen no indication that the Managing Board were advised of the nature and gravity of the problems or of the proposed solutions in a timely manner.



- 2.7.15 Despite this, we believe that the strategy adopted by senior management was the right one in the circumstances and we do not believe that the Managing Board would have disagreed with the actions proposed.
- 2.7.16 In Chapter 20, we have commented on a number of issues that arose during our review and have also included some recommendations on how these can be addressed.
- 2.7.17 These matters relate to the pre-tender site investigation, the limited number of conforming tenders, the management and monitoring of the contract, and the quantification of the supplemental agreement.

## **2.8 The Mei Foo Station Contract (CC-404)**

- 2.8.1 As noted earlier, KCRC took on the risk of problems in construction caused by unforeseen ground conditions.
- 2.8.2 Mei Foo Station is located within Lai Chi Kok bay in close proximity to the Ching Cheung road and Lai Chi Kok bridge and partially above existing MTR running tunnels. In addition, much of the area has been reclaimed at various stages over the years and underground conditions are therefore highly unpredictable.
- 2.8.3 Various problems and delays to the piling were caused by unexpected obstructions and underground conditions. Additionally, the contractor was requested to carry out additional testing, over and above that originally specified in the contract, and again this caused delay. Further, the progress of the work was impacted adversely by the stringent requirements imposed by and the unexpected delays in receiving the necessary approvals from various governmental bodies, in relation to the fact that the works were being carried out in close proximity to Ching Cheung road, Lai Chi Kok bridge and the Lai Chi Kok swimming pool complex.
- 2.8.4 As a result, progress on construction of the station fell about 16 weeks behind schedule by late 2000. Analysis of the reasons, including extension of time and claim submissions by the contractor, resulted in the recognition that KCRC would have to bear the financial impact of part of the delay.
- 2.8.5 KCRC management were concerned that, if this issue was not satisfactorily resolved, there would be a consequential impact on related contracts as well as potential delay to the entire project.
- 2.8.6 Eventually, a supplemental agreement was signed with the contractor resolving all claims up to an agreed cut-off date and buying back the delays for which the contractor might not be liable, while maintaining KCRC's rights to liquidated damages on the new agreed target dates.
- 2.8.7 We believe that KCRC's proactive resolution of the delay and claim issues in order to secure timely completion of Mei Foo Station was in the best interests of KCRC. Nevertheless we again have concerns about the timing when the Managing Board were made aware of the issues and the strategy proposed by senior management to address them.

2.8.8 In Chapter 28, we have commented on a number of issues that arose during our review and have also included some recommendations on how these can be addressed.

2.8.9 These matters relate to the management and monitoring of the contract, and the quantification of the supplemental agreement.

## **2.9 General**

2.9.1 We would like to point out that this Executive Summary represents an overview of our conclusions developed from our work. The reader is encouraged to read the detailed conclusions provided at the end of Chapters 3 and 4 and in Chapters 12, 20 and 28, respectively.

**Chapter 3 covers our review on the  
corporate governance of KCRC**

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### **3. CORPORATE GOVERNANCE**

#### **3.1 Introduction**

- 3.1.1 In this Chapter, we cover various issues relating to corporate governance, and our comments are largely focused on the role and composition of the Managing Board and on the New Railway Projects Steering Committee.
- 3.1.2 Our comments in respect of the role and composition of the Managing Board are limited to their involvement in the West Rail project, as it is outside our terms of reference to review how the Board members perform their duties as a whole.
- 3.1.3 We also comment on the way in which the West Rail contracts have been monitored by the Board, and in the final section of the Chapter we have included our conclusions.

#### **3.2 KCRC Ordinance**

- 3.2.1 KCRC was established as a public corporation in 1982 under the Kowloon-Canton Railway Corporation Ordinance Cap. 372 (“KCRC Ordinance”), and has various powers and duties as conferred and imposed on it by the KCRC Ordinance.
- 3.2.2 One of these duties is set out under Section 12 of the KCRC Ordinance whereby the Corporation is required to conduct its business according to prudent commercial principles and should ensure as far as possible, taking one year with another, that its revenue is at least sufficient to meet its expenditure.

#### **3.3 The role and composition of the Managing Board**

- 3.3.1 The Chief Executive of the Hong Kong SAR is responsible for the appointment of the members of the Managing Board including the Chairman and the Chief Executive Officer.
- 3.3.2 Prior to 2002 Mr. K Y Yeung held the roles of Chairman and Chief Executive. However, in accordance with international best practice and current proposals recently put forward by the Hong Kong Stock Exchange, these roles have now been split between Mr. K Y Yeung as Chief Executive Officer and Mr. Michael Tien as non-executive Chairman.
- 3.3.3 Since the Government is the sole shareholder of KCRC, two of the board members are the Secretaries for Transport and the Treasury respectively. There are six other members of the Managing Board and these are part-time non-executive positions. The other members are drawn from the local business community and have legal, financial, banking, and general commercial backgrounds.
- 3.3.4 For many years KCRC has been established as a railway operating company, and in 1996 it took on the massive construction project involving the development of West Rail.

- 3.3.5 The Board is responsible, inter alia, for overall company strategy, approval of the Corporation's annual estimates of revenue and expenditure, major financing arrangements, and for ensuring that sound administrative systems and procedures are in place. It also reviews monthly the Corporation's operating results and the progress made towards annual targets.
- 3.3.6 The construction of the West Rail project is recognised as being currently one of the KCRC's principal activities, and has provided substantial additional responsibilities and challenges for the Managing Board. A whole range of new problems have had to be addressed for a period of years during the construction of West Rail, and these are not directly related to the day-to-day operations of a railway.
- 3.3.7 Although the Managing Board is the highest authority of KCRC, the day-to-day management is delegated to the Chief Executive Officer and the senior management team.
- 3.3.8 From our review of the existing available documents and following the meetings held with some members of the Managing Board, it became clear to us that they see their role in relation to West Rail as one whereby they seek to monitor what the KCRC management is doing and, where appropriate, to provide approval for major decisions, in particular whenever this involves the spending of sums in excess of HK\$50 million.

#### **3.4 New Railway Projects Steering Committee**

- 3.4.1 Several committees have been established by the Board to oversee specific aspects of the Corporation's operations, and one of these is the New Railway Projects Steering Committee. This was set up in August 1996 and was previously known as the West Rail Steering Committee, comprising the Chief Executive and a number of board members.
- 3.4.2 Its terms of reference were approved by the Managing Board in July 1997, and in May 1999 its terms of reference were changed and its title became the New Railway Projects Steering Committee.
- 3.4.3 The revised terms of reference approved by the Managing Board were as follows:-

*“To keep under review and to make recommendations to the Managing Board on the following subjects relating to the West Rail, East Rail Extensions, and other new railway projects (the Projects):*

- 1. Proposals for defining scope, engineering feasibility, cost and financial viability of the projects at the conceptual stage;*
- 2. The Project Agreements and other contractual arrangements with the Government with respect to the Projects;*
- 3. The contract strategies for the Projects;*

4. *The conditions of contracts for the Projects, including procedures to control Project expenditure, major variation orders and claim resolution, and their application by management; and*
5. *The progress of the Projects, including proposals for significant changes in their respective scopes, programmes, designs, costs, budgets and contracts management, and any other significant issues.”*

3.4.4 The committee was previously chaired by the Chairman and Chief Executive, and five other members of the Managing Board were members. These were Mr. Edmond Lau, Mr. Nicholas Ng, Ms. Denise Yue, Mr. Keith Lam and Mr. Vincent Lo.

3.4.5 Various members of senior management also attended the meetings and they were the Senior Director of Capital Projects, the Senior Director of Finance, the Director of East Rail Extensions, the Director of West Rail, and the Director of New Railway Projects.

3.4.6 Since the beginning of 2002 when the roles of Chairman and Chief Executive were split, the Chairman of the Corporation has become the chairman of the Committee.

3.4.7 Since its formation in 1996, the Committee has met 27 times and its last meeting was in April 2002. During 1996 the Committee met regularly about every two weeks, but in the last three years the meetings have been much less frequent. They met once in 2000, three times in 2001, and once up to April 2002.

### **3.5 The monitoring of the West Rail contracts**

3.5.1 The Managing Board meets generally once every month, and members need a substantial amount of preparation time to familiarise themselves with matters arising from the huge amount of information and papers that are provided to them.

3.5.2 We understand that the documents provided to the members of the Managing Board for consideration at the monthly meetings include:

- Board agenda and papers;
- Minutes of weekly directors' meetings (these are no longer provided to the Board since 30 January 2002);
- The fortnightly Situation Report; and
- The Monthly Progress Report.

3.5.3 The board papers generally consist of papers seeking Board approval and information papers, and these are prepared by the Heads of divisions/departments and are approved beforehand by the Chief Executive Officer. From our meetings held with several members of the Managing Board, there is a general consensus that substantial board papers have been provided to them for the monthly board meetings.

- 3.5.4 Minutes of meetings of directors, including the fortnightly Situation Report, are distributed to members of the Managing Board to provide them with summarised information on the directors' discussions and on the progress of contracts. The fortnightly Situation Report is a one-page summary containing the following information:
- Developments since the last Situation Report;
  - Project progress;
  - Significant issues;
  - Safety status by contracts in terms of accidents and incidents;
  - Key event indicator;
  - West Rail project team staffing;
  - Status of all awarded contracts including traffic lights assigned and comments on the progress; and
  - Tender status for civil and systems contracts.
- 3.5.5 The Monthly Progress Report typically contains about 100 pages and provides the following information for each contract awarded:
- Overview of work scope and general situation of project;
  - Current status of progress and major activities/accomplishments since previous report;
  - Programme status, as applicable;
  - Financial status, as applicable;
  - Current key issues/concerns, and plans for resolution of such issues/ concerns; and
  - Work plan for coming months
- 3.5.6 Since most Board members perform their duties on a part time basis, they have delegated responsibility for the daily operations of the West Rail project, and in our opinion there is a risk that significant issues are not dealt with at Board level on a timely basis.
- 3.5.7 This is because members are reliant not only on the quality of the information provided by senior management but also on whether the issues are appropriately highlighted and presented to them for consideration.



### **3.6 Conclusions**

#### *The role and composition of the Managing Board*

- 3.6.1 We have described how the West Rail project has provided substantial additional responsibilities and challenges for the Managing Board. This has meant that a whole range of new problems have had to be addressed during the construction of West Rail, and these are not directly related to the day-to-day operations of a railway.
- 3.6.2 We recognise that many of the Board members are drawn from the local business community and have legal, financial, banking, and general commercial backgrounds. However, we believe that consideration could be given to appointing one or two non-executive directors with specific knowledge and experience of major projects. This would usefully complement the existing board's knowledge and experience.
- 3.6.3 We have also described how a number of members of the Managing Board see their role in relation to West Rail as one whereby they seek to monitor what the KCRC management is doing and, where appropriate, to provide approval for major decisions, in particular whenever this involves the spending of sums in excess of HK\$50 million.
- 3.6.4 The Managing Board generally meets on a monthly basis and, given the size and complexity of the issues which the Board is required to consider for KCRC as a whole, we do not believe that, under the existing structure, they have adequate opportunity to assess and discuss specific problems arising on individual contracts that form part of the West Rail project.
- 3.6.5 We recognise that a West Rail Steering Committee was originally set up comprising the Chief Executive and a number of board members. Its terms of reference and title have subsequently been expanded so that it is now called the New Railway Projects Steering Committee, but unfortunately in the last eighteen months it has only met about once every three or four months.
- 3.6.6 We therefore recommend that it should meet much more regularly and should be given additional resources with revised terms of reference and some delegated authority. It should also have a number of members who could be drawn from outside KCRC and who could have appropriate technical skills such as expertise in construction, engineering and legal issues.
- 3.6.7 This Committee would provide a forum at which the senior management could present problems arising on individual contracts in more detail together with alternative courses of action. It would then be able to consider and recommend appropriate solutions, and where the financial impact was large enough these solutions could be passed for approval to the Managing Board.

- 3.6.8 This could reduce the huge volume of papers on the West Rail project which the Managing Board have to consider before each of their meetings. It would also mean that the solutions being proposed by senior management to address problems arising on individual contracts could be properly discussed by the Steering Committee, with the Managing Board considering the solutions proposed by the Committee.

**The monitoring of the West Rail contracts**

- 3.6.9 While it can be argued that in general senior management provide sufficient and appropriate information prior to the board meetings to keep the Board informed, we believe that the reporting process, in terms of both format and timeliness, could be improved.
- 3.6.10 The Managing Board meets generally once every month, and members need a substantial amount of preparation time to familiarise themselves with the agenda issues included in the huge amount of information and papers that are provided to them.
- 3.6.11 Since most members perform their duties on a part time basis, they have delegated responsibility for the daily operations of the West Rail project, and there is a risk that significant issues are not dealt with at Board level on a timely basis.
- 3.6.12 This is because members are reliant not only on the quality of the information provided by senior management but also on whether the issues are appropriately highlighted and presented to them for consideration.
- 3.6.13 As noted earlier, we are recommending that the New Railway Projects Steering Committee should have a greater involvement in the monitoring of the West Rail project and, if this recommendation is accepted, that would have an impact on the reporting process by senior management.
- 3.6.14 We recommend that greater use of summary and exception reports should be made and that these could be considered in detail by the New Railway Projects Steering Committee before any critical issues are presented to the Managing Board.
- 3.6.15 One of the reports that would be affected would be the Situation Report, and elsewhere we are recommending that senior management should formally present this Situation Report in detail to the New Railway Projects Steering Committee and on a summary basis to the Managing Board.
- 3.6.16 To avoid unnecessary detail, we would stress that such presentation to the Managing Board should focus on the significant problems on an exception basis rather than dealing with each individual contract.

**Chapter 4 covers our review on the  
contract strategy and procurement process of KCRC**

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#### **4. THE CONTRACT STRATEGY AND PROCUREMENT PROCESS**

##### **4.1 Scope of Work**

4.1.1 We are requested to consider the following:

1. *Whether KCRC's contract strategy and administration (as set out in its internal policy documents on the subject) is comparable to industry norms; and*
2. *Whether KCRC's procedures and practices were appropriate having regard to industry practice and the nature of the work envisaged and whether KCRC followed these procedures and practices in respect of:*
  - (i) *invitations to tender;*
  - (ii) *tender evaluations;*
  - (iii) *the negotiation and conclusion of contracts, particularly the terms of any liquidated damage clauses;*
  - (iv) *contractual performance monitoring;*
  - (v) *considering amendments to the original contracts by way of Supplemental Agreements or otherwise; and*
  - (vi) *monitoring the Supplemental Agreements.*

##### **4.2 Introduction**

4.2.1 In this Chapter we cover various issues relating to contract strategy, the procurement process, and the administration of the West Rail project by KCRC. We have therefore included comments on KCRC's contract philosophy for West Rail because it is important to understand the effect that such a philosophy has had on the way that KCRC has managed the project.

4.2.2 We have also looked at KCRC's policies and procedures as set out in its Procurement Manual, and the way in which they are being applied on the three selected contracts, DB-1500, CC-213 and CC-404. In the final section of the Chapter, we have included our conclusions.

##### **4.3 Contract Strategy and Underlying Philosophy**

4.3.1 The initial contract strategy of KCRC was to adopt a multi-contract approach by awarding five principal civil works packages under detailed design/construction contracts with the remaining work being carried out under design build contracts.

4.3.2 Design/construction contracts comprise the award of two separate contracts for the preparation of detailed design by a consulting engineer appointed by KCRC, and the execution of construction works by a contractor also appointed by KCRC, where such works are to be carried out sequentially.

- 4.3.3 Design build contracts comprise the award of a single contract by KCRC to a contractor to carry out both detailed design and construction works, both activities to be carried out concurrently,
- 4.3.4 This strategy was apparently based upon an approach successfully adopted by MTR Corporation Limited ("MTRC"). In addition, management believed that a single turn-key contract for West Rail, where substantial risks and unknowns would have been borne by a single contracting entity, would not have been cost-effective.
- 4.3.5 The contract strategy was put forward to and approved by the Managing Board in May 1999, and the broad principles of KCRC's contract strategy were subsequently set out in an information paper to the Legislative Council Panel on Transport.
- 4.3.6 The general philosophy underlying KCRC's contracting strategy is that there should be a fair and equitable apportionment of risk between the Corporation and the contractors. This would include factors such as re-measurement, insurance, unforeseen ground conditions, and the extension of time arising from delays which cannot be attributed to the contractor or KCRC.
- 4.3.7 It is believed that if this principle had not been adopted it is likely that either contractors would not have bid for contracts or that they would have factored the expected risks into their tender prices, and this would have resulted in more expensive tender prices.
- 4.3.8 It therefore adopted an approach whereby it seeks to work in partnership with its contractors as far as possible on the basis of mutual co-operation.
- 4.3.9 One of the features of the philosophy was that KCRC decided to take the risk of unforeseen ground conditions on the civil engineering contracts. This means that it set out in the tender documents the ground conditions that the contractor could expect to encounter in the performance of the contract based upon KCRC's own site investigation. As noted in a recent industry report commissioned by the HKSAR Government, KCRC's philosophy in this respect is consistent with international practice.
- 4.3.10 If ground conditions were discovered to be different during the performance of the contract, the contractor would be entitled to additional compensation depending on the conditions encountered and the delays that might be caused.
- 4.3.11 In the circumstances of large complex contracts in difficult locations such as the Tuen Mun nullah and Lai Chi Kok bay, it could be considered almost inevitable that problems outweigh the contractors' responsibilities under the contract would arise.
- 4.3.12 These would be to KCRC's account, but it should be noted that, in accepting this risk and the likely additional costs thereof, KCRC should have received considerably lower tenders from the contractors.
- 4.3.13 Major employers such as KCRC take on risk such as unforeseen ground conditions because they should be better able to manage such risks and their resultant costs. If all such risks were passed to contractors, they would normally have to make substantial provisions in their tenders leading to higher tender prices.

- 4.3.14 After the contractor has commenced his work the nature of the ground conditions would become clear, and in many cases such conditions would cause additional work and a delay in the contractor's work programme.
- 4.3.15 Resolution of the financial impact of these two issues would need to be agreed. The favoured and efficient mechanism for recording the resolution of these issues is the supplemental agreement. This mechanism is favoured because it avoids prolonged and costly disputes on the project, but also it allows the project team to ensure that there remains in place a set of completion dates by which the contractor is bound. This second advantage often can be secured only through the use of a supplemental agreement.
- 4.3.16 Another feature of KCRC's contract management philosophy is the early and proactive resolution of disputes with contractors. These can arise from a variety of problems during construction such as:
- Delayed provision of construction details;
  - Delayed or impeded site access;
  - Disruption caused by others such as adjacent users or contractors; and
  - Unforeseen underground conditions.
- 4.3.17 While the direct costs of such problems are normally measurable, the indirect effects such as delays, disruption and loss of productivity are more difficult to evaluate and often become the source of disputes. In some cases such disputes can continue through arbitration or litigation for several years after completion of the work. The consequential costs in terms of legal and other fees as well as diversion of management effort are then very high.
- 4.3.18 There is therefore considerable benefit in seeking to settle such matters while all parties are still working on the job and are familiar with the actual events, causes and consequences. The KCRC contract management procedures are comprehensive and thorough, and therefore good contemporary knowledge and records are available to help the negotiations. Contractors are also more likely to be open to negotiated settlement while work is proceeding and before accounts for the contract are finalised.
- 4.3.19 However, in making negotiated settlements of disputed items at an early stage, one difficulty is that the exact costs to the contractors may be determined with less certainty, and the exercise of judgement is required to determine a fair settlement figure.
- 4.3.20 KCRC recognised that there is an inherent risk at the point of signing a contract, and that it is responsible for mitigating and minimising that risk by means of good project management. It is believed that risks should be mitigated as soon as they arise, and then to settle them as amicably as possible through negotiation. This is considered to be the best way to move a contract forward, because otherwise it may lead to deadlock, re-tendering, and litigation.
- 4.3.21 During the last few years a number of reports, in particular the Tang Report, have been prepared both in Hong Kong and overseas which have covered the perceived problems of the construction industry, and it is recognised that one of the key problem areas is dispute resolution.

4.3.22 As a result, considerable emphasis is now placed on the significance of employers and contractors working in partnership to ensure that claims and disputes are resolved at the earliest moment with the least opportunity cost and with the idea of maintaining project effectiveness and efficiency as a whole.

4.3.23 The recommendations in these reports are therefore consistent with KCRC's existing contract philosophy and administration to ensure that contracts are completed as intended with minimum opportunity costs.

#### **4.4 WTO GPA Compliance**

4.4.1 The World Trade Organisation ("WTO") is a global international organisation dealing with the rules of trade between nations. WTO agreements are negotiated and signed by the majority of the world's trading nations. The goal is to help producers of goods and services, exporters, and importers conduct their business.

4.4.2 The Government Procurement Agreement ("GPA") has been in force since 1 January 1996. It requires non-discriminatory practices and open procedures in government procurement among member states, and covers not only central government purchasing of goods, but also procurement of services, including public works, and procurement at the sub-central levels of government.

4.4.3 Procurement in public utilities is also included, and the exact coverage is determined by national schedules of purchasing entities and of services attached to the Agreement. The WTO GPA applies to contracts above certain thresholds in value, and for construction contracts the threshold is equivalent to HK\$50 million.

4.4.4 The cornerstone of the rules in the GPA is national treatment. This means that foreign suppliers and foreign goods and services must be given treatment in government procurement that is no less favourable than that accorded to national suppliers of goods and services.

4.4.5 In order to ensure that this basic principle is followed and that foreign suppliers have an equal opportunity to compete, the GPA lays heavy emphasis on transparent procedures, dealing in some detail with tendering procedures, the use of technical specifications in invitations to bid, the conditions on the qualification of suppliers eligible to bid, the publication of invitations to tender, and time limits for tendering and delivery.

4.4.6 It also addresses the contents of tender documentation provided to potential suppliers, the submission, receipt and opening of tenders, and the awarding of contracts.

4.4.7 An important new feature is that members are required to put in place domestic procedures through which aggrieved bidders can challenge procurement decisions and obtain redress if such decisions are inconsistent with the requirements of the GPA.

4.4.8 Under Article XX of the WTO GPA, it is provided that a supplier may raise a complaint against a procuring entity in the event of a breach of the WTO GPA in the context of procurement.



- 4.4.9 Challenges shall be heard by a court or by an impartial and independent review body with no interest in the outcome of the procurement and the members of which are secure from external influence during the term of appointment.
- 4.4.10 Hong Kong acceded to the WTO GPA on 20 May 1997, and it came into force on 19 June 1997. It is applicable to all government departments in respect of any procurement of goods and services, including construction services.
- 4.4.11 KCRC is a procurement entity listed under Annex 3 of the WTO GPA and accordingly must abide by the provisions in the WTO GPA.

#### **4.5 The Development and Application of the KCRC Procurement Process**

- 4.5.1 Prior to 1997, KCRC had a corporate handbook which contained only one page of procedures on procurement. At that time, one of the common complaints from contractors was that no two divisions of the Corporation applied the same rules. In addition, at the end of 1996 KCRC did not have much experience of building railways.
- 4.5.2 Following the appointment of Mr. K Y Yeung as Chairman and Chief Executive of KCRC in December 1996, one of the top priorities at that time was to create for KCRC a corporation-wide procurement system which (a) conforms with the WTO GPA and (b) is based on a system of rules which can withstand the test of time.
- 4.5.3 Mr. Yeung pulled together the financial circulars which were extant when he was the Secretary for the Treasury, and compiled a set of rules that were considered suitable to the environment of the Corporation, so as to form a procurement manual. The principles underlying the manual are based on many years of civil service experience, and the principles underlying the WTO GPA.
- 4.5.4 The manual, which was issued in the form of Chairman's Circular No. 3 of 1997 "Revised Tender Procedure and Contract Administration for Goods, Services and Construction" ("CC 3/97"), was apparently prepared on the principles of:
- Transparency;
  - Fairness in treatment of all entities;
  - Rational decision making;
  - Sound contract strategy; and
  - Sound contract management.
- 4.5.5 CC 3/97 applied to procurement above HK\$500,000 and covered all major areas of activity, including budgetary control, treasury operations, procurement, property management, the conduct of public relations, and the management of capital projects.
- 4.5.6 On 20 March 1998, Mr. Yeung issued a circular setting out amendments to certain previously issued circulars, so as to refine inter alia the rules on tendering and contract administration set out in CC 3/97. This circular is known as Chairman's Circular No. 4 of 1998 "Amendments to Rules of Tendering, Consultancy and Procurement" ("CC 4/98").

- 4.5.7 On 17 May 2000, Mr. Yeung introduced the Procurement Manual to replace the rules annexed to CC 3/97 and CC 4/98. The Procurement Manual is therefore a consolidation of the various Chairman's Circulars and Financial Circulars issued in the past.
- 4.5.8 The Procurement Manual contains 79 pages of rules governing the procurement activities of KCRC. It is divided into four sections on general procurement, quotations, tenders, and consultancy. In order to standardise the application of certain forms and guidelines, specimen documents are annexed to the manual for reference.
- 4.5.9 In addition, the West Rail Division has a large number of detailed procedural documents covering the various aspects of general management, construction management, operations, and maintenance management. These are known as West Rail Divisional Procedures but they are not consolidated at present into a formal manual.
- 4.5.10 In 1997 the Corporation was undertaking two major capital projects, namely West Rail and the East Rail Extension. As a result of the development and growth of capital infrastructure projects at KCRC, the Corporation established a Planning and Works Group.
- 4.5.11 This is led by the Senior Director, Capital Projects, and he oversees the planning and implementation of capital projects of three divisions, i.e. New Railway Projects, West Rail and East Rail Extension.
- 4.5.12 On 18 January 2000 a Capital Projects Manual was introduced for KCRC as a whole, based on best practices adopted for West Rail. This manual sets out procedures on the handling of capital projects from inception through to completion.
- 4.5.13 We have gained an understanding of KCRC's general policies and procedures on invitations to tender, tender evaluations, negotiation and conclusion of contracts, contractual performance monitoring, amendments to the original contracts by way of supplemental agreements, and monitoring of the supplemental agreements.
- 4.5.14 This understanding is based on our review of available KPMG working papers, the Chairman's Circulars, the Financial Circulars, the Capital Projects Manual, the Procurement Manual, and the West Rail Divisional Procedures documents.

#### **4.6 The Contract Procurement and Monitoring Procedures**

- 4.6.1 The following are our observations and comments on the appropriateness of KCRC's procurement and monitoring procedures. We consider whether they are appropriate having regard to industry practice and the nature of work envisaged. We also consider the extent to which KCRC complies with these procedures by reference to our review of the three selected contracts (DB-1500, CC-213 and CC-404).

4.6.2 In accordance with our terms of reference, these are described under the following headings:

(i)	Invitations to tender	4.6.3 – 4.6.28
(ii)	Tender evaluations	4.6.29 - 4.6.44
(iii)	The negotiation and conclusion of contracts	4.6.45 - 4.6.50
(iv)	Liquidated damages	4.6.51 – 4.6.84
(v)	Contractual performance monitoring	4.6.85 – 4.6.113
(vi)	Risk assessment of contractors' claims	4.6.114 – 4.6.120
(vii)	Independent review of commercial settlement calculations	4.6.121 – 4.6.127
(viii)	Amendments to the original contracts by way of supplemental agreements	4.6.128 – 4.6.145
(ix)	Monitoring the supplemental agreements	4.6.146 – 4.6.148

**(i) *Invitations to tender***

4.6.3 The invitations to tender for each of the three subject contracts (DB-1500, CC-213, CC-404) have similar sub-processes in principle, and these are as follows:

1. Prequalification of interested potential contractors; and
2. Invitation to tender/tender documentation;

Completely open tendering, although provided for as a possible route in the Corporation's procedures, was not used on the contracts in question.

4.6.4 Rule 396 of the Procurement Manual prescribes, inter alia, that an evaluation plan ("TEP") will be developed, emphasising technical and financial capabilities. Rule 397 provides that: "*a brief outline of the relevant TEP, including brief details of the method, assessment criteria, and marking scheme will also be included in prequalification/tender documents for the information of the applicants/tenderers*".

4.6.5 Good practice in the industry requires such an approach to avoid unsuitable prequalification submissions and to indicate with some precision the basis on which the intended list of tenderers will be developed. West Rail Divisional Procedure PCF-006 provides a similar approach through a Prequalification Evaluation Plan.

4.6.6 The prequalification process appears to be (and should be) governed in a similar manner to actual tender assessments by the relevant tender board, Tender Review Panel, and Tender Assessment Panel, as provided by Rules 331 and 334.

4.6.7 However, this is not entirely clear in the Procurement Manual, because Rule 411 provides that the department should "*recommend to the relevant tender board a shortlist of applicants from whom tenders will be invited*". It is not clear at what level that shortlist is then approved.

- 4.6.8 Rule 411 also provides that the “*relevant tenderers’ list should not contain less than four tenderers*”. That is, in our opinion, likely to be insufficient. The number of prequalifiers should be, as a rule of thumb, one and a half times the desired number of tenders (see, for example, Merna & Smith “Mechanisms for the Award of Competitive Tenders for Works and Supply Contracts,” Asia Law & Practice Publishing Ltd., 1996, ISBN 962-7708-91-7).
- 4.6.9 For most purposes we would consider six prequalifiers to be the minimum required, because this would normally be expected safely to produce four tenders. In circumstances where six qualified potential tenderers cannot be found, there should be exception reporting to the relevant tender board.
- 4.6.10 The evaluation of financial capability of potential prequalifiers (and of tenderers) is outlined by Rules 691 and 692. The evaluation should “*aim at evaluating a tenderer’s financial capability to fulfil its obligations under the proposed contract*”. We consider that this objective accords with proper practice.
- 4.6.11 Based on guidelines issued for technical evaluation of actual tenders, it is clear that the Corporation and the West Rail Division recognise the appropriate criteria of management approach and strategy, company experience, past performance, and claims/litigation record.
- 4.6.12 There cannot be a single standard of evaluation for every project, and we believe that the Corporation’s approach and methods whereby criteria are fixed in individual Tender Evaluation Plans, accord with best practice in the industry.
- 4.6.13 The second stage in invitations to tender, once a short list is developed, is the issue of the documentation. It should be understood that the documents for contracts of the nature involved in the West Rail project are voluminous, and detailed examination and comment upon every aspect has not feasible within such a short timeframe.
- 4.6.14 As part of the Procurement Manual, the West Rail Division has “*Model Documents for Tender Preparation*” in place, and in our opinion these are of a very high standard.
- 4.6.15 Rule 421 of the Procurement Manual provides that documents will normally include:
- “(a) *instructions to tenderers;*
  - “(b) *terms and conditions of contract;*
  - “(c) *technical specifications; and*
  - “(d) *price and payment schedules.*”
- 4.6.16 The Instructions to Tenderers are described in Rules 431 to 531 of the Procurement Manual. We confirm that none of the requirements set out there are particularly unusual or onerous so as to inhibit fair or competitive tendering.
- 4.6.17 The principal requirement of the Rules is that the Instructions to Tenderers for any particular contract make the policy clear and binding, and we consider that to be in accordance with best practice.

- 4.6.18 The terms and conditions of contract for Civil Engineering and Building Works for the West Rail project (together with the various forms of warranty, bond and guarantee required by those terms) have been separately developed and published. In general, these derive from conditions developed over many years for the Hong Kong Airport Core Programme, the Airport Authority, the MTRC and similar project works.
- 4.6.19 Where the Corporation has established its own contractual strategy for such matters as physical conditions (Clause 15.4), certificates and payment (Clause 66), and compulsory mediation (Clause 78.6), we consider that these in principle comply with the Contract Strategy adopted.
- 4.6.20 We note that Rule 541 of the Procurement Manual requires that the KCRC's standard conditions of contract be used, and that those conditions can be changed only with the approval of the Head of Department. We consider that such a policy is sensible, but consistency in its application is important.
- 4.6.21 We understand that the drafting of KCRC's standard conditions of contract involved a lengthy process. The skills of many widely experienced construction professionals were called upon during the drafting process, and the lawyers involved in the drafting process were Johnson Stokes & Master. It can therefore be assumed that the requisite level of skill and care was employed in compiling these standard conditions.
- 4.6.22 Specifications for the work to be carried out are standardised, comprehensive, and generally clear. The Corporation avoids particularly limiting references to specific manufacturers (Procurement Manual, Rule 551) and we consider that such a policy encourages competitive bidding and is good practice.
- 4.6.23 The pricing documents are comprehensive and indicative as to quantity of work, as required by Rule 552. The precise requirements of any pricing document are driven by the particular project and the General Conditions of Contract. As a matter of policy, the Corporation does not use "quantities" contracts but, in accordance with Rule 561, seeks fixed-price lump sums. That is unexceptional.
- 4.6.24 Rule 611 of the Procurement Manual sets out minimum times for tendering. In practice, for large and/or complex projects, considerably longer times have been allowed by the Corporation.
- 4.6.25 Rule 612 states that the *"despatch of significant quantities of amending or supplementary data and drawings following the issue of tender documents is highly undesirable and should be avoided wherever possible through adequate preparation and efficient time management"*. That is a statement of best practice, but unfortunately is not always achieved. It should be noted in the industry that considerable revision of tender documentation occurs after initial issue.
- 4.6.26 We recommend that the Procurement Manual should set out in more detail the procedures to be followed (such as identification of revised drawings/specifications/pricing documents) in the event of amendment or supplement after first issue.

4.6.27 The above comments refer principally to the civil and building works contracts but similar procedures were followed for DB-1500. We understand that pre-qualification for this contract was conducted using pass/fail methodology, as allowed under Rule 394 of the Procurement Manual. We consider that the criteria for pass/fail assessment and for weighting assessment (Rule 395) are adequately outlined in the Procurement Manual, and we note that the choice of which basis of assessment to use has to be explained in the Tender Evaluation Plan.

4.6.28 In general, we consider that KCRC's procedures appear to be similar to those of equivalent Hong Kong organisations, and the documentation that we have seen also appears to be broadly in line with industry practice and expectations.

**(ii) Tender evaluations**

4.6.29 The procedures for receiving and opening tenders are set out in the Procurement Manual, Rules 621 to 627. Rules 621 to 625 are essentially introduced to avoid tampering and the like, and are very similar to rules applied by Government and other similar organisations.

4.6.30 Rule 626 requires that price information with regard to tenders should remain sealed until after the technical evaluation.

4.6.31 Rule 661 requires that deviation from that sequence must be approved in advance by the relevant tender board, but does not indicate the circumstances in which a deviation may be approved. In practice, the price evaluation is often complex and time-consuming, and has to be carried out in parallel with technical evaluation.

4.6.32 Rule 641 of the Procurement Manual identifies four areas of evaluation:

- “(a) the technical proposals, i.e. whether the offer meets the technical specifications;*
- (b) the financial capability of the tenderer;*
- (c) the degree of contractual compliance; and*
- (d) the reasonableness of the tender price”.*

4.6.33 Matters to be covered in the technical evaluation are set out in Rule 671 and in the West Rail Divisional Procedure PCF-004 paragraph 5.4.1.

4.6.34 It is not clear how any distinction is made between key issues with which compliance is essential and issues where value for money is involved, but it is assumed that these are set out in the Tender Evaluation Plan.

4.6.35 This is a significant matter in respect of contract CC-213, where tenders were considered non-conforming on a technical issue related to working in and above the nullah. We consider that, in principle, a situation where pre-qualified tenderers are found to have submitted non-conforming tenders might suggest some inadequacy in defining key compliance issues in the outline evaluation plan provided to tenderers, pursuant to Rule 397 of the Procurement Manual.

- 4.6.36 The financial capability of tenderers is a matter which would have been considered at pre-qualification. Further consideration at tender evaluation would therefore normally be limited to ensuring that the position had not changed by tender time (such as by permitted change of consortium arrangements or by deterioration of a prequalified contractor's financial position).
- 4.6.37 Rule 681 requires clause-by-clause assessment of compliance of tenders with terms and conditions. Requests to withdraw qualifications are covered by clarifications under Rule 651, and in accordance with good practice the rejection of a qualified tender requires tender board approval. We consider that the procedures for considering and removing or clarifying qualifications to tenders accord with usual industry practice.
- 4.6.38 Assessment of the reasonableness of the tender price is a matter not clearly set out in procedures. While rules are in place to apply discounting techniques to very close tenders and to deal with quotations in foreign currency (Rule 712), there is otherwise very little guidance provided.
- 4.6.39 Rule 724 provides that reports to Tender Boards should highlight circumstances where a *"conforming tender has been priced at an unrealistically low level in relation to other tenders, or to similar recent contracts, or to prevailing market prices for similar goods or construction"*.
- 4.6.40 It is good practice also to provide a comparison between tenders and the Engineer's (or Corporation's) own pre-tender estimate on a summarised basis and not as a single figure. Such a comparison may assist to identify areas of particular concern.
- 4.6.41 The procedure for evaluation of tenders by KCRC generally appears to be reasonably appropriate for determining the best value for money amongst bids received. However, it is less clear that the procedures identify problem areas in a clear manner, or give guidance on resolution.
- 4.6.42 We consider that the professional staff and management at KCRC appear to have performed thorough evaluations to an extent not necessarily required by a given set of procedures. No "rules" for evaluation, (and there is no industry standard) can supplant professional expertise and knowledge of the particular project.
- 4.6.43 However, it is clear that in DB-1500 the tendering process yielded only two compliant tenders and there was little explanation as to why the lowest tender was approximately one third of the pre-tender estimate.
- 4.6.44 Furthermore, on CC-213 the evaluation process resulted in only a single compliant tender being analysed in detail.
- (iii) The negotiation and conclusion of contracts**
- 4.6.45 The Procurement Manual, at Rules 781 to 783, permits negotiation of the award of a contract, if approved by Corporate or Divisional Tender Boards. It is understood that as a general policy the Corporation does not enter into price negotiations following receipt of competitive tenders.

- 4.6.46 This appears to be the underlying philosophy of Rule 782, and is in line with Government agencies which generally follow that approach, although MTRC follows a policy which incorporates some negotiation.
- 4.6.47 During examination of tenders and before the award of the contract, Rule 651 permits “clarification” of tender submissions and ambiguities. That may, rarely, entail some negotiation of technical issues (but not price) to ensure that the Corporation’s requirements are properly covered in the tender. Provided that is in writing and does not affect the tender price (Rule 653) it is also unexceptional and is sound practice.
- 4.6.48 Matters which have been clarified during the evaluation period are covered, as a matter of practice, in a clarification letter which is then incorporated in the contract. That is the normal industry approach.
- 4.6.49 However, there is a paragraph in the West Rail Divisional Procedure PCF-004 (Tender Evaluation Plan) which we do not understand in the context of the procurement policy which is laid down elsewhere:
- “5.5.2 In the event that a change to the tender price is received in answer to a question that is not considered to be a fair and reasonable change, the Tenderer shall be requested to justify the change. Changes which in the opinion of the AP (Assessment Panel) are in effect unsolicited changes to the tender price shall be set aside by the DWR. For major contracts, RP (Review Panel) endorsement shall be required before disposing the changes to the tender price.”
- 4.6.50 The implication is that there may be fair and reasonable, or solicited, changes to the tender price, and we therefore recommend that the circumstances in which such changes may be permitted should be more clearly defined.

**(iv) Liquidated damages**

*[Paragraphs 4.6.51 to 4.6.84 on pages 33 to 37 in the original Report dealt with the issue of liquidated damages in KCRC’s construction contracts. These paragraphs have been deleted on the advice of KCRC’s external legal advisers because of their commercially sensitive nature and because their disclosure would be prejudicial to the Corporation’s interests].*



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**(v) Contractual performance monitoring**

- 4.6.85 Most major construction contracts will, at some time, experience matters that delay progress. The key to successful management of such delays is the early identification of problems, followed by diligent monitoring and a timely pro-active approach to their resolution. Project planning requires procedures to be in place from commencement to manage delaying events.

- 4.6.86 Review of the requirements within the General Conditions of Contract (“GCC”) and other contract documents reveals several mechanisms intended to allow review of a contractor’s progress and to draw attention to delays to planned progress. These include:
- The provision of programmes and progress reports by the contractor as required by GCC clause 16;
  - The requirement for the contractor to give the Engineer timely notice of any event which is likely to cause a delay as detailed in GCC clause 45;
  - Milestones to monitor actual, as against planned, progress as described in GCC clause 66; and
  - The requirement for the contractor to provide a Monthly Progress Report as a condition precedent to consideration by the Engineer of the contractor’s application for payment as described in GCC clause 67.
- 4.6.87 Clause 16 of the GCC requires that the contractor provides certain documentation including the Monthly Progress Report. This is the written medium for the contractor to report to the employer on the progress of his works during the preceding month and to highlight matters of concern to him. If the contractor does not provide the Monthly Progress Report, his interim payments are jeopardised as described in GCC clause 67.
- 4.6.88 The Engineer can request that contractors amend the format and content of their Monthly Progress Reports to report on matters of particular concern. This occurred, for example, on the DB-1500 contract when Siemens was asked in May 2000 to incorporate an additional section to record software development progress.
- 4.6.89 GCC clause 45 requires that the contractor shall provide a notice to the Engineer of every event that is likely to cause a delay to substantial completion of the Works, or any Section, or the achievement of any Stage and subsequently to provide regular updates on the effect of such matters on progress.
- 4.6.90 If he anticipates that the event will give rise to an entitlement to an extension of time he shall notify the Engineer of the reasons. In practice it is unlikely that the contractor will advise the Engineer of those events for which he is himself responsible, but will only notify him about those for which he believes he is entitled to be granted an extension of time.
- 4.6.91 Payment to contractors on the West Rail project is regulated by the use of Interim Payment Schedules. These sub-divide the contract works into subsections (known as Cost Centres), each of which has a value. Payment to the contractor in respect of these Cost Centres is made on an incremental monthly percentage basis.
- 4.6.92 In certain months particular stages of progress must be achieved, measured by achievement of pre-defined activities known as Milestones. In the event that a Milestone is not achieved in its pre-determined month, the percentage of the Cost Centre total corresponding to that month is withheld.

- 4.6.93 Thereafter all future payments against that Cost Centre are withheld until the missed Milestone is achieved, at which point payment resumes at the withheld month's percentage. Missing a Milestone does not in itself give the Corporation an entitlement to levy liquidated damages.
- 4.6.94 However, the use of Milestones is an important tool for monitoring progress and since there are Milestones defined in many months of most contracts, under-performance by the contractor will become evident at an early stage.
- 4.6.95 In addition to these payment-related mechanisms which assist in monitoring progress, Monthly Progress Meetings are held which are attended by the contractor and the Engineer's Representative. The agenda for these meetings follows similar subjects to the Monthly Progress Report comprising a review of the programme and progress, design status, milestone achievements, and contractual and commercial issues.
- 4.6.96 The meetings therefore serve as a forum for agreeing action plans for addressing problems and potential concerns.
- 4.6.97 There are a number of other meetings which are held monthly (or weekly as required) between the Engineer and KCRC's construction manager to discuss the programme, financial/contractual issues, co-ordination, and interfacing matters. There are also internal monthly meetings chaired by the Director of West Rail to review project issues.
- 4.6.98 The monthly meetings are supplemented at three-monthly intervals by Quarterly Review Meetings attended by the Engineer and by senior management from KCRC and the contractor.
- 4.6.99 This forum is used to air matters of concern and progress generally and in particular, concerns that have not been addressed at site level despite them having been raised. They are also used for agreeing forthcoming performance objectives.
- 4.6.100 Where the Engineer considers that the progress of the work is too slow to ensure the achievement of any stage or completion of parts of the work by the key dates, the GCC provides that he may notify the contractor of this opinion and requires him to provide suggestions for, and to take the necessary steps to expedite progress. Such letters are referred to as "Rate of Progress" letters.
- 4.6.101 Every six months, the Engineer carries out a performance appraisal review of the contractor's performance. In the event that the outcome is an "Unsatisfactory" grading, the Director of West Rail prepares a detailed report for the secretary of the Corporate Tender Board at the end of that reporting period.
- 4.6.102 The procedures outlined above indicate the direct involvement of the Engineer and contractor in the contractual monitoring process. These procedures appear to provide the Corporation with an adequate framework for appropriate management and monitoring of the individual contracts involved in the West Rail project.

- 4.6.103 We were also provided with details of the reports which are produced and distributed within KCRC in respect of West Rail. As one would expect, these comprise varying degrees of detail and are produced at varying intervals.
- 4.6.104 Two of these reports include the Engineer's assessment of the status of the individual contracts. This assessment is indicated by using a traffic light system whereby the status of each contract is indicated by a green, amber or red traffic light, which shows whether the contract is on schedule or not.
- 4.6.105 The first of these is called the Situation Report. It is prepared fortnightly and is distributed to senior management and to members of the Managing Board. In addition to the traffic light applied to each contract, there is a brief one-line comment on any significant issues.
- 4.6.106 The second of these traffic light reports is a weekly management report, but this is not distributed to the Board members.
- 4.6.107 We noted that the criteria for determining the traffic light colours on the Situation Report are different from the criteria that are used to set the traffic light colours on the weekly management report for railway systems contracts.
- 4.6.108 The criteria used in the Situation Report are broader. As a result, the significance of the problems on any contract have to be greater to warrant the indication of, say, a red traffic light on the Situation Report as compared to the weekly management report.
- 4.6.109 In our opinion, to avoid confusion the criteria for determining the appropriate traffic light should be the same for both reports.
- 4.6.110 Another internal report which we have seen is the Monthly Progress Review Chart. This is distributed to senior management and reports actual progress by planned versus actual interim payment status. It also covers actual/planned Milestones, key date achievements, and summarises claims received from the contractor for extensions of time and additional payment.
- 4.6.111 We have also seen examples of KCRC's weekly and fortnightly progress reporting. These reports include pictorial representations of actual progress achieved to date, and monitor such progress against the agreed work programmes and the achievement of Milestones. They thereby provide an early alert to delays being experienced.
- 4.6.112 It is clear from our review that in our opinion the monitoring and reporting procedures to deal with delays are appropriate and comprehensive. They are developed from similar systems in use by MTRC, the Airport Authority, the New Airport Projects Co-ordination Office, and the Works Bureau.
- 4.6.113 We understand that many KCRC personnel at all levels have had recent experience of working with these source systems, but the problem for the employer and the Engineer in dealing with delays on a project is determining when to move from a monitoring role to one where there is a need to participate pro-actively in resolving the problem.

*(vi) Risk assessment of contractors' claims*

- 4.6.114 During our review of KCRC's procedures, we obtained information indicating how assessments of KCRC's possible liability in respect of contractors' claims are calculated.
- 4.6.115 The starting point in any assessment has to be an analysis of the claims that the contractor has submitted, and the majority of claims and disputes that arise will comprise a number of areas of uncertainty.
- 4.6.116 These can be summarised under three headings:
- Legal – does the claim have a legal basis and how strong is it?
  - Technical – does the claim have a technical basis and how strong is it?
  - Quantum – how much of that being claimed is properly attributable to the matter under consideration and how fully is it verifiable?
- 4.6.117 We recognise that the assessment of claims involves a large amount of experience and judgement, and the figure arrived at will usually depend on whether it is being done by the contractor or the employer.
- 4.6.118 One common approach is for the employer to try and calculate a best and worst case scenario of what the contractor is entitled to under the contract, but we recognise that the final amount agreed will almost certainly involve some form of compromise by both parties as in the end it will be a negotiated sum.
- 4.6.119 Our concern at present is that KCRC do not attempt to calculate a range for a possible settlement amount which they could use as a basis for their negotiations with the contractor.
- 4.6.120 We therefore recommend that KCRC should consider reviewing the way in which they perform their risk and liability assessments.

*(vii) Independent review of commercial settlement calculations*

- 4.6.121 In reviewing the calculations prepared in relation to the settlement amounts in the supplemental agreements for the three selected contracts, we found it difficult to determine how these figures had been developed from the records kept. However, from discussions with KCRC personnel, we could understand how the amounts were arrived at.
- 4.6.122 The sums claimed by the contractor have been used as the starting point for the calculations prepared by KCRC in support of the settlement amount, and this is normal practice.
- 4.6.123 However, it is unclear to what extent the sums put forward by the contractors have been challenged. We have seen evidence that the amounts finally agreed in the supplemental agreements are substantially less than the contractors' original claims and are also often less than KCRC's internal estimates of the value of the claims.

- 4.6.124 The determination of the amounts to be paid to contractors in settlement of their claims requires both experience and judgement, and it is therefore important that the manner in which each claim is assessed is thoroughly documented.
- 4.6.125 We recommend that KCRC should review its procedures for the documentation of contractors' claims and ensure that an adequate "audit trail" is recorded in determining the amounts that should be paid to the contractors.
- 4.6.126 To provide additional assurance that contractors' claims are thoroughly assessed and documented, we recommend that KCRC establish a system of independent review of these calculations.
- 4.6.127 Under this system, an appropriately qualified person from within KCRC who is not involved in the management of that particular contract should review a sample of the settlement calculations prior to the approval of the negotiation plan.

*(viii) Amendments to the original contracts by way of supplemental agreements*

- 4.6.128 The Procurement Manual procedures, at Rule 781, indicate that "*under certain circumstances, it would be in the Corporation's best interests to negotiate the award of a contract or variations to the prices and conditions of an existing contract*". The procedure which is set out in the manual is in accordance with the tender negotiation procedures.
- 4.6.129 Rule 784 authorises Heads of Departments to approve negotiations:
  - "(d) when a party makes a claim against the other party to a contract; or
  - (e) when any term or price of an existing contract has to be varied to meet changed circumstances or requirements".
- 4.6.130 Rules 785 to 787 set out further guidance on the conduct of negotiations, the negotiating team and assistance from procurement and legal sections. Rules 821 to 825 set out further requirements, principally laying down authority for variations to the works, but also requiring compliance with the rules in the Capital Projects Manual.
- 4.6.131 KCRC Contract Strategy is based on the principle that disputes should be resolved in a pro-active manner. There can be no doubt that modern industry practice, particularly on large and complex projects, is to resolve claims and potential disputes as soon as it is reasonably possible.
- 4.6.132 The principal purpose of a supplemental agreement is to change the terms and conditions of an existing contract, and most commonly, it is the terms as to time which are changed. If certain matters arise on projects such as unforeseen ground conditions or significant variations, the contractor becomes entitled to additional time and costs pursuant to the contract terms.
- 4.6.133 In theory, KCRC can accept the time and cost consequences of such problems but the effect is often uncertain. If it is desired to avoid delay, the Corporation can request acceleration under the contract, but that imposes no effective obligation on the contractor to meet particular dates.

- 4.6.134 To preserve the original completion dates or to set new dates which are reliable, the contract must be varied by agreement between the contracting parties, and that is the principal and most important area in which supplemental agreements are used.
- 4.6.135 Supplemental agreements may also be used simply to compromise or settle claims and other disputes. Dispute resolution procedures, even mediation as provided for in KCRC contracts, are relatively expensive for both parties. Furthermore, even a successful mediation will probably require a supplemental agreement to confirm the matters resolved.
- 4.6.136 The full and detailed submission and evaluation of claims is a long, tedious, and contentious operation, which is detrimental to a co-operative and amicable relationship between the contractor and the employer at both site and managerial levels.
- 4.6.137 The Engineer must decide the principles and with reasonable detail assess the claim, but not all claims are black and white decisions and the Engineer is not permitted to negotiate a settlement.
- 4.6.138 Negotiation of a settlement is a matter for KCRC who, properly, must take into account the possibility of success or failure in terms which are less than black and white. As a result, compromise and settlement are normally the preferred route and that, too, should properly be the subject of a supplemental agreement since it does not fall within the contractual framework.
- 4.6.139 Supplemental agreements which relate to time and those which settle claims differ in that those concerning time are most important prior to completion of the work. A settlement agreement can, in theory, be left to a later date, as indeed happened on the Hong Kong Airport Core Programme projects. However, care must be taken to avoid delay in addressing issues and to avoid unnecessary strain being placed on the relationship between the contractor and the employer.
- 4.6.140 Where the purpose of a supplemental agreement is to recover or maintain time obligations, it is important that the agreement is put in place at the earliest possible date to avoid or minimise the effects on other contracts and on the completion of the project as a whole. It is obvious agreement to recover time is only effective where recovery can in practice be achieved.
- 4.6.141 However, during the progress of the work it is also important that any supplemental agreement should be comprehensive. There is no point in agreeing that certain delaying events will be compensated, and that delay recovery measures will be put in place, if a door is left open for a claim that other delaying events prior to the agreement have prevented the delay recovery.
- 4.6.142 Therefore, prior to any negotiation to enter a supplemental agreement, it is necessary to establish a plan for the negotiation which covers all the points which are required by the Corporation. In addition, it is useful if matters which it is desirable but not essential to settle are also set out, with the distinction between essential and desirable matters clearly made.

- 4.6.143 It is understood that negotiation plans are developed and approved for supplemental agreements, and that is considered essential. The detailed content of any such plan must, of course, depend upon the matters to be negotiated. We consider, however, that specific procedures for approval of the plans, including the financial and other technical parameters, should be put in place.
- 4.6.144 Furthermore, although the result of negotiations requires approval, we recommend that prior approval of the plan would be useful in establishing the relative priority of the several objectives.
- 4.6.145 In summary, the Hong Kong Airport Core Programme works and MTRC works in Hong Kong have all been undertaken on a similar basis of resolving disputes in a pro-active manner, and in our opinion the fact that KCRC has to date signed 28 supplemental agreements is not unusual or alarming when taken in the context of the size and complexity of the West Rail project as a whole.

***(ix) Monitoring the supplemental agreements***

- 4.6.146 From our discussions with management, we noted that there are no procedures which were put in place specifically for monitoring supplemental agreements, and therefore work performed under supplemental agreements is monitored in the same way as other contracts.
- 4.6.147 Management consider that the existing monitoring procedures in place should be adequate to highlight problems. However, where the completion of certain contracts is critical to the overall project programme and where delay recovery measures have been put in place, such as for DB-1500, the progress of these contracts is closely monitored by senior management.
- 4.6.148 Since we are of the view that the contract monitoring procedures in place are generally comprehensive and of a high standard, we consider these should be adequate to monitor supplemental agreements also, provided that the procedures laid down are properly followed.

**4.7 Conclusions**

***Contract philosophy***

- 4.7.1 The contract philosophy of KCRC was developed under the principles of partnering and risk allocation.
- 4.7.2 There are many reports written on the subject of partnering and dispute resolution. In particular, the Tang Report, which was published in January 2001, identified some of the shortcomings in the practices adopted by the Hong Kong construction industry and recommended a number of improvements based on best practices overseas.
- 4.7.3 The Tang Report, amongst other things, urged both employers and contractors to adopt a pro-active approach to resolving claims and disputes as they arise. Of course, this does not mean that either party abandons its legal rights, including its rights under the contract. Rather, what it does involve is a process of sensible attention to dispute resolution, in a timely way.



- 4.7.4 One of the features of this contract philosophy is that major employers such as KCRC take on risk such as unforeseen ground conditions because they should be better able to manage such risks and their resultant costs. If all such risks were passed to contractors, they would normally have to make substantial provisions in their tenders leading to higher tender prices.
- 4.7.5 After the contractor has commenced his work, the nature of the ground conditions becomes clear, and in many cases such conditions cause additional work and a delay in the contractor's work programme.
- 4.7.6 Resolution of the financial impact of these two issues would need to be agreed. The favoured and efficient mechanism for recording the resolution of these issues is the supplemental agreement. This mechanism is favoured because it avoids prolonged and costly disputes on the project, but also it allows the project team to ensure that there remains in place a set of completion dates by which the contractor is bound. This second advantage often can be secured only through the use of a supplemental agreement.
- 4.7.7 The use of supplemental agreements is favoured by recent industry reports. The use of supplemental agreements is not confined to Hong Kong. Experienced practitioners in the United Kingdom regard interim (timely) settlement of disputes to be a desirable aspect of project management. Practitioners in the US also regard "change orders" to be part and parcel of almost any construction project. In Australia, the term "supplemental agreement" is not widely used, but experienced practitioners regard the implementation of timely, ad hoc agreements as being good management practice and common sense.
- 4.7.8 Accordingly, it was almost inevitable that a large number of supplemental agreements would need to be negotiated with contractors, but that does not necessarily mean that the existence of such agreements will result in higher overall costs to KCRC.
- 4.7.9 We believe that KCRC's contract philosophy is a sound strategy in the light of recent developments and trends in thinking in the construction industry in Hong Kong and overseas, and it has had a major impact on the way that KCRC have approached the West Rail project.

***The contract procurement and monitoring procedures***

- 4.7.10 In our opinion, the systems and procedures developed by KCRC for contract procurement and monitoring compare favourably with industry norms and best practices.
- 4.7.11 However, there are certain areas where we consider that the procurement process could be enhanced. These areas include the number of pre-qualified tenderers, liquidated damages, performance monitoring, risk assessment of contractors' claims, independent review of commercial settlement calculations, and amendments to original contracts by way of supplemental agreements. We discuss these areas in more detail below.

*The number of pre-qualified tenderers*

- 4.7.12 As discussed in more detail in our conclusions on the Siemens contract, we believe that pre-qualifying a small number of tenderers increases the risk that an inadequate number of conforming tenders are subsequently received.
- 4.7.13 We understand that KCRC now has a policy requiring that it obtains at least four tenders for each contract. As a rule of thumb in the construction industry, it is usually necessary to have fifty percent more tenderers pre-qualified than the required number of conforming tenders. Therefore, since KCRC endeavours to obtain a minimum of four tenders for each contract, in our opinion it should be pre-qualifying at least six tenderers.
- 4.7.14 We believe that KCRC should revise its procedures such that no less than six tenderers are pre-qualified on each contract. This should enable them to comply more easily with their policy of obtaining four tenders for each contract.

*Liquidated damages*

*[Paragraphs 4.7.15 to 4.7.29 on pages 46 and 47 of the original Report dealt with the issue of liquidated damages in KCRC's construction contracts. These paragraphs have been deleted on the advice of KCRC's external legal advisers because of their commercially sensitive nature and because their disclosure would be prejudicial to the Corporation's interests].*

***Performance monitoring***

- 4.7.30 We noted that two of the internal reports prepared by the Corporation include the Engineer's assessment of the status of the individual contracts. This assessment is indicated by using a traffic light system whereby the status of each contract is indicated by a green, amber or red traffic light, which shows whether the contract is on schedule or not.
- 4.7.31 However, we noted that the criteria for determining the traffic light colours on the Situation Report are different from the criteria that are used to set the traffic light colours on the weekly management report. In our opinion, to avoid confusion the criteria for determining the appropriate traffic light should be the same for both reports.
- 4.7.32 In general, the procedures developed by the Corporation appear to provide it with an adequate framework for appropriate management and monitoring of the individual contracts involved in the West Rail project. Where appropriate, we have commented further in the relevant sections of this report dealing with the three selected contracts.

***Risk assessment of contractors' claims***

- 4.7.33 We recognise the assessment of claims involves a large amount of experience and judgement, and the figure arrived at will usually depend on whether it is being done by the contractor or the employer.
- 4.7.34 One common approach is for the employer to try and calculate a best and worst case scenario of what the contractor is entitled to under the contract, but we recognise that the final amount agreed will almost certainly involve some form of compromise by both parties as in the end it will be a negotiated sum.
- 4.7.35 Our concern at present is that KCRC do not attempt to calculate a range for a possible settlement amount which they could use as a basis for their negotiations with the contractor.
- 4.7.36 We therefore recommend that KCRC should consider reviewing the way in which they perform their risk and liability assessments.

***Independent review of commercial settlement calculations***

- 4.7.37 In reviewing the calculations prepared in relation to the settlement amounts in the supplemental agreements for the three selected contracts, we found it difficult to determine how these figures have been developed from the records kept. However, from discussions with KCRC personnel, we could understand how the amounts were arrived at.
- 4.7.38 The sums claimed by the contractor have been used as the starting point for the calculations prepared by KCRC in support of the settlement amount, and this is normal practice.

- 4.7.39 However, it is unclear to what extent the sums put forward by the contractors have been challenged. We have seen evidence that the amounts finally agreed in the supplemental agreements are substantially less than the contractors' original claims and are also often less than KCRC's internal estimates of the value of the claims.
- 4.7.40 We recognise that the determination of the amounts to be paid to contractors in settlement of their claims requires both experience and judgement, and it is therefore important that the manner in which each claim is assessed is thoroughly documented.
- 4.7.41 We recommend that KCRC should review its procedures for the documentation of contractors' claims and ensure that an adequate "audit trail" is recorded in determining the amounts that should be paid to the contractors.
- 4.7.42 To provide additional assurance that contractors' claims are thoroughly assessed and documented, we recommend that KCRC establish a system of independent review of these calculations.
- 4.7.43 Under this system, an appropriately qualified person from within KCRC who is not involved in the management of that particular contract should review a sample of the settlement calculations prior to the approval of the negotiation plan. This would ensure that the review of claims is documented to a high standard and that such claims from contractors are challenged in the appropriate manner.

***Amendments to contracts by way of supplemental agreements***

- 4.7.44 We recognise that negotiation plans are developed and approved for supplemental agreements, and that is considered essential. The detailed content of any such plan must, of course, depend upon the matters to be negotiated. We consider, however, that specific procedures for approval of the plans, including the financial and other technical parameters, should be put in place.
- 4.7.45 Furthermore, although the result of negotiations requires approval, we recommend that prior approval of the plan would be useful in establishing the relative priority of the several objectives.
- 4.7.46 In summary, the Hong Kong Airport Core Programme works and MTRC works in Hong Kong have all been undertaken on a similar basis of resolving disputes in a pro-active manner, and in our opinion the fact that KCRC has to date signed 28 supplemental agreements is not unusual or alarming when taken in the context of the size and complexity of the West Rail project as a whole.