

**Chapters 5 to 12 cover our review of Contract No. DB-1500
for the construction of the Telecommunications System**

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5. BRIEF OUTLINE OF THE CONTRACT AND THE SUPPLEMENTAL AGREEMENT

- 5.1 Contract No. DB-1500 (“DB-1500”) is for the design, manufacture, supply, installation, testing and commissioning of the Telecommunications System for West Rail.
- 5.2 It is a fixed price, lump sum type contract, with payments made against an interim payment schedule and milestones. The estimated contract period is 47 months. Since the estimated value of the contract exceeds HK\$50 million, the provisions of the World Trade Organisation Government Procurement Agreement apply.
- 5.3 Advertisements requesting expressions of interest were published on 15 and 18 May 1998 in the local papers and on 22 May 1998 in the Government Gazette. A copy of the advertisement was also sent to various trade commissions and/or foreign consulates resident in Hong Kong to ensure the widest distribution of the request for expressions of interest.
- 5.4 24 firms expressed interest and requested questionnaires. A total of thirteen completed questionnaires were received by 10 July 1998, the closing date for submission of responses.
- 5.5 After the pre-qualification evaluation, five of the thirteen applicants, who were considered to have the necessary technical qualifications, were recommended by the Tender Assessment Panel.
- 5.6 Of the five recommended applicants, Siemens and one other applicant failed the financial evaluation during the pre-qualification evaluation, and therefore underwent a further financial evaluation. They were both found to have substantial parent companies with acceptable levels of financial resources as required for DB-1500. Based on the financial condition of their parent companies, their willingness to provide a parent company guarantee and the applicants’ technical strengths, they were recommended by the Tender Assessment Panel to be included in the shortlist to the tender for DB-1500.
- 5.7 At its meeting on 6 January 1999, the Corporate Tender Board approved the recommended shortlist of five tenderers.
- 5.8 Tenders were issued on 18 March 1999 with the tender closing date on 25 June 1999.
- 5.9 In a letter dated 19 May 1999, one of the tenderers advised KCRC of its decision to withdraw from tendering for DB-1500 leaving four tenderers. This was due to their uncertainty in securing the right solution and contractual commitment from external suppliers such that they would be able to offer the best complete solution to KCRC.
- 5.10 A second tenderer wrote on 25 June 1999 to inform KCRC of its withdrawal from tendering. No reason was provided. The remaining three tenderers submitted their tenders on 25 June 1999.

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- 5.11 After the Tender Review Panel received assessment reports on the three tenders on 26 August 1999, a recommendation to set aside one of the tenders was endorsed because, despite repeated requests via written questions and answers, it had failed to withdraw contractual, commercial and technical qualifications and was thus non-compliant. The assessment, therefore, focused on the two remaining tenders.
- 5.12 As part of the tender review process, a visit to both remaining tenderers and certain of their suppliers / subcontractors was conducted by KCRC's Telecommunications Manager and two of its senior engineers from 11 September and 26 September 1999.
- 5.13 The purpose of the visit was to confirm product availability and certain critical system and redundancy performance. The visit focused on verifying critical areas that could impede the overall implementation of DB-1500 and other interfacing contracts.
- 5.14 The visit identified a number of issues such as the suitability of the radio system proposed by both tenderers, which were subsequently addressed through the Letters of Clarification.
- 5.15 A report on the visit was prepared and attached as Appendix B of the Final Tender Assessment Report, which was submitted to the Corporate Tender Board.
- 5.16 During the final tender assessment process, both tenderers were found to be compliant technically and financially while Siemens' financial capability was such that a parent company guarantee would be required from its parent company, Siemens AG.
- 5.17 Among the submitted bids, Siemens' currency adjusted bid (comprising US\$22.43 million and HK\$120.04 million) for approximately HK\$286.76 million was the lowest tender. This tender was agreed to be the best value for money by the Corporate Tender Board and, in its meeting on 3 November 1999, it approved the recommendation that DB-1500 be awarded to Siemens.
- 5.18 On 22 November 1999, the Managing Board approved the award of this contract to Siemens. This tender was HK\$560.81 million below the Engineer's pre-tender estimate of HK\$847.57 million and was HK\$171.18 million below the second lowest tender bid.
- 5.19 As mentioned in Section 5.1, under DB-1500, Siemens is required to undertake the design, manufacture, testing and commissioning of the telecommunications system essential to the operation of West Rail. The Telecommunications System for West Rail was packaged into one large contract to reduce the number of complex interfaces between the telecommunications and other railway systems and the civil contracts, with additional benefits of economies of scale.

- 5.20 DB-1500 comprises seven major systems, with the Radio System and the Metropolitan Area Network being the most complex, as follows:
- The Fibre Optic Transmission System;
 - The Telephone System;
 - The Radio System;
 - The Public Address System;
 - The Passenger Information System;
 - The Closed Circuit Television System; and
 - The Metropolitan Area Network.
- 5.21 The Fibre Optic Transmission System (“FOTS”) is to provide a common transmission backbone for the West Rail telecommunications subsystems, being the Main Control System, Train Control and Signaling System, and Automatic Revenue Collection System.
- 5.22 The Telephone System is to provide a fully integrated telephone network for voice, facsimile and data communication services throughout West Rail, including direct line services, enquiry hotline telephones, help phones and emergency telephones.
- 5.23 The Radio System is to provide a wireless communication system throughout West Rail. The System will provide mobile communication for train operators, station staff, depot staff as well as maintenance staff. The system will also provide a radio antennae infrastructure to support mobile communication for the Fire Services Department and the Hong Kong Police.
- 5.24 The Public Address System (“PAS”) is to provide audio announcements of scheduled train arrivals, train departures, operational messages and emergency evacuation messages at the West Rail stations.
- 5.25 The Passenger Information Display System (“PIDS”) is to provide visual display of train arrivals, train departures, operational messages and emergency evacuation messages at the West Rail stations.
- 5.26 The Closed Circuit Television System (“CCTV”) is to provide real-time colour visual security surveillance of all public and selected non-public areas throughout West Rail. A platform-to-train CCTV system will be provided at all passenger platforms to provide train operators with an unobstructed view of the platform screen doors along the entire length of the train.
- 5.27 The Metropolitan Area Network is to provide a high speed and capacity digital data communication network throughout West Rail to interconnect computers and computer based systems for all telecommunications subsystems as well as the Main Control System, Train Control and Signalling System, Automatic Revenue Collection System, Electronic Access Control System, KCRC IT systems and future railway computer systems.

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- 5.28 During 2000, concerns were expressed by KCRC management about the poor rate of progress on the development of the software to integrate the operation of three systems, namely, PAS, PIDS and CCTV. In October 2000, Siemens proposed, and received KCRC management's agreement to subcontract this work. In January 2001, Optical Network Limited ("ONL") was appointed as Siemens' subcontractor for the development of this software.
- 5.29 By mid-November 2001, the overall actual progress of works was found to be ten weeks behind the approved works programme. The software development for the PAS, PIDS and CCTV was 13 weeks behind the planned schedule. The progress of the radio subsystem works was four weeks late. Each of these components is essential to the opening of the railway because of their critical link with system safety associated with either the stations or the running of trains.
- 5.30 To ensure West Rail opens on time, KCRC management decided that it was necessary to reach a commercial settlement with Siemens to address the various issues that were causing delays in the progress of the contract.
- 5.31 On 19 December 2001, KCRC entered into a supplemental agreement with Siemens, which was signed by KY Yeung and David Fleming on behalf of KCRC and Wilhelm Gattinger, President and Chief Executive Officer, and Stephen Schneider, Vice President and Chief Finance Officer, on behalf of Siemens. The main terms of the supplemental agreement are as follows:
- KCRC to pay Siemens' additional consideration of HK\$100 million;
 - All terms of the original contract to stand except where supplemented by the supplemental agreement;
 - Schedules for key dates, milestones, interim payments and access dates to be changed;
 - Siemens' management structure in respect of the project to be reorganised;
 - A joint Review Group to be established to monitor progress on the project;
 - ONL to be replaced by three individual subcontractors for the PIDS, PAS and CCTV systems; and
 - KCRC agrees to release and waive all present claims, rights or entitlements to receive payment from Siemens for losses or delays arising from circumstances which arose before 27 November 2001.
- 5.32 The supplemental agreement was drafted by Johnson Stokes & Master.
- 5.33 Minutes of a meeting of the Managing Board dated 17 December 2001 indicated that they approved the supplemental agreement on this date.

6. CONTRACT PERFORMANCE AND MONITORING

6.1 Scope of our work

6.1.1 We are requested to consider the following:

“When did KCRC become aware of the fact that the contractor was not performing and what steps were taken at that time?”

6.1.2 In this Chapter, we have sought to provide the reader with an overview of the contract management procedures established by the West Rail Division in respect of railway systems contracts.

6.1.3 We have then summarised the progress of DB-1500 as shown on the Situation Reports before providing a more detailed analysis of the performance of and problems arising on DB-1500.

6.2 Description of contract management procedures – railway systems contracts

6.2.1 In this section, we have summarised the management infrastructure in place for the management of the contracts, and the key reports that are produced and meetings that are held for the management of contract performance.

The Personnel

6.2.2 The West Rail Division, which is responsible for the development of West Rail, is headed by Ian Thoms, Director West Rail (“DWR”). DWR reports to James Blake, Senior Director, Capital Projects (“SDP”).

6.2.3 Under DWR, there are three General Managers, who are responsible for Civil Construction, Railway Systems and Project Support.

6.2.4 The General Manager - Railway Systems (“GM-RS”) is responsible for the supervision of all railway system projects, including the telecommunication systems.

6.2.5 Below GM-RS, there are three construction managers in charge of the following three areas:

- Railway systems (“CM-RS”);
- Rolling stock and infrastructure; and
- Electrical and mechanical systems.

6.2.6 When dealing with contractors, GM-RS acts as the “Engineer”. The construction managers and the managers assisting the construction managers with relevant expertise will be the “Engineer’s Representatives” and “Assistant Engineer’s Representatives”.

6.2.7 Below the Assistant Engineer's Representatives are senior engineers, engineers and inspectors of works, who are also the employees of KCRC.

6.2.8 For DB-1500, Paul Andersen was GM-RS until he left KCRC in August 2001, and Leo Mak has since become GM-RS (Acting). CM-RS and the Telecommunications Manager are the Engineer's Representative and Assistant Engineer's Representative.

Weekly meetings and reports

6.2.9 GM-RS, CM-RS and supporting managers meet weekly to discuss all existing contracts and any relevant issues.

6.2.10 For each contract, CM-RS prepares a 4 to 5 page Weekly Progress Review Chart, which is discussed at these meetings. The content of each chart depends on the progress made on the contract according to input from the project team. The chart may comprise the following:

- Issues - a summary of the main issues arising in respect of the contract, the actions required to solve these issues, and planned and actual dates for the actions required to resolve these issues;
- Quarterly review meeting targets – status of targets set at quarterly review meetings;
- Submissions – comparing the number of submissions that should have been made by contractors by the date of the review with the number of submissions actually made, the number approved and the number rejected due to poor quality;
- Design, manufacture and installation – graphical representation of progress on each system under the contract;
- Interfaces – status of interfaces with other contracts;
- Remarks – notes about the contract made by CM-RS;
- Variations, claims and provisional sums – analysis of estimated final cost of the contract including provisional sums in contracts, and approved and pending claims;
- Milestone status – summary of whether a contractor has achieved the milestones laid out in the contract; and
- Interim payment status – comparison of actual interim payments with planned payments under the original contract.

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- 6.2.11 On DB-1500, to monitor the performance of the contractor and the subcontractor, ONL, a fifth page was added to include updates from both Siemens and ONL, and action lists drawn up from the weekly teleconferences between KCRC, Siemens and ONL (refer to Section 6.10.6).
- 6.2.12 The Weekly Progress Review Charts show the current status of each of the railway system contracts based on a traffic light system (i.e. green, amber and red). The lights are assigned based on the overall and critical delays experienced on each contract. Starting from June 2001, a three-tier numbering system was added to the amber and red lights to indicate the level of KCRC management who would become involved in dealing with the problems on the contract, as follows:
- One amber: CM-RS;
 - Two amber: GM-RS;
 - Three amber: DWR; and
 - Red (one to three): SDP upon the decision of DWR.

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6.2.13 The criteria for assigning the traffic light status on the Weekly Progress Review Charts as compared to the criteria used on the fortnightly Situation Reports (which will be discussed in Sections 6.2.15 to 6.2.18 below) are as follows:

Weekly Progress Review Charts				
Traffic lights	Overall delay	Critical delay	Criteria for setting light indicators	Fortnightly Situation Report
Green	N/A	N/A	On programme	On target Works are generally on programme
1 amber	1 to 4	N/A	(1)Progress on any of the four items* is behind by more than 5% (2)Overall contract progress is behind by more than 2% (3)Issues unresolved for more than four weeks and may adversely affect progress	Green Contractor's programme status: 0 to 4 weeks late
2 amber	5 to 8	N/A	(1)Progress on any one of the four items* is behind by more than 10% (2)Overall contract progress is behind by more than 4% (3)Issues unresolved for more than six weeks and is adversely affecting progress	Amber Contractor's programme status: 5 to 12 weeks late
3 amber	9 to 12 weeks	N/A	(1)Progress on any one of the four items* is behind by more than 15% (2)Overall contract progress is behind by more than 6% (3)Issues unresolved for more than eight weeks and is adversely affecting progress and works of interfacing contractors	
1 red	13 to 15 weeks	1 to 2 weeks	(1)Progress on any one of the four items* is behind by more than 20% (2)Overall contract progress is behind by more than 8% (3)Delay or lateness may adversely affect the achievement of major milestones or key dates critical to the project	
2 red	16 to 18 weeks	3 to 4 weeks	(1)Progress on any one of the four items* is behind by more than 25% (2)Overall contract progress is behind by more than 10% (3)Delay or lateness may adversely affect the achievement of major milestones or key dates critical to the project	Red Contractor's programme status more than 13 weeks late
3 red	19 to 20 weeks	5 to 6 weeks	(1)Progress on any one of the four items* is behind by more than 30% (2)Overall contract progress is behind by more than 12% (3)Delay or lateness may adversely affect the achievement of major milestones or key dates critical to the project	

* The four items represent submissions, software development, manufacturing and procurement and installation.

6.2.14 The Weekly Progress Review Charts are distributed by CM-RS to:

- GM-RS;
- The Telecommunications Manager; and
- Relevant department managers

Fortnightly Situation Reports

6.2.15 Based on the information from the site staff and the Weekly Progress Review Charts, the Manager - Management Information/Project Reporting prepares a one-page A3-size fortnightly Situation Report, which comprises 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 for KCRC West Rail Division, resident site staff, civil construction contractors, railway systems contractors and other contractors and consultants;
- Status of all awarded contracts including traffic lights assigned and comments on the progress; and
- Tender status for civil and systems contracts.

6.2.16 The detailed criteria for assigning the traffic lights to each contract on the Situation Report are set out in the table in Section 6.2.13. A note on the Situation Reports describe the meaning of the traffic lights as follows:

- Green – activities are on programme or there are no significant delays;
- Amber – activities are not on programme and are being closely monitored but are not critical to timely project completion; and
- Red – activities are not on programme and are critical to timely project completion.

The traffic lights assigned to the contracts are determined by DWR.

6.2.17 The Situation Report is circulated to the following persons:

- SDP;
- DWR;
- GM-RS;
- CM-RS;
- The project engineers; and
- Relevant department managers.

6.2.18 The Situation Report will be discussed in the weekly Directors' Meetings. The minutes of the Directors' Meetings together with the Situation Reports were sent to the members of the Managing Board until January 2002. After that, only the Situation Report is sent to the members of the Managing Board.

Monthly meetings and reports - contractors

6.2.19 Each month, the contractor is required to prepare a standard Monthly Progress Report. The form of this report is determined by KCRC and contains the following sections:

- Executive summary – an overview of significant accomplishments, areas of concern, planning and contract and milestone status;
- Quality issues – dealing with quality systems and audits, and identifying areas of conformity and plans for rectification;
- Safety issues – dealing with safety issues and audits, and identifying reportable incidents;
- Programme and overall progress – overall status of programme, analysis of three month rolling programme, programme for submissions and resubmissions;
- Design status – update on design of systems;
- Manufacturing status – update on manufacture of systems;
- Installation/erection on site – update on the installation/erection of systems;
- Testing and commission – update on testing and commission issues;
- Operations and maintenance – update on operations and maintenance issues; and
- Contractual/commercial matters – payments status, potential claims, Engineer's instructions, variation orders and other general matters.

6.2.20 The Monthly Progress Reports are circulated to the following persons:

- CM-RS;
- The Telecommunications Manager;
- The project engineers; and
- Relevant departmental managers.

6.2.21 The reports are used as the basis for Monthly Progress Meetings between KCRC's engineers' team (comprising CM-RS, the Telecommunications Manager and other relevant individuals) and representatives of the contractor. Issues arising in respect of the contract are discussed and action plans drawn up for the contractor to follow.

6.2.22 The minutes of the Monthly Progress Meetings are distributed to the following persons:

- CM-RS;
- The Telecommunications Manager;
- The project engineers;
- Relevant department managers; and
- Attendees from the contractors.

Monthly reports –senior management

6.2.23 There are three West Rail divisional monthly reports distributed to the senior management of KCRC, being the Monthly Project Support Department Report, Monthly Progress Report and Monthly Construction Department Report.

6.2.24 Monthly Project Support Department Reports, which are prepared by the Project Support Group, mainly cover the works that have been or will be done by the Project Support Department. The report is usually about 120 pages and contains the following:

- Automation development;
- Claim management;
- Cost engineering;
- Estimating for new projects;
- Finance and administration;
- Project reporting;
- Procurement;
- Programming;
- Public affairs; and
- Risk management

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6.2.25 The Monthly Project Support Department Reports are distributed to the following persons:

- SDP;
- DWR;
- GM-RS;
- GM-CN; and
- Various department managers.

6.2.26 Based on the input from the contract teams and the reports prepared by the contractors, the Monthly Progress Reports are prepared. This report is usually about 100 pages and covers the following:

- Master programme status;
- Monthly cost summary; and
- Overviews of significant accomplishment, areas of concern, plans and contractor status for various project areas, Light Rail section and Railway section.

6.2.27 The Monthly Progress Reports are distributed to the following persons:

- Members of the Managing Board;
- SDP;
- DWR;
- GM-RS;
- GM-CN;
- CM-RS; and
- Various department managers.

6.2.28 Monthly Construction Department Reports (a.k.a West Rail Construction Monthly Reports) are prepared and cover the civil construction status and progress. This report is usually about 130 pages and covers:

- Construction safety;
- Southern section;
- Northern section;
- Construction engineering section; and
- Land section.

6.2.29 The Monthly Construction Department Reports are distributed to the following persons:

- SDP;
- DWR;
- GM-RS; and
- GM-CN.

Quarterly Review Meetings

- 6.2.30 Quarterly Review Meetings are used to discuss the progress of each and every contract with all the contractors. The Quarterly Review Meeting is normally chaired by SDP and is also attended by GM-RS, the project managers and the project directors. It is a 3-day meeting, which allows KCRC and the contractors to discuss issues and problems and set performance targets.
- 6.2.31 The programme consists of opening and closing meetings, which include all of the contractors, and working meetings for each contract held on site between the contractors and KCRC staff. The meetings (other than the working meetings) are not minuted, but a paper is issued to record agreed objectives.

Overall evaluation of contractors' performance

- 6.2.32 Within the Construction and Railway Operating Systems Departments, monitoring of contractors' performance is performed according to Rules 831 to 833 of the Procurement Manual (*which replaced CC No.4 of 1997, Paragraphs 46 and 47*). These rules state that, if a contract is expected to run for more than one year, Performance Appraisal Reviews of the contractors are to be carried out by the Engineer every six months. If the contract is expected to run for less than a year, the Performance Appraisal Review will be carried out after the contract has finished.
- 6.2.33 The Performance Appraisal Review grades the contractor in respect of various aspects of the contract management (e.g. adherence to the contract conditions, quality of workmanship and end products). A weighted average score is calculated and the contractor is graded "Good", "Satisfactory" and "Unsatisfactory".
- 6.2.34 The Performance Assessment Reviews are retained and are considered in the assessment of any future tenders received from the same contractor.
- 6.2.35 According to Rule 844 of the Procurement Manual, in circumstances where an adverse report is issued (i.e. a grading of "unsatisfactory" is given), the report must be submitted to the Secretary of the Corporate Tender Board within one week after the end of the reporting period. Upon the request by the Corporate Tender Board, the relevant heads of departments are required to present the adverse report to the Board for information and discussion at the earliest available meeting.

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6.3 The Situation Reports

6.3.1 Situation Reports were prepared weekly up to 20 May 2000 and fortnightly thereafter. A summary of the status of DB-1500 as shown on the Situation Reports and the Weekly Progress Review Charts is set out below:

Information extracted from the Situation Report			Weekly Progress Review Chart
Date of Report	Status	Comments	
11 Dec 1999	On target	Contract is on programme.	No traffic light
18 Dec 1999	On target	Contract is on programme.	No traffic light
1 Jan 2000	On target	Contract is on programme.	No traffic light
8 Jan 2000	On target	Contract is on programme.	No traffic light
15 Jan 2000	On target	Contract is on programme.	No traffic light
22 Jan 2000	On target	Contract is on programme.	No traffic light
29 Jan 2000	On target	Contract is on programme.	No traffic light
4 and 11 Feb 2000	On target	Contract is on programme.	No traffic light
19 Feb 2000	On target	Contract is on programme.	Green
26 Feb 2000	On target	Contract is on programme.	Green
4 Mar 2000	On target	Contract is on programme.	Green
11 Mar 2000	On target	Contract is on programme.	Green
18 Mar 2000	On target	Contract is on programme.	Green
25 Mar 2000	On target	Contract is on programme.	Green
1 Apr 2000	On target	Contract is on programme.	Green
8 Apr 2000	On target	Contract is on programme.	Green
15 Apr 2000	On target	Contract is on programme.	Green
22 Apr 2000	On target	Contract is on programme.	Green
29 Apr 2000	On target	Contract is on programme.	Green
6 May 2000	On target	Contract is on programme.	Green
13 May 2000	On target	Contract is on programme.	Green
20 May 2000	On target	Contract is on programme.	Green
3 Jun 2000	On target	Contract is on programme.	Green
17 Jun 2000	On target	Contract is on programme.	Green
1 Jul 2000	On target	Contract is on programme.	Green
15 Jul 2000	Green	Delay in preliminary design submissions and award of sub-contracts.	Amber
29 Jul 2000	Green	Lateness experienced due to sub-letting.	Amber
12 Aug 2000	Green	Lateness experienced due to sub-letting.	Amber
26 Aug 2000	Green	Lateness experienced due to awarding sub-contracts.	Amber
9 Sep 2000	Green	Lateness experienced in awarding sub-contracts.	Amber
23 Sep 2000	Green	Lateness in FOTS preliminary design.	Amber
7 Oct 2000	Green	Lateness experienced due to sub-letting and finalising preliminary design.	Amber
21 Oct 2000	Green	Lateness in completion of preliminary design for Radio, PAS, PIDS and Telephone.	Amber
4 Nov 2000	Green	Lateness in completion of preliminary design for Radio, PAS, PIDS, Telephone and software development.	Amber
18 Nov 2000	Green	Lateness in completion of preliminary design for Radio, PAS, PIDS, Telephone and software development.	Amber

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Information extracted from the Situation Report			Weekly Progress Review Chart
Date of Report	Status	Comments	
2 Dec 2000	Green	Lateness in completion of preliminary design for Radio, PAS, PIDS, Telephone and software development.	Amber
16 Dec 2000	Green	Lateness in preliminary design for Radio, PAS, PIDS, and software development may affect interface with MTRC.	Amber
30 Dec 2000	Green	Lateness in preliminary design for Radio, PAS, PIDS, and software development may affect interface with MTRC.	Amber
13 Jan 2001	Green	Lateness in preliminary design for Radio, PAS, PIDS, and software development may affect interface with MTRC.	Red
27 Jan 2001	Green	Lateness in preliminary design for Radio, PAS, PIDS, and software development and subcontract award.	Red
10 Feb 2001	Green	Lateness in preliminary design for Radio, PAS, PIDS, and software development and subcontract award.	Red
24 Feb 2001	Amber	Lateness in software development, final design and subcontract award. Recovery programme awaited.	Red
10 Mar 2001	Amber	Final design for Radio, PAS and PIDS is late. Recovery plan in place.	Red
24 Mar 2001	Amber	Final design is affecting builder's work provisions in Kam Sheung Road Station.	Red
7 Apr 2001	Green	Revised contractor's programme received and under review.	Green
21 Apr 2001	Green	Contractor's revised programme has been accepted.	Green
5 May 2001	On target	Contractor's revised programme has been accepted.	Green
19 May 2001	Green	Delay in software development. Corrective actions agreed with Siemens.	Amber
2 Jun 2001	Green	Lateness in software development and final design for PAS, PIDS and CCTV.	2 Amber
16 Jun 2001	Green	Further lateness experienced in software development and final design for PAS, PIDS and CCTV.	2 Amber
30 Jun 2001	Amber	Further lateness in software development. Corrective actions agreed with Siemens and full works programme to be re-baselined.	2 Amber
14 Jul 2001	Amber	Further lateness in software development; PAS/PIDS/CCTV/TEL final design corrective actions being monitored.	3 Amber
28 Jul 2001	Amber	Lateness in software development; PAS/PIDS/CCTV/TEL final design corrective actions being monitored.	Red
11 Aug 2001	Amber	Lateness in software development. Weekly teleconference held to expedite progress.	Red
25 Aug 2001	Amber	Lateness in software development. Weekly teleconference held to expedite progress.	Red

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Information extracted from the Situation Report			Weekly Progress Review Chart
Date of Report	Status	Comments	
8 Sep 2001	Amber	Lateness in software development. Weekly teleconference held to expedite progress.	Red
22 Sep 2001	Amber	Lateness in final design and software development. Weekly teleconference and workshops held to expedite progress.	Red
6 Oct 2001	Amber	Lateness in final design and software development. Weekly teleconference and workshops held to expedite progress.	Red
20 Oct 2001	Amber	Lateness in final design and software development. Weekly teleconference and workshops held to expedite progress.	Red
3 Nov 2001	Amber *	Further delay in software development, doc. submissions, subcontract award causing installation concern.	Red
17 Nov 2001	Amber **	Further delay in software development, doc. submissions, subcontract award causing installation concern.	Red
1 Dec 2001	Amber ***	Supplemental agreement agreed in principle, and upon finalisation, programme status will be re-set.	Red
15 Dec 2001	Amber****	Programme status will be re-set pending final approval on the supplemental agreement.	Red
12 Jan 2002	Amber *****	Revised programme is being established; installation at Kam Sheung Road Station and West Rail Building in progress.	Red
26 Jan 2002	Amber	Revised programme is being established; installation at Kam Sheung Road Station commenced.	Red
23 Feb 2002	Green	Revised programme has been agreed; installation at Kam Sheung Road Station, the Pat Heung Maintenance Centre and West Rail Building in progress.	Amber
9 Mar 2002	Green	Progress improving on installation. Minor delay being recovered.	Amber
23 Mar 2002	Green	Installation progressing at Kam Sheng Road, West Rail Building, TIS, Pat Heung Maintenance Centre and trackside, Key Date #1 on track.	Amber

The following comments have been extracted from the “Significant Issues” section of the Situation Reports:

- * *“Whilst the progress situation on the Motorola subcontract is now under control, progress on the PA (sic), PIDS and CCTV systems continues to give concern, Siemens’ response to the KCRC’s demand for an immediate recovery plan and programme is awaited. West Rail Division are preparing a contingency plan to ensure WR Phase I has essential communications systems in place by Railway Opening.”*

- ** *“Whilst the progress situation on the Motorola subcontract is now under control, progress on the PA (sic), PIDS and CCTV systems continues to give concern, Siemens’ response to the KCRC’s demand for an immediate recovery plan and programme is awaited. West Rail Division are preparing a contingency plan to ensure WR Phase I has essential communications systems in place by Railway Opening. A delegation from KCRC/WRD is travelling to Germany to meet with Siemens’ senior management on 23 November to resolve all DB-1500 matters.”*
- *** *“A delegation from KCRC/WRD met with Siemens’ senior management in Germany from 24-28 November. Agreement in principle was reached on the terms for a supplemental agreement, which would settle variations and claims and re-programme milestones and key dates. Agreement was also reached on the appointment of three new subcontractors for PAS, PIDS and CCTV systems software and hardware. The amount of new software development required has been significantly reduced, resulting in a corresponding reduction of risk to the project. The project team organisation has also been restructured. Overall, previous delays to the contract are now expected to be recovered such that the Contractor and the Employer are confident there will be no impact on the railway opening date.”*
- **** *Agreement has been reached on the terms for a supplemental agreement, which would settle variations and re-programme milestones and key dates. Meetings have been held with the three new subcontractors for PAS, PIDS and CCTV to agree the system architecture and final design. Good progress has been made on installation activities with the appointment of the installation subcontractors.”*
- ***** *“A Supplemental Agreement has been signed. Works are currently being re-programmed in line with the revised milestones and key dates. Programme resubmission is expected shortly. Workshops with the new PAS, PIDS, CCTV Sub-contractors have been held with final design documents submitted. Installation works are progressing.”*
- 6.3.2 The above summary indicates that different traffic lights were shown on the Weekly Progress Review Charts and the Situation Reports. We will comment on this further in Chapter 11.
- 6.3.3 Since the commencement of the contract, concerns over the level of resources provided by Siemens have been raised by KCRC. Since there were no delays in the overall contract up to the end of June 2000, “on target” and a “green” light were shown on the Situation Reports and Weekly Progress Review Charts.
- 6.3.4 No indication of concerns over the level of resources appears on the Situation Reports, whereas issues such as “full works programme not satisfactory” and “lack of resources” were highlighted on the Weekly Progress Review Charts since mid-February 2000.

- 6.3.5 From mid-July 2000, since the issues of resources provided by Siemens and the late submissions by Siemens led to delays in the contract, the traffic light on the Weekly Progress Review Charts was changed from “green” to “amber”, whilst that on the Situation Reports were changed from “on target” to “green”.
- 6.3.6 Though the system design and software development of three subsystems (PAS, PIDS and CCTV) were subcontracted to ONL by Siemens and an action plan to recover the delays was agreed between KCRC and Siemens in January 2001, the work progress was not satisfactory during the first quarter of 2001.
- 6.3.7 As a result, the traffic light on the Weekly Progress Review Charts was changed from “amber” to “red” from January 2001. However, the traffic light on the Situation Reports remained “green” until 24 February 2001 at which time the traffic light was changed to “amber”.
- 6.3.8 In early April 2001, the works programme was re-baselined. Hence, the traffic light on the Weekly Progress Review Charts was changed from “red” to “green”, whilst that on the Situation Reports was changed from “amber” to “green” and then to “on target” on 5 May 2001.
- 6.3.9 As * non-performance * jeopardised the work progress, the traffic light on the Weekly Progress Review Charts was changed from “green” to “amber” on 5 May 2001 and then to “red” on 28 July 2001, whilst that on the Situation Reports was not changed to “amber” until 30 June 2001
- 6.3.10 By October 2001, there were substantial delays in the three subsystems (PAS, PIDS and CCTV) as well as the overall contract, which would have impacted the completion of the West Rail project. The “red” traffic light on the Weekly Progress Review Charts from 28 July 2001 indicated the urgency of the matter; however, the traffic light on the Situation Reports was not changed and remained “amber”.

6.4 Analysis of contract performance

- 6.4.1 The following analysis of the performance of DB-1500 is divided into eight calendar quarters. For each quarter, we have provided a summary of the progress made and the problems encountered, and the action that was taken.
- 6.4.2 We have then highlighted the late submissions and the weeks behind schedule based on the Weekly Progress Review Charts. Finally, we have provided extracts from the Monthly Progress Meetings and Quarterly Review Meetings in order to provide more detail of the problems encountered and how they were dealt with.

- * These deletions have been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.

6.5 Period to 31 March 2000

Summary of progress for the first quarter of 2000

- 6.5.1 In the first three months of 2000, the contract was under the conceptual design stage. The overall contract was on programme. Nonetheless, KCRC raised concerns over the level of resources provided by Siemens. In particular, there were delays in identifying design team leaders based in Hong Kong instead of in Germany; this could impact on the conceptual design, which was to be submitted by the end of March 2000. Siemens agreed that they would provide more resources for the contract.
- 6.5.2 In addition, KCRC considered that the full works programme submitted by Siemens did not reach a satisfactory level. Siemens agreed to provide KCRC with the revised programme by mid-March 2000.
- 6.5.3 Since Siemens' submission of the subcontractor requirement was overdue, on 6 March 2000, a letter was issued by KCRC to remind Siemens to appoint the necessary subcontractors.

The Weekly Progress Review Charts

- 6.5.4 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind schedule	Project status
28 Jan 2000	28	10	0	Green
25 Feb 2000	59	22	0	Green
31 Mar 2000	99	66	0	Green

The Monthly Progress Meetings

- 6.5.5 The following points were noted in the minutes of the Monthly Progress Meeting on 12 January 2000:

“5.8 *Siemens reported that no progress on PAS/PIDS design works last month was made except the PAS/PIDS MMI which had been started in Germany.*

Regarding team leaders for PAS and PIDS, Siemens reported that they were not yet finalised, and is still negotiating with the proposed design team leaders, Dickson Yau for PAS and Sam Lam for PIDS for detailed arrangement.

- 5.9 *Siemens stated that they were working with Siemens' WINCC team for the development of PAS/PIDS MMIs in Germany. EL raised concerns whether any of their design team members have the appropriate knowledge in developing Chinese application software. BW confirmed that some of the team members in Hong Kong office have worked for KCRC projects with Chinese Platform.*
- 12.1 *KCRC have a major concern on the lack of resources from Siemens and KCRC expected Siemens to solve the problem within February as the conceptual design submissions are to be submitted by end March."*
- 6.5.6 The following points were noted in the minutes of the meeting on 16 February 2000:
- "2-2.3 *KCRC commented that the submitted full Works Programme was far from satisfactory especially the logic and linkage between activities...Siemens also confirmed that they would provide adequate resources to prepare the full Works Programme.*
- 2-2.4 *KCRC advised that they are reviewing and finalising the response to Siemens' submission on TETRA radio system, and would advise that evaluation result to Siemens soon.*
- 2-2.9 *Siemens also proposed new design team leader for PAS/PIDS in the same letter mentioned above. KCRC would review and comment.*
- 2-6.1 *KCRC commented that Siemens should not only focus on the payment milestones submissions but to all submissions. KCRC requested Siemens to put more resources on programme matters. Siemens agreed.*
- 2-13.1 *KCRC stated that Siemens' resource in this project has been improved but was still not satisfactory. Siemens should provide more resources especially the design team leader.*
- 2-14.1 *KCRC still have concern on the lack of resource from Siemens and KCRC expected Siemens to solve the problem within February as the conceptual design submissions are to be submitted by end March."*
- 6.5.7 The following points were noted in the minutes of the meeting held on 8 March 2000:
- "3-2.1 *Siemens stated that they would revise the full Works Programme and plan to forward the draft to KCRC for comment by 16 March 2000. KCRC requested Siemens to arrange a discussion shortly after the completion of the draft submission.*
- 3-2.3 *KCRC advised that they had visited MTRC for demonstration of the platform-to-train CCTV systems and the result was fairly satisfactory but further refinement would be required if such system was to be adopted.*

- 3-4.1 *KCRC stated that Siemens' proposed Germany quality manager is acceptable who should also be the Hong Kong quality manager. KCRC expressed the concern that he might not be able to cope with the increasing quality activities when the project progress. Siemens noted the concern.*
- 3-12.3 *KCRC reminded Siemens that submission of the subcontractors requirement were due on 6 March 2000 and Siemens was requested to expedite the process.*
- 3-13.1 *KCRC stated that Siemens' resource in this project has been improved but still needed improvement. Siemens stated that they had more resources working behind the scene and committed that they would provide adequate resources for the project.*
- 3-14.1 *KCRC reminded Siemens that the Conceptual Design Document would be due for submission by end March and KCRC would like to review the draft documents with Siemens before their formal submission..."*

Quarterly Review Meeting

6.5.8 There was no Quarterly Review Meeting in this quarter.

6.6 Three months to 30 June 2000

Summary of progress for the second quarter of 2000

- 6.6.1 In the second quarter of 2000, the conceptual design was completed by the end of April 2000 and the preliminary design commenced. The overall progress of the contract continued to be on programme.
- 6.6.2 Nevertheless, KCRC continued to express its concerns over the level of resources from Siemens, in particular, those required for civil coordination activities, design team leaders, and PAS and PIDS design works.
- 6.6.3 In respect of civil coordination activities, KCRC requested Siemens to increase the level of resources and to attend the meetings with various civil contractors.
- 6.6.4 In respect of the design team leaders, in order not to affect the preliminary design process, KCRC asked Siemens to accelerate the recruitment of a local PIDS design team leader. They also requested the design team leaders for the PAS, PIDS, CCTV and Radio subsystems to stay in Hong Kong for the design works. CM-RS discussed these issues with the project director of Siemens in Germany in May 2000.

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- 6.6.5 In respect of the PAS and PIDS subsystems, KCRC reminded Siemens of the need for additional resources to handle the preliminary design process. Siemens indicated that they did not intend to subcontract these two systems. However, they agreed that a full time design team leader for the PAS subsystem would be working in Hong Kong, who would also be the coordinator for both the PAS and PIDS design works, and adequate resources would be in place to handle the system design.
- 6.6.6 KCRC continued to remind Siemens of the appointment of subcontractors, including installation subcontractors, which would be required in the later stage of the contract. Siemens responded that they would not subcontract works other than those specified in the Letters of Clarification, but they would ensure that a sufficient level of resources was in place. By the end of June 2000, the only consent given for the appointment of a subcontractor was for the MAN subsystem.
- 6.6.7 In respect of the Radio subsystem, due to the fact that TETRA was a more superior system to APCO 25, the change in the radio system standard from Motorola APCO25 to Motorola TETRA, as proposed by Siemens, was approved by the Corporate Tender Board on 31 March 2000. An Engineer's Instruction for the change was issued to Siemens on 14 April 2000, and the consent for the subcontract to Motorola was given on 22 September 2000.
- 6.6.8 To ensure the contract would progress as planned, CM-RS wrote a letter to Siemens on 2 May 2000 to highlight the issue of insufficient resources from Siemens, especially in the area of civil co-ordination, and asked Siemens to take immediate action to rectify the situation.

The Weekly Progress Review Charts

- 6.6.9 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submission approved	Weeks behind schedule	Project status
28 Apr 2000	114	84	0	Green
26 May 2000	118	107	0	Green
30 Jun 2000	139	123	0	Green

The Monthly Progress Meetings

- 6.6.10 The following points were noted in the minutes of the Monthly Progress Meeting on 12 April 2000:
- “4-8.1 *Siemens reported that they had encountered minor problems in working with the E&M subcontractors of some Civil contractors, who seemed to give low priorities to railway systems issues. KCRC requested Siemens to send the list of contractors that they encountered problems. KCRC noted that they had received complaints from civil contractors regarding the belated response from Siemens.*

4-13.2 *KCRC also expressed concerns on the adequacy of Siemens resources in meeting demands on civil interface co-ordination. Siemens to review and revert to KCRC.*”

6.6.11 The following points were noted in the minutes of the meeting held on 10 May 2000:

“5-8.1 *KCRC requested Siemens again to expedite the subcontracting agreement,...*”

5-8.2 *KCRC stated that they were reviewing the draft subcontract documents for MAN and would provide comments to Siemens.*”

6.6.12 The following points were noted in the minutes of the meeting held on 7 June 2000:

“6-6.1 *The revised full version of Works Programme was yet to be submitted. Siemens was to follow up.*”

6-8.1 *KCRC stated that they had reviewed the resubmitted draft subcontract document for MAN and found it generally acceptable with minor comments only...*

The Quarterly Review Meetings

6.6.13 The minutes of the Quarterly Review Meeting held on 28 June 2000 note that:

“6-4.1.1 *CI and SP stated that the resources of Siemens for PAS/PIDS were insufficient and reminded Siemens to enhance their resource for these two subsystems. Siemens responded that they did not intend to subcontract PAS/PIDS subsystems and the Design Team Leader for PAS, Mr. Dickson Yau, will be working full-time from 3 July 2000 at Siemens’ project office in Shatin. Siemens believed they have adequate resources to handle the system design. SP stated that KCRC would monitor the situation closely.*

6-4.1.2 *AH stated that Siemens did not intend to subcontract works other than those specified in the Letter of Clarification. KA added that Siemens would provide to KCRC a list of personnel currently working on this Contract to enhance KCRC’s confidence on the level of Siemens’ resources.*

6-4.1.3 *CI and SP commented that the Preliminary Design submissions were not up to the required depth and standard. AH stated that they have been preparing the submissions according to the Specification. CI and SP also expressed their concern that the stay of Siemens’ personnel in Hong Kong was insufficient.*”

Other documentation

- 6.6.14 A letter from CM-RS, as the Engineer's Representative, to Bevan Wong of Siemens dated 2 May 2000 states that:

“Notwithstanding our repeated reminders to you to improve the status of overdue submissions during monthly progress meetings and other occasions, we find that the status has not been improved, as a matter of fact it has become worse. As of 2 May 2000, 22 resubmissions and 7 submissions are overdue by 46 days in some cases (see attachment).

This is not acceptable and is affecting the overall progress of the Project. The majority of these overdue submissions and resubmissions are IMPs and DIDs. This may be an indication of the inadequacy of your level of resources, especially in the area of civil co-ordination.

You are required to take immediate action to rectify the current situation and to propose measures to avoid any further occurrence of similar situation within 5 days.”

6.7 Three months to 30 September 2000

Summary of progress for the third quarter of 2000

- 6.7.1 By mid-July 2000, the initial concerns about the level of Siemens' resources were confirmed as the preliminary design for the PAD, PIDS, CCTV and Radio subsystems did not meet the expectations as set out under the contract. As a result, the preliminary design was rejected, which led to delays in the contract progress. In order to address the issues with the preliminary design, meetings and workshops with Siemens were held.
- 6.7.2 In respect of the civil interfacing activities, KCRC raised their concerns that the delays in the preliminary design would affect the interfacing activities, and also requested Siemens to increase the current level of resources to carry out civil coordination activities.
- 6.7.3 KCRC had made requests for the appointment a local PIDS design team leader representative and for design team leaders for the PAS, PIDS, CCTV and Radio subsystems to be located in Hong Kong. A local design team leader for the PAS subsystem was on board in mid-July 2000 and this person would also be the coordinator for the PIDS design works in Hong Kong.
- 6.7.4 However, by the end of July 2000, due to health problems, the design team leader for the PIDS subsystem in Germany was not able to carry out his work. The local PAS design team leader then also took the role of the PIDS design team leader. Hence, there were bottlenecks in the PIDS and PAS design process, as the system design was heavily dependent on one single team leader.

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- 6.7.5 Accordingly, other than requests for having a design team leader for the CCTV and Radio subsystems in Hong Kong, KCRC also requested Siemens to appoint a design team leader in Hong Kong for the PIDS subsystem.
- 6.7.6 In response to KCRC's concerns over the limited resources for all subsystems, especially the PAS, PIDS and CCTV subsystems, Siemens agreed to devise a contingency plan when the only personnel working for a subsystem was absent.
- 6.7.7 The revised full version works programme was rejected by KCRC due to incorrect logic and the lack of details for software preparation activities and sub-contracting activities. In order for the full works programme to obtain a "notice of no objection" status for project monitoring, KCRC met with Siemens to discuss and resolve the identified issues.
- 6.7.8 In mid-September 2000, KCRC was informed by the Hong Kong Police that there would be a potential change to their radios from an analogue system to a digital system. KCRC then asked Siemens to give them an indication as to the impact on the contract progress and cost.
- 6.7.9 In respect of the subcontracts, by the end of September 2000, other than the MAN subsystem, the subcontracts for other subsystems as specified in the Letters of Clarification had not been awarded by Siemens. KCRC continued to remind Siemens of the appointment of the subcontractors.

The Weekly Progress Review Charts

- 6.7.10 The Weekly Progress Review Charts for this period indicated the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind schedule	Project status
28 Jul 2000	142	130	2	Amber
25 Aug 2000	148	128	2	Amber
29 Sep 2000	150	134	2	Amber

The Monthly Progress Meetings

- 6.7.11 The following points were noted in the minutes of the Monthly Progress Meeting on 12 July 2000:

7-2.16 The revised full version of the Works Programme (FWP) has not been submitted. JB reported that a draft copy had been received by KCRC and the revised programme was anticipated to be issued to KCRC on 14 July 2000.

7-2.22 SP stated that Siemens had a contractual obligation to follow the programme. Missing the Milestone dates is not acceptable. In this regard, Siemens should be proactive if dates are found to be unrealistic, informing KCRC of the situation at the earliest opportunity.

- 7-3.1 ...ES commented that the Preliminary Design Calculation for PIDS had not yet been submitted. A concern was also raised on Siemens resources available for the Preliminary Design for the Structured Cabling System, as the person concerned is heavily involved with civil interface issues at present.
- 7-3.3 ...SP commented on the delay to the PIDS Design Calculations. PF stated that the delay was due to limited resources but the calculations would be submitted by the end of July 2000.
- 7-3.8 SP expressed his concern on the present status of the contract in relation to delayed submissions and progress delay. Siemens were informed that the SMG Page 1 (a KCRC management tool) status would be changed from Green to Yellow to reflect this concern. Siemens Project Director will be advised to attend the next Monthly Progress Meeting in order to discuss recovery plan for the Contract. SP further stated that it was unacceptable for the Project Director not to attend these meetings on a regular basis, especially with many problems pending resolution.
- 7-6.5 SP clarified that the location of Design Team Leaders was discussed during his visit to Germany, but the level of resources for civil coordination was not agreed. In fact a concern was raised by SP that the level of resources was not sufficient to carry out civil coordination works.
- 7-6.6 It was noted from the Contractor's Project Plan that the resources have not been increased, but reduced from the last revision. KCRC to comment on this issue.
- 6.7.12 The following points were noted in the minutes of the meeting held on 9 August 2000:
- "8-2.5 Siemens failed to submit the revised full version Works Programme on 14 July 2000 and stated that they would submit the revised full Works Programme on 9 August 2000 with the proposed finalisation dates of all subcontracts by end December 2000. KCRC stated that this was contradictory to the finalisation date of end September 2000 which has been agreed between both parties and requested Siemens to revise full version Works Programme reflecting the agreement. KCRC reiterated that if Siemens insists on submitting the full Works Programme with dates other than that agreed with Senior Management the programme would be rejected. Siemens stated that they would review and revert to KCRC on this issue by 10 August 2000.
- 8-2.13 KCRC commented that the problem of limited resources for all Subsystems, especially the CCTV, PIDS and PAS Subsystems, remained a major concern. Siemens was requested to advise the contingency plan when the only personnel working for a Subsystem was absent. Siemens agreed to provide the plan by 11 August 2000.

- 8-2.18 *Siemens stated that they had resubmitted the Contractor's Project Plan on 9 August 2000 and their proposal to combine the positions of the System Engineering Design Team Leader and the Design Team Leader – System Integration remained. KCRC raised their concern that the merging of these positions were reducing the resources and that Siemens had not addressed this issue satisfactorily. Siemens to consider whether they need to withdraw their submission and rework on it.*
- 8-2.21 *Siemens submitted first MMI design for CCTV and Radio subsystems in early August. However, the MMI design for PAS/PIDS was overdue and Siemens agreed to submit it by end of August 2000.*
- 6.7.13 The following points were noted in the minutes of the meeting on 12 September 2000.
- “9-2.5 *Siemens has submitted the full version Works Programme, which was then rejected by KCRC due to:*
- (a) *incorrect logic; and*
 - (b) *no details for software preparation activities and sub-contracting activities.*
- Siemens and KCRC would arrange side meeting to discuss this issue. KCRC urged Siemens to update the original programme instead of creating secondary programmes, which would cause further confusion and were difficult to correlate.*
- 9-2.10 *Siemens had provided the contingency plan resources for all Subsystems, in particular the CCTV, PIDS and PAS. However, KCRC's concerns on the limited resources remained.*
- 9-2.15 *KCRC advised that the first MMI design for CCTV and Radio Subsystems were rejected and the MMI design for PAS/PIDS were still overdue. Siemens suggested to further discuss this issue with KCRC on 15 September during the PAS/PIDS workshop.*
- 9.7.2 *Interface Activities KCRC commented that a fair amount of interface documents resubmissions were still outstanding. KCRC urged Siemens to resolve the back log...”*

The Quarterly Review Meeting

6.7.14 The minutes of the Quarterly Review Meeting held on 20 September 2000 state:

“7-1.2 CI and SP stated that the resources of Siemens for PAS/PIDS were insufficient and reminded Siemens to enhance their resources for these two subsystems. Siemens stated that the supplier for PAS/PIDS would be on board by the end of September 2000. SP reminded Siemens of the need to clearly identify the team leaders for PAS and PIDS. KCRC would monitor the situation closely for improvement in this area.

7-2.2.1 This target was achieved for MAN and CCTV but not achieved for FOTS, Telephone and PIDS. To be achieved as soon as possible.

7-3.2.1 KCRC expressed concern on the level of resources for CCTV, PAS and PIDS Subsystems. There had been only one person, the Design Team Leader, working on these subsystems with no supporting resources. Progress had been significantly affected when these personnel were on leave or not available. Siemens agreed to nominate supporting staff to cover their workload whenever they are not available. KCRC stated that the supporting staff nominated need to be familiar with the system design in order for this to work. Siemens to provide KCRC the names and titles of supporting staff for each Subsystem for consideration.

7-6.2 KCRC stated that details on the notice of delay for Radio/PAS/PIDS had not been submitted within 28 days in accordance with the contract requirements, i.e. on or before 15 September 2000 and therefore would not be pursued further. Siemens concurred.”

Other documentation

6.7.15 A letter dated 7 August 2000 from CS Chang, as the Engineer’s representative, to Bevan Wong of Siemens states that:

“As you are fully aware, software development is a key issue in the success of the DB-1500 Contract. However, during the past eight months, Siemens has made little design progress in software development. DB-1500 Contract is now approaching the end of the preliminary design stage, we would reiterate our concerns on the following:

- (1) Siemens has not provided the requisite resources on software design issues. Hitherto, personnels responsible for software development have not yet been identified.
- (2) Appointment of the software subcontractors for PAS/PIDS, Radio and CCTV are still outstanding. Without the confirmation of your proposed products and subcontractors, we are not able to evaluate the technical adequacies of your design proposal.

The above two issues have seriously hindered the progress of software development and are jeopardising the overall programme of the Project. To ameliorate further worsening of this situation, you are requested to submit the following by 10 August 2000 to demonstrate your recovery measures.

(1) *The proposed software subcontractors for the PAS/PIDS, Radio and CCTV subsystems including the following information:*

- a. *Subcontractors' name, address, and key contact personnel;*
- b. *Proposed software development platforms;*
- c. *Their past software development experiences;*
- d. *Particulars of the part of the Works to be subcontracted;*
- e. *The proposed terms upon which the subcontractor is to be employed.*

(2) *Remedial measures to recover the current lagging in progress...*

6.7.16 A Performance Appraisal Report on Siemens dated 31 August 2000 includes the following comments:

"The initial project team mobilisation was slow and the level of design resources was low. The Conceptual Design submitted by the Contractor during this reporting period was a very high level document and largely acceptable. The Contractor is expected to further expand on the system design during the Preliminary Design stage to demonstrate how the proposed system can fully meet our PS requirements.

The Contractor was cooperative in bringing forward some of the co-ordination activities with SP-1900 to meet the interfacing party's stringent programme requirements.

The Full Works Programme and Physical Progress Baseline Report were not satisfactory and were rejected. The Subcontractors for the radio system, antenna system, MAN and installation had not been appointed in accordance with the LOC.

6.8 Three months to 31 December 2000

Summary of progress for the fourth quarter of 2000

6.8.1 In the fourth quarter of 2000, the contract was moving towards the end of the preliminary design stage and the beginning of the final design stage. The final system design for the PAS, PIDS and CCTV subsystems commenced; however, the preliminary design for the PAS subsystem remained to be completed.

6.8.2 To address the slow progress of the three subsystems, KCRC continued to urge Siemens, and asked them whether the software development would be done with their in-house resources or whether they would subcontract the works. Siemens eventually proposed to subcontract the software development of the three subsystems to ONL in the United Kingdom.

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- 6.8.3 To evaluate the performance of ONL, KCRC visited ONL from 16 to 20 October 2000. After their due diligence review on ONL, KCRC was satisfied that ONL had the capability to develop the systems, and the software supplier of ONL, Entelec, has the system resources on which ONL could develop the systems. In addition, Siemens agreed to arrange their design team leaders to work closely with ONL. On 15 December 2000, the consent for the appointment of ONL was given by the Engineer.
- 6.8.4 By the end of December 2000, the preliminary design documents was substantially completed allowing the contract to move to the final design stage; however, certain parts of the preliminary design for the PAS subsystem remained in a “rejection” stage.
- 6.8.5 Regarding civil coordination activities, KCRC continued to request Siemens to put in more resources as other civil contractors had complained about Siemens not providing sufficient resources to manage civil interfacing activities.
- 6.8.6 Regarding the subcontracts, the consent for appointing Radio Frequency System GmbH (“RFS”) as the subcontractor for the Antenna system (being part of the Radio subsystem) was given. Since the contract was moving into the final design stage, KCRC started to urge Siemens to identify installation subcontractors.
- 6.8.7 For the Radio subsystem, an Engineer’s Instruction to proceed with “leaky coaxial cables along viaducts” was given by KCRC. As a result, Siemens resubmitted the preliminary design for the Radio subsystem in November 2000.
- 6.8.8 Regarding the change of the Hong Kong Police radio, Siemens responded to KCRC that, since the proposed system with non-standard features had not yet been fully developed by Motorola, the potential delay in the contract would be approximately nine months. KCRC then asked the Hong Kong Police whether they could remove the non-standard features.

The Weekly Progress Review Charts

- 6.8.9 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind schedule	Project status
27 Oct 2000	151	142	2	Amber
24 Nov 2000	152	143	1	Amber
29 Dec 2000	170	144	2	Amber

The Monthly Progress Meetings

6.8.10 The following points were noted in the minutes of the Monthly Progress Meeting on 11 October 2000:

“10-2.7 Siemens informed that the preliminary design document for PAS and Radio had been submitted informally and the preliminary design calculation for Radio would be ready to issue by 11 October 2000. KCRC also commented that the design calculations for PAS for the remaining stations were still outstanding and PAS simulation for various stations were to be submitted. KCRC requested Siemens to advise the formal submission dates.

10-3.9 KCRC (SP) stressed that KCRC was taking very serious attitude towards programme, however Siemens’ slippage in programme and committed delivery dates were becoming a concern to KCRC. Improvement should be made by Siemens.

6.8.11 The following points were noted in the minutes of the meeting on 8 November 2000:

“11-6.1 KCRC stated that the software development programme was behind schedule and urged Siemens to catch up.”

6.8.12 The following points were noted in the minutes of the meeting on 8 December 2000:

“12-2.7 KCRC stated that the software development programme was still behind schedule notwithstanding improvement had been made. KCRC commented that the final SQAP originally scheduled by end November 2000 had been slipped and urged Siemens to resolve this issue. Siemens advised that they would discuss with the respective subcontractor, ONL, and advise the updated submission date by next week. Siemens stated that the SQAP and final software development plan would be separate submissions.”

The Quarterly Review Meeting

6.8.13 The minutes of the Quarterly Review Meeting held on 13 December 2000 state:

“8-1.1 CI and SP stated that the resources of Siemens for PAS/PIDS was still a concern. Siemens stated that the supplier for PAS/PIDS/CCTV, ONL, had already started working on these Subsystems in the absence of a signed subcontract. A revised organisation chart was tabled. KCRC would monitor the situation closely for improvement in this area.

8-1.5 The target from QRM No.6 (28 June 2000) to complete Preliminary Design for PIDS had not been achieved. Siemens was urged to progress the PIDS design with ONL at full speed.

8-1.7.1 *Siemens reported that the NNO/NNSC ratio was significantly improved in the last quarter. KCRC stated that the rejections for all programme related submissions were removed. However, the rejection on technical submissions was still high. E.g. PAS and PIDS system submissions. KCRC also expressed concern on ONL's inability to meet original programme dates. Siemens indicated that ONL was not willing to continue further in the absence of a signed subcontract. KCRC urged Siemens to consider back up plan to ensure progress was maintained. In the mean time, KCRC would use its best endeavours to give consent by 15 December 2000.*

8-3.2.1 *KCRC reminded Siemens to conclude subcontractor agreement of ONL, RFS and Ogier as soon as possible so as not to further delay the design progress."*

6.9 Three months to 31 March 2001

Summary of progress for the first quarter of 2001

- 6.9.1 In the first quarter of 2001, the preliminary design for all subsystems was completed subject to comments, and the final design was in the progress. However, the final design for the PAS, PIDS and CCTV subsystems was not progressing satisfactorily.
- 6.9.2 The first Rate of Progress letter dated 9 January 2001 was issued to Siemens. It indicated that the rate of the progress of works was far from satisfactory, in particular, the PAS, PIDS, CCTV and Radio subsystems, and the process of finalising subcontracts. KCRC requested Siemens to take measures as consented by the Engineer to expedite the progress and to ensure the timely achievement of the works.
- 6.9.3 Subsequently, GM-RS (Paul Andersen) visited Siemens, ONL and Motorola in Germany and the United Kingdom in January 2001. The first action plan between KCRC and Siemens, covering subcontracting issues, project management, resources and programme issues, was established. As a result, the subcontract between Siemens and ONL was signed in mid-January 2001.
- 6.9.4 Regarding civil coordination activities, KCRC continued to raise concerns over the level of resources provided by Siemens.
- 6.9.5 For the proposed change of the Hong Kong Police radio, after obtaining the details of the specifications from which the non-standard features were removed, KCRC requested Siemens to provide them with another quotation. Siemens responded that the impact of the change on the contract would be a three month delay and an additional cost of HK\$12.8 million. Because of this proposed change, the subcontract to RFS was not awarded until July 2001.

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6.9.6 To expedite the contract progress, in March 2001, GM-RS and CM-RS met with the senior management of Siemens in Hong Kong, which agreed to address the major concerns that KCRC raised, being the project team resources, civil coordination activities and subcontracts.

The Weekly Progress Review Charts

6.9.7 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind Schedule	Project status
23 Jan 2001	173	144	4	Red
23 Feb 2001	192	154	4	Red
30 Mar 2001	202	166	5	Red

The Monthly Progress Meeting

6.9.8 The following points were noted in the minutes of the Monthly Progress Meeting on 10 January 2001:

“13-7.2 KCRC stated that the delay in PAS/PIDS/CCTV MMI protocol achievement had resulted in increasing consultancy cost to KCRC consultant to review, for which KCRC may need to recourse to. Siemens was reminded to be fully aware of the dependency and implication of their delay to other Project Contractors.”

6.9.9 The following points were noted in the minutes of the meeting on 14 February 2001:

“14-2.4 KCRC commented that Siemens’ mark-up on the CSD/SEM for the cable containment routing and wall/slab penetrations had still not taken into account the constraints imposed by the building structure and other services. Siemens was urged to provide additional resources to expedite the coordination work with civils, Siemens was also requested to inspect the 602 site condition on spot and coordinate with the civil contractor.

14-15.1 Siemens was requested to review the duty of their key personnel included in the Contractor’s Management Plan as some key personnel took up excessive duty which could not be properly performed.”

The Quarterly Review Meeting

6.9.10 The minutes of the Quarterly Review Meeting held on 27 March 2001 note that:

“9-1.1 KCRC stated that Siemens’ resources for PAS/PIDS was still a concern. Siemens reported that the ONL subcontract has been signed and progress on PAS/PIDS/CCTV would improve in next quarter. Siemens also stated that a revised organisation chart was submitted. KCRC would monitor the situation closely for improvement in this area.

9-1.7 Siemens reported that the ONL subcontract was signed in January 2001 and progress on PAS/PIDS/CCTV would improve in the next quarter.

9-1.9 KCRC stated that the percentage of software, which required development by ONL was still not determined. KCRC expressed concern on the status and transparency of software development...

9-3.2.1 KCRC stated that once the revised FWP was in place, Siemens should deploy adequate resources to ensure progress was made in accordance with the agreed programme. No more delays would be tolerated by KCRC. Siemens was required to ensure submissions made were complete, to clear all overdue submissions, resubmissions and rejected submissions.”

Other documentation

6.9.11 A Rate of Progress letter from GM-RS to Andreas Holst, the Siemens Project Director, dated 9 January 2001, states:

“As regards Siemens’ progress of the DB-1500 Works to date, your Monthly Progress Report (Dec 2000) shows that the current rate of progress of the Works is far from satisfactory. In particular, we note the following:

(a) The actual progress for software development is 10.3% against a planned progress of 31.5%;

(b) The Preliminary design calculation for Radio, the Preliminary design document for PAS and PIDS, and the First MMI document are in “reject” status. In particular, the milestone for Preliminary design document for PIDS has been overdue for three months; and

(c) The PAS, PIDS and CCTV MMI prototype, Subcontractor QC Accreditation certificates, MTTR figures for equipment and EMC Hazard Analysis are still overdue.

Furthermore, the appointment and finalisation of subcontractors should have been completed by 31 March 2000, as per the Letter of Acceptance/Letter of Clarification. Despite our best efforts to expedite the approval process, only three subcontracts have been finalised and four subcontracts are yet to be finalised, including Antenna works, PAS/PIDS/CCTV works, Platform-to-Train CCTV and installation works.

Notwithstanding the ongoing discussions and efforts from our project management team to assist you to expedite progress, we have still not noticed any significant improvement in progress, In fact, the rate of progress on this Contract is deteriorating.

Pursuant to Clause 46.1 of the General Conditions, it is now the opinion of the Engineer that the progress of the Works is proceeding too slowly to ensure the timely achievement of the Works by the Key Dates as set forth in this Contract. This letter shall serve as formal notice of your insufficient rate of progress on this Contract. As per the reference clause, you are directed to forthwith suggest such steps as are necessary to expedite progress and to ensure the timely achievement of the Works. You must obtain the consent of the Engineer to proceed with any suggestions submitted in accordance with this clause.

Due to the serious concern, I am scheduling a visit to your home office in Braunschweig, Germany and your major sub-contractors early next week to address this critical issue with your senior management.”

6.9.12 A memorandum from GM-RS to DWR and SDP, dated 22 January 2001, states that:

- “1. *A series of high level meetings were held last week in Germany and the UK with Siemens and their sub-contractors ONL and Motorola.*
2. *Arising from those meetings is a commitment and action plan from Siemens to address the concerns expressed by KCRC in respect to a Rate of Progress letter sent on 9 January 2001 by the Engineer.*
3. *The action plan attached covers four key areas:*
 - i. *Sub-contracting issues*
 - ii. *Project Management*
 - iii. *Resources*
 - iv. *Programme Issues*
4. *I am convinced that now the senior management of Siemens, ONL and Motorola are briefed and aware of our concerns, that the necessary actions will be taken to correct the delay.*
5. *Nevertheless, I will update you weekly on the progress of the recovery plan and advise you if I feel you need to get more actively involved.”*

6.9.13 A Performance Assessment Report on Siemens dated 2 March 2001 states that:

“The Contractor has considerably delayed the appointment of their subcontractors for PAS, PIDS, CCTV, platform-to-train CCTV and antenna system. This has prevented the completion of Preliminary Design of their subsystems on time. The related software development, MMI submissions and prototypes have also been significantly delayed.

The number of submissions and resubmissions overdue remained high during the reporting period.

The Contractor has not been able to meet a number of targets and programme dates. Considerable effort from KCRC was spent to constantly remind the Contractor of the outstanding issues and to urge the Contractor to progress forward.”

6.10 Three months to 30 June 2001

Summary of progress for the second quarter of 2001

6.10.1 In the second quarter of 2001, the contract was under the final design stage with focus on the system design and software development. The full works programme was re-baselined in April 2001.

6.10.2 As part of the action taken by Siemens after the meeting in March 2001 (as mentioned in Section 6.9.6), Siemens increased its project team resources by bringing in an additional 16 engineers throughout the second quarter of 2001, mainly for civil coordination activities. However, though Siemens provided increased resources, both KCRC and the civil contractors raised concerns over the continuity of staff and level of staff resources provided by Siemens.

6.10.3 A new project director, who was a software specialist, was appointed by Siemens in April 2001. KCRC requested the new project director to review the ONL subcontract performance and to take appropriate actions to bring progress on track
* The original project director then focused on dealing with the subcontracts in Europe

6.10.4 As a result of the slow progress made on the software development made by ONL, Siemens could not maintain the re-baselined works programme, and delays were reported.

*** This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.**

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6.10.5 In mid-May 2001, DWR and GM-RS met with the senior management of Siemens in Germany and with ONL, to discuss the status of the contract and the concerns raised by KCRC. The following new action plan covering the following areas, was then established:

- To appoint the subcontractor for the software supplies (Entelec) by ONL;
- To establish the weekly teleconferences between KCRC, Siemens and ONL to closely monitor the progress; and
- To increase the level of resources from ONL.

6.10.6 As a result of the above action plan, a new section (i.e. page 5) was added to the Weekly Progress Review Charts, which details the issues to be addressed by ONL and Siemens, persons from ONL and Siemens responsible for resolving the issues, target dates for resolutions, comments and status. This section would be discussed during the weekly teleconferences.

6.10.7 Regarding the change of the Hong Kong Police radio, the technical agreement was reached with Siemens, and an Engineer's Instruction was issued on 15 May 2001. The commercial agreement, on the other hand, was yet to be made.

6.10.8 The new Siemens project director, who was requested to review the subcontract performance of ONL (as mentioned in Section 6.10.3), subsequently reported that he was satisfied with the quality and level of resources from ONL as well as the quality and the level of resources for the software development. To monitor the performance of ONL, Siemens appointed a software specialist to closely work with ONL in the United Kingdom.

6.10.9 The first adverse Performance Assessment Report dated 27 June 2001 covering the period from 24 November 2000 to 24 May 2001 was issued. It indicated that, though a subcontract was signed with ONL for the PAS, PIDS and CCTV subsystems, the progress for these subsystems in the areas of system design and software development was unsatisfactory. It also indicated that this matter has already been brought to the attention of the senior management of KCRC, who has immediately attempted to implement recovery measures.

The Weekly Progress Review Charts

6.10.10 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind schedule	Project status
27 Apr 2001	222	173	0	Green
25 May 2001	228	176	1	Amber
29 Jun 2001	234	184	3	2 Amber

The Monthly Progress Meetings

- 6.10.11 The following points were noted in the minutes of the Monthly Progress Meeting on 11 April 2001:

“16-2.17 Siemens was reminded again to provide long overdue response to the Engineer’s comment to the Preliminary Design document for PAS/PIDS.”

- 6.10.12 The following points were noted in the minutes of the meeting on 16 May 2001.

“17-2.9 The Engineer’s Team stated that there was no progress on ONL’s work. Notwithstanding that workshops had been held on Feb 01 to address all Engineer’s comments on the Preliminary Design Document for PAS/PIDS, the response to the Engineer’s Response was still outstanding since Feb 01.

17-3.1 The Engineer’s Team expressed their concerns and disappointment on the delay on progress despite the programme had been rescheduled with the revised FWP. The Engineer’s Team commented that no visible progress/output could be seen in ONL’s work and civil interface activities. Siemens was requested to resolve the issue with ONL and report by 25 May 2001.

17-6.5 The Engineer’s Team stated that civil project contractors had been complaining on Siemens’ resources provided to interface activities. Siemens should send person with adequate project and technical knowledge to attend interface meetings/workshops.”

The Quarterly Review Meeting

- 6.10.13 The minutes of the Quarterly Review Meeting held on 12 June 2001 note that:

*“10-1.1 KCRC stated that Siemens’ resources for PAS/PIDS was still a concern.
* Siemens reported that WH had carried out a review of ONL software resources and was satisfied about the quality and level of resources for software development. KCRC would monitor the situation closely for improvement in this area.*

10-1.5 KCRC stated that the percentage of software, which required development by ONL was still not determined and remained outstanding. Transparency of software development remained a concern...

10-1.11 KCRC stated that Siemens was again in delay (3 weeks) despite the fact that the revised FWP had just been baselined. KCRC was entirely unsatisfied about Siemens progress on this contract. KCRC stated that if the delay continued, it would be brought to the attention of a more senior level within KCRC. Siemens to recover delay immediately.”

- * This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.

Other documentation

6.10.14 According to a letter dated 1 June 2001 from SDP to Herbert Steffen, the President of the Transportation Systems Group of Siemens AG, the following meetings took place between employees of KCRC and employees of Siemens:

- A meeting between DWR and GM-RS of KCRC and Herbert Steffen of Siemens AG in London on 16 May 2001; and
- A meeting between SDP of KCRC, Hans Dieter Bott, the Vice President of Siemens AG and Mr. Gattinger, the President and CEO of Siemens.

6.10.15 The letter states that:

“The present position is set out in the attached progress status report, prepared by the General Manager, Railway Systems. Annex B to that report sets out the latest action plan agreed with your staff, and Siemens’ programme recovery will be monitored closely against the dates planned for each of the specific issues.

I understand that you are fully briefed on the problems, and well aware of the consequences of any further slippage in resolving the current issues, and also that you have given a commitment from the highest level in Siemens that all that needs to be done will be done to achieve satisfactory resolution. Likewise, from KCRC’s viewpoint, I will be monitoring the position through Director, West Rail and General Manager, Railway Systems, in order that I can report to our Chairman and Chief Executive, Mr. K.Y. Yeung, in the near future that DB-1500 has indeed been recovered and has indeed a clean bill of health.”

6.10.16 An adverse Performance Assessment Report on Siemens dated 27 June 2001 includes the following comments:

“Although the subcontract with ONL for PAS, PIDS and CCTV was signed in January 2001, progress of these subsystems in the areas of system design, MMI submission, MMI prototyping and software development was in delay and was highly unsatisfactory. The MMI was re-baselined in April 2001. However, the Contractor could not maintain the programme and delays were reported immediately after this exercise. The Contractor has not been able to meet a number of target and the number of outstanding submissions and resubmissions remained high with little sign of improvement. The non-performance of this Contractor has already been brought to the attention of KCRC senior management. A number of meetings were held with the Contractor’s senior management for recovery measures to be implemented immediately.”

6.11 Three months to 30 September 2001

Summary of progress for the third quarter of 2001

- 6.11.1 In the third quarter of 2001, the contract was under the final design stage with focus still on the system design and software development. As a result of the slow progress of the software development for the PAS, PIDS and CCTV subsystems leading to delays in the final design, the contract progress deteriorated further in the third quarter of 2001.
- 6.11.2 By July 2001, the subcontract to Entelec had not yet been awarded by ONL, but ONL had provided more resources, including a software manager, a software quality assurance manager and a few software engineers. However, the progress for the software development continued to be behind the schedule throughout the period.
- 6.11.3 In order to expedite the contract progress and to ensure the necessary resources from ONL were in place, in early July 2001, GM-RS and CM-RS visited ONL in the United Kingdom and Siemens in Germany.
- 6.11.4 During the meeting with ONL in the United Kingdom with the presence of the project manager of Siemens, the following points were addressed:
- ONL would produce a resource programme;
 - ONL would award the subcontract to Entelec as soon as possible;
 - ONL would give input into the page 5 of the Weekly Progress Review Charts in relation to the KCRC software development monitoring system;
 - ONL and Siemens would establish a communication process so that issues could be resolved prior to weekly teleconferences;
 - ONL, Siemens and KCRC would establish teleconference workshops to discuss software documentation so that the software design could be moved forward; and
 - the date for the final design workshop with ONL was agreed.
- 6.11.5 During the meeting with the senior management of Siemens in Germany, the following areas were discussed:
- Siemens would ensure resource programmes from subcontractors are produced;
 - Siemens would improve the communication process with subcontractors;
 - Siemens would expedite the subcontract with RFS; and
 - KCRC emphasised that commercial and technical matters should be separated in order not to affect the work progress.

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- 6.11.6 Other than discussing the above points with Siemens, GM-RS and CM-RS also visited the manufacturing facilities of RFS and witnessed the subcontract being handed over to RFS by Siemens. Subsequently, the subcontract was signed and awarded in 17 July 2001.
- 6.11.7 In August 2001, KCRC was informed by Siemens and ONL that the subcontract to Entelec would not be awarded. CM-RS visited ONL with his team for the proposal presented by the new software supplier, Adroit. They were satisfied that Adroit had the capability to do the work. However, to address the potential delay arising from the change of the software supplier, KCRC requested ONL to enhance their software resources.
- 6.11.8 To highlight the lack of progress on the software development of the PAS, PIDS and CCTV subsystems, a second Rate of Progress letter dated 20 August 2001 was issued by the Engineer (GM-RS). A Rate of Progress letter also dated the same date was issued by DWR (Acting), Jaya Jesudason, on behalf of KCRC.
- 6.11.9 These two letters both highlighted the fact that the inability of ONL to deliver the system design and software development for the three subsystems would affect the installation programmes of other contractors, in particular the station contractors, and also the commissioning of other interfacing systems and statutory inspections. KCRC requested Siemens to implement an action plan and programmes identifying specific design activities.
- 6.11.10 To expedite the contract progress as highlighted in the Rate of Progress letters, SDP invited the senior management of Siemens from Germany to attend a meeting in Hong Kong. A recovery plan, in which Siemens agreed to inject their own resources into ONL, was established.
- 6.11.11 By the end of September 2001, the final system design was largely completed; however, the progress for the software development for the PAS, PIDS and CCTV subsystems continued to be behind the programme. In order to move the contract forward, KCRC gave a consent signal to Siemens to proceed with the procurement and manufacturing process instead of waiting for the full completion of the final design.
- 6.11.12 During the third quarter of 2001, six claims, including those for the changes in the Hong Kong Police radio and the “leaky co-axial cables along viaducts” as mentioned in Section 6.8.7, totalling HK\$146 million plus a 94-day extension of time were lodged by Siemens. Meetings to resolve the commercial issues with Siemens were held, but no settlement for claims was agreed by the end of September 2001.

The Weekly Progress Review Charts

6.11.13 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind schedule	Project status
27 Jul 2001	241	189	5	Red
31 Aug 2001	265	205	6	Red
28 Sep 2001	282	215	6	Red

The Monthly Progress Meetings

6.11.14 The following points were noted in the minutes of the Monthly Progress Meeting on 11 July 2001:

“18-2.7 Siemens was urged again to submit the response to the Engineer’s Comments on the Preliminary Design document for PAS/PIDS, which was outstanding since Feb 01.

18-2.9 There were weekly teleconferences (the Engineer’s Team/Siemens/ONL) until the progress of ONL works was back on track and other critical outstanding issues were resolved.”

6.11.15 The following points were noted in the minutes meeting on 8 August 2001:

“19-2.5 Siemens was urged to submit the response to the Engineer’s Comments on the Preliminary Design document for PAS/PIDS, which was still outstanding since Feb 01. Siemens agreed to confirm the submission date after this meeting.”

The Quarterly Review Meeting

6.11.16 The minutes of the quarterly review meeting held on 11 September 2001 state:

*“11-1.1 KCRC stated that Siemens’ resources for PAS/PIDS was still a concern.
 * Siemens reported that WH had carried out a review of ONL software resources and was satisfied about the quality and level of resources for software development. KCRC would monitor the situation closely for improvement in this area.*

11-1.9 KCRC stated that the Contractor’s lack of progress in this Contract had been brought to the attention of KCRC senior management and that KCRC was looking forward to bringing it back to schedule.

*** This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.**

11-3.2.1 KCRC stated a rate of progress letter had been issued. Siemens was urged again to improve project progress immediately. Specifically, the following issues must be resolved as soon as possible:

- i Siemens to put resources in ONL to help progress the Works expeditiously;*
- ii Siemens and ONL to agree on the software development programme;*
- iii Commercial issues to be closed out with ONL by 21 Sept 01 as far as resources and programmes were concerned;*
- iv Every member of the Siemens project team to have a clear understanding on their roles and responsibilities; and*
- v FAT procedures and FAT activities to be clearly identified.*

Other documentation

6.11.17 A Rate of Progress letter, dated 20 August 2001, from GM-RS, as the Engineer, to Wolfgang Heck of Siemens states:

“I am concerned on Siemens’ progress of the DB-1500 Works to date. The Full Works Programme Rev. F shows that the current rate of progress of the Works is unacceptable. In particular, I wish to draw your attention to the following:

- (a) There is no progress on software development by Siemens’ subcontractor, ONL. The actual progress for software design and development is now 3 months behind schedule for PAS, PIDS and CCTV.*
- (b) For the Radio System (Motorola TETRA System), Beta Tests have been delayed, and software development is now behind schedule by two months.*
- (c) Final design is 1.5 months behind for Telephone, 2 months for PAS and 1 month for PIDS/CCTV.*
- (d) FAT and Manufacturing is behind by 3 months for PAS and Radio, 2.5 months for FOTS and MAN, and 2 months for Telephone, PIDS, and CCTV.*
- (e) Based on the original Schedule of Milestones, Siemens has failed to achieve all eleven (11) of the Milestones currently due to have been completed.*
- (f) The site installation works are scheduled to commence in mid-September 2001 and yet to date, the subcontractor for the installation works has not been appointed.*

Pursuant to Clause 46.1 of the General Conditions, it is the opinion of the Engineer that the progress of the Works is proceeding too slowly to endure the timely achievement of the Works by the Key Dates as set forth in this Contract. This letter shall serve as formal notice of your insufficient rate of progress on this Contract. As per the referenced clause, you are directed to forthwith submit by 31 August 2001 such steps as are necessary (e.g. resources, programme, strategies) to expedite progress and to ensure the timely achievement of the Works. You must obtain the consent of the Engineer to proceed with any suggestions submitted in accordance with this clause.”

- 6.11.18 A Rate of Progress letter, dated 20 August 2001, from Jaya Jesudason as DWR (Acting) to Wilhelm Gattinger of Siemens states:

“Reference is made to the Engineer’s letter WR1CRN2001-0191407 DB1500/KCR-SIE/01485 dated 20 August 2001 regarding the inadequate Rate of Progress of the DB-1500 Works to date and the discussions at the meeting chaired by the Senior Director Capital Projects on 20 August 2001.

I wish to express my continued concern as to your unsatisfactory progress to date on this contract. While the new management team you have put in place seem to have a satisfactory work plan to get the contract back on track within the next 2-3 months, their ability to achieve this objective is totally dependant on the performance of 2 of your key sub-contractors namely Motorola on the radio system and ONL on the PAS/PIDS/CCTV systems.

It is recognised that in the case of the radio system, the current delays might be partially due to the changes in the police radio requirements. However, we believe that these changes should not have a major impact on the provision of cable routing information to the station contractors to enable them to provide the necessary penetrations and cable containments nor on your radio installation programme. I look forward to receiving your confirmation that your interface and installation programmes will be achieved in relation to the radio system.

In relation to the PAS/PIDS/CCTV systems, the Corporation is extremely concerned about ONL’s performance to date. As you are well aware, this is a project critical contract both in terms of its impact on the installation programmes of other contractors, in particular the station contractors and also in terms of its impact on the commissioning of other interfacing systems and statutory inspections. In spite of your efforts over the last several weeks, we have seen no positive signs in terms of the progress of the detailed design of these systems. This situation is unacceptable, you are therefore required to implement an action plan and programmes identifying specific design activities and week by week targets so that the progress of this work can be monitored at a level which will establish once and for all the ability of ONL to deliver to the programme.

In conclusion, Siemens have been awarded a number of contracts related to West Rail, East Rail Extension and Light Rail works. Continuation of this strong relationship is very much dependant on Siemens ability to deliver a quality product on time and in accordance with your contract obligations. Over the coming weeks, I will be obtaining regular reports from the General Manager Railway System and I am expecting significant improvement by the September 2001 QRM.”

6.12 Period to 19 December 2001

Summary of progress for the fourth quarter of 2001

- 6.12.1 In the last quarter of 2001, the contract was under the final design with focus moving from the system design onto the installation design whilst the software development of the PAS, PIDS and CCTV subsystems still remained a concern. This was a combined effect of * and additional resources not being provided by Siemens as agreed (refer to Section 6.11.10).
- 6.12.2 Further, no progress on the procurement and manufacturing process was made though a consent signal was given by KCRC as mentioned in Section 6.11.11.
- 6.12.3 In October 2001, SDP, DWR, GM-RS (Acting) and CM-RS met with the senior management of Siemens from Germany and Hong Kong. * However, Siemens did not have any plans in the event that the subcontract was terminated. In this regard, KCKC asked Siemens to provide them with contingency plans.
- 6.12.4 Subsequent to the meeting, the Vice President and General Manager of Siemens in Hong Kong, Kenneth Aubrey, wrote to SDP, and stated that their immediate struggle was “*dominated primarily by the fall-out from the Hong Kong Police variation*”. He also stated that, though the commercial issues and the remedial actions were by nature inherently interrelated, Siemens saw these two matters as distinct.
- 6.12.5 The SDP then wrote to the Vice President and Chief Executive Officer of Siemens AG, Hans Dieter Bott, and expressed his concerns over the commercial issues raised by Kenneth Aubrey (refer to Section 6.12.23). He reminded Siemens of the need to increase their own resources to rectify the situation. * He requested Siemens to provide KCRC with a realistic action plan to recover the situation, with relevant dates for monitoring both short-term and long-term achievements.
- 6.12.6 The first adverse Performance Assessment Report dated 27 June 2001 was presented to the Corporate Tender Board on 17 October 2001. A confidential paper titled “Report of Adverse Contractor’s Interim Performance Appraisal Report” was prepared by the DWR for the Corporate Tender Board meeting to explain the problems on the contract (refer to Section 6.12.19).
- 6.12.7 By mid-October 2001, seven commercial meetings were held, but little progress was made on the settlement of claims.
- 6.12.8 Due to the health problems of the existing Siemens project director, another new project director was appointed in late October 2001.

- * **This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.**

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- 6.12.9 By the end of October 2001, the delays in the software development and the overall contract were 10 weeks and 13 weeks, respectively. The management of KCRC assessed that, if no delay recovery measures were taken, West Rail might not be able to open in September 2003.
- 6.12.10 To address the variations, claims, delay recovery measures and commercial settlement, a negotiation plan with Siemens with a proposed settlement figure of HK\$98 million was presented to the Corporate Tender Board on 14 November 2001 (refer to Sections 7.3.2 to 7.3.4) for details. Further, an information paper for the negotiation plan was presented to the Managing Board on 19 November 2001 (refer to Section 7.4).
- 6.12.11 From 22 to 27 November 2001, the negotiation team comprising SDP, DWR, GM-RS (Acting), CM-RS and CS-GC visited Siemens in Germany. By the end of the negotiation, a final settlement of HK\$100 million had been agreed (refer to Chapter 7).
- 6.12.12 On 26 November 2001, the subcontract with ONL was terminated and, on 7 December 2001, subcontracts were awarded to three new subcontractors for the development of the PAS, PIDS and CCTV subsystems.
- 6.12.13 Another adverse Performance Assessment Report dated 27 November 2001 covering the period from May 2001 to November 2001 was issued. It indicated that the progress of the PAS, PIDS and CCTV subsystems continued to be unsatisfactory. It was subsequently presented to the Corporate Tender Board on 19 December 2001. A confidential paper titled "Report of Adverse Contractor's Interim Performance Appraisal Report" was prepared by DWR for the Corporate Tender Board meeting to explain the problems on the contract (refer to Sections 6.12.24 to 6.12.26).
- 6.12.14 On 19 December 2001, the supplemental agreement with a settlement figure of HK\$100 million was approved by the Managing Board (refer to Chapter 7 for details).

The Weekly Progress Review Charts

- 6.12.15 The Weekly Progress Review Charts for this period indicate the following:

Date	Planned submissions by this date	Actual submissions approved	Weeks behind schedule	Project status
26 Oct 2001	290	230	8	Red
30 Nov 2001	306	238	10	Red
14 Dec 2001	335	250	10	Red

The Monthly Progress Meetings

6.12.16 The following points were noted in the minutes of the Monthly Progress Meeting on 19 October 2001:

“20-3.16 Design Milestones 5th Point – PIDS – Final Design (equipment level) was not achieved. Siemens stated that the missing information would be submitted on 17 October 2001.

20-6.5 *The Engineer’s Team commented on the following aspects of software development:*

- a. Siemens to confirm the available date of ONL’s software programme and resources;*
- b. Due to significant delay in software development, ONL to report the status every Friday;*
- c. Software design detail for CCTV/PAS/PID was still outstanding.. Siemens to follow up;*
- d. FAT1 Test Specification and Procedures from ONL were still outstanding; and*
- e. Progress of ONL software development was still a concern and teleconference was to be arranged once the programme was available.*

20-14.1 *The Engineer’s team commented on the lack of participation and attention from Siemens’ personnel to the monthly progress meeting. Notwithstanding the monthly progress meeting had been deferred once, the Project Manager and Project Director were still absent.*

20-15.3 *The Engineer’s team expressed their concern on the growing number of overdue and outstanding submission. Siemens stated that this was a misunderstanding and had issued letter to explain.”*

6.12.17 The following points were noted in the minutes of the meeting on 14 November 2001:

“21-2.4 Samples for PAS/PIDS control panel and speaker cables were still outstanding. Siemens reported that they had submitted the specification for speaker cable and were trying to obtain sample from the vendor. Siemens was still chasing ONL for the PIDS/PAS control panel sample and also planned to submit the CCTV control panel.

21-6.1 *The Engineer’s Team expressed their concerns that, with respect to the current progress of PIDS/PAS/CCTV and MAN, some Key dates for FOTS and MAN would be missed. Siemens was urged to maintain the programme of FOTS, MAN, Tel, Radio and Platform-to-Train CCTV.*

The Quarterly Review Meeting

- 6.12.18 The minutes of the Quarterly Review Meeting on 11 December 2001 have no matters of note.

Other documentation

- 6.12.19 A confidential paper titled "Report of Adverse Contractor's Interim Performance Appraisal Report" was prepared by DWR for a Corporate Tender Board meeting on 17 October 2001. The paper included the following:

- "6. *However, the latest contractor's interim performance for the six month period up to June 2001 was an adverse report, noting that the overall grading in respect of the DB-1500 Contractor was unsatisfactory. The overall progress of the DB-1500 Contract, throughout the whole reporting period, was late by 1.5 months, with no sign of improvement at the time of reporting. The lack of progress in system design, as well as software design and development of the Public Address System (PAS), Passenger Information Display System (PIDS) and Closed Circuit Television (CCTV), was a major concern. The DB-1500 Contractor was unable to meet a number of targets and the number of outstanding submissions and resubmissions remained high with little sign of improvement, as at the end of June 2001.*
7. *The poor performance of the DB-1500 Contractor has already been brought to the attention of KCRC senior management. A number of meetings have been held with the DB-1500 Contractor's senior management and recovery measures agreed for immediate implementation. Recovery measures, as follows, have been put in place and improvement has been noted –*
- a) *Re-organisation of the local project team has been effected with increased resources allocated for civil and system-wide coordination.*
 - b) *ONL, the PAS, PIDS and CCTV subcontractor, has expedited the identification and appointment of a new software subcontractor, Adroit.*
 - c) *ONL and Siemens have increased the resources for software development.*
 - d) *Technical workshops were scheduled and held for PAS, PIDS, CCTV and Radio to expedite the completion of the Final Design.*
 - e) *An external consultant, PBA, was engaged to support System Assurance activities.*
 - f) *Teleconferences have been held since June 2001 to review progress with the Contractor's senior management on a weekly basis.*

8. *Members of the CTB are requested to note the adverse report given to the DB-1500 Contractor at the end of June 2001 and are also requested to note that the recovery measures taken since that time are now starting to yield results in terms of recouping the delays experienced. Siemens are on close watch and will continue to be so until full programme recovery is demonstrated positively.”*

6.12.20 The minutes of the meeting of the Corporate Tender Board held on 17 October 2001 state:

“Consideration

2. *The Board noted that:-*
- (a) *the contract was for the design, manufacture, supply, installation, testing and commissioning of the telecommunication system for West Rail, Phase I;*
 - (b) *the contract had been awarded to Siemens in the sum of HK\$287 million, on 24 November 1999, being the lowest-priced conforming tenderer;*
 - (c) *Siemens had been unable to meet a number of targets in system design, and software design and development in respect of various systems under the contract; and*
 - (d) *although the project team had held several rounds of discussion with Siemens asking the company to improve its performance, the overall progress of the contract was still six to eight weeks late against the programme key dates, even though Siemens were due to hand in their system design to the Corporation by the end of the month.*
3. *CCE said that the project team must find out what was the real problem behind Siemens’s poor performance. He said that, if Siemens’s poor performance resulted from its very low tender price, the Corporation should consider providing a sum of money to Siemens in the form of bonus incentives to meet the contract key date. This would enable the company to deploy sufficient resources to the contract to catch up all the slipped target dates. He added that this would not only ensure that the contract could be completed on time by Siemens, but also could save the Corporation from possible claims made by other contractors due to the delay of the contract. He said, however, that the Corporation should only consider this option when all other options to improve Siemens’s performance on the contract had failed.*
4. *Both DEX and DWR expressed concerns that giving Siemens a lump sum payment in order to help the Company to catch up all the slipped key dates of the contract might set a bad example for the Corporation’s other contracts.*

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5. *In response to SDF, CM-RS said that Siemens, as the main contractor was not only responsible for the project management but also the installation, testing and commissioning of the systems under the contract. He said that the Corporation would not have sufficient expertise and resources to take over Siemens's role under the contract.*
6. *After deliberation, Members agreed that the project team should continue to find ways to improve Siemens's performance on the contract, and that the team should seek CCE's direction if Siemens were not able to submit the system design to the Corporation by the end of this month.*

Resolution

7. *The Board resolve to NOTE the adverse performance appraisal report issued to Siemens and the recovery measures outlined at section 7 of the submission."*

6.12.21 The minutes note that the following Corporate Tender Board members attended the meeting:

- KY Yeung
- James Blake
- Samuel Lai
- Daniel Lam
- Ian Thoms
- Jonathan Yu
- KK Lee
- Kenneth Leung
- David Fleming
- YT Li

6.12.22 The minutes also note that the following people also attended the meeting:

- Jimmy Leung
- Leo Mak
- Sid Patel
- J Jesudason
- Henry Liu
- Johnny Tam
- Alan Donnet
- Raymond Chan

6.12.23 The letter from SDP to Hans Dieter Bott of Siemens AG dated 27 October 2001 states that:

"... Whilst the meeting was constructive in terms of identifying actions that required Siemens immediate resolution, I do not agree with Mr. Aubrey's assertion that the "Hong Kong Police" variation is the dominate cause of problems, which confront you...

*...During the meeting on 17 October, Mr. Aubrey said that ONL were 3 months behind programme, and gave assurance that Siemens own resources would be used to recover the situation. * I must receive a clear and unambiguous action plan to recover the situation, with relevant dates for monitoring both short term and long term achievements, under cover of a letter from yourself. In doing so, please also confirm that the problems with software development have finally been resolved. I am sure that you will be aware that ONL's achievement thus far is limited to writing and submitting high-level specifications, which leaves inadequate time to demonstrate by April 2002 a satisfactory interface between software and hardware. Failure to achieve this activity would put at risk the opening of West Rail, which needs fully commissioned PAS, PIDS and CCTV systems in place. I need hardly refer to the consequences of such a failure, in terms of the Corporation's view of Siemens ability to undertake critically important contracts. I am certain you would wish to avoid such consequences, given the general satisfactory performance by Siemens for other ongoing West Rail contracts.*

...Accordingly I look forward to receiving a realistic action plan as I refer to the above..."

- 6.12.24 An adverse Performance Assessment Report on Siemens, dated 27 November 2001 states:

"Although the system level final design for all subsystems had been submitted, RAMS, DVT and installation design, which form part of the Final Design, were still outstanding. Completion of Final Design has not been achieved as a result.

Progress on PAS, PIDS and CCTV was still unsatisfactory. There was no progress on software development and little progress was made on MMI submissions and MMI prototyping for these three subsystems.

Installation design subsystems were in serious delay and had delayed installation at KSR, WRB and PMC. The Contractor had not commenced installation according to the Works Programme. The installation subcontractors had been awarded in time to progress the installation work. The Contractor has been very claim oriented. A total of six claims were submitted during the last reporting period."

- * **This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.**

6.12.25 A confidential paper titled "Report of Adverse Contractor's Interim Performance Appraisal Report" was prepared by DWR for a Corporate Tender Board meeting on 19 December 2001. This paper was prepared after the Managing Board had approved the supplemental agreement with Siemens. The paper notes that it is Siemens' second consecutive adverse report and includes the following:

- “6. *The latest contractor's interim performance for the period 24 May 2001 to 24 November 2001 was an adverse report, noting that the overall grading of the DB-1500 Contractor remained unsatisfactory. The overall progress of the DB-1500 Contract, throughout the whole reporting period was late by 10 weeks. The delay was primarily in the area of software design and development for the Public Address System (PAS), Passenger Information Display System (PIDS) and Closed Circuit Television (CCTV). In addition, manufacturing and installation activities were also running late.*
7. *The poor performance of the DB-1500 Contractor has already been brought to the attention of KCRC senior management and the CTB. A high level delegation from KCRC visited Siemens in Germany, in late November 2001, and recovery measures have been agreed and are now being implemented during December. Recovery measures, as follows, have been put in place:*

 - a) *ONL, the PAS, PIDS and CCTV subcontractor, has been replaced by three independent subcontractors; Audio-Videotechnik GmbH for PAS, Roctec Technology Ltd. for PIDS and COE Ltd. for CCTV. All three subcontractors have standard hardware and software readily available, which substantially reduces project risk.*
 - b) *Technical workshops have been schedule with the three new subcontractors in December 2001. Final Design for PAS, PIDS and CCTV is schedule to be completed by the end of December 2001.*
 - c) *Programmes have been agreed with the three new subcontractors in respect of Factory Acceptance Test dates.*
 - d) *The Siemens' local project team has been re-organised with clear definition of reporting lines and roles and responsibility. Resources have been increased for civil works interfacing as well as system-wide coordination.*
8. *Members of the CTB are requested to note the above adverse report given to the DB-1500 Contractor at the end of November 2001 and are also requested to note that the recovery measures implemented since that time are now starting to yield results in terms of recouping the delays experienced. Siemens are under close scrutiny and will continue to be so until full programme recovery is demonstrated positively.”*

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6.12.26 The minutes of the meeting of the Corporate Tender Board held on 19 December 2001 state:

“Request to note

16. *DWR presented the submission and requested the Board to note the adverse report, which was the second adverse report given to Siemens in respect of the captioned contract.*

Consideration

17. *The Board noted that –*

(a) *Since the issue of the last adverse report for the interim period of 24 November 2001 to 23 May 2001, the Corporation had agreed with Siemens’ senior management in Germany the implementation of recovery measures to improve the company’s performance in respect of the contract; and*

(b) *Siemens had taken the recovery measures, which were outlined in section 7 of the submission, to rectify the situation.*

Resolution

18. *The Board resolved to NOTE the adverse report given to Siemens Limited and the recovery measures outlined in paragraph 7 of the submission.”*

6.12.27 The minutes of the Corporate Tender Board meeting note that the following Corporate Tender Board members attended:

- | | |
|---------------|-----------------|
| • KY Yeung | • Jonathan Yu |
| • James Blake | • KK Lee |
| • Samuel Lai | • Kenneth Leung |
| • Daniel Lam | • David Fleming |
| • Ian Thoms | • YT Li |

6.12.28 The minutes note that the following people also attended:

- | | |
|----------------|---------------|
| • Jimmy Leung | • Lisa Szeto |
| • Esther Chan | • Henry Liu |
| • Raymond Lau | • Johnny Tam |
| • SM Li | • KC Tsui |
| • Leo Mak | • J Jesudason |
| • R Whitehouse | • Alan Donnet |
| • Albert Chui | |

7. IDENTIFYING THE NEED FOR A SUPPLEMENTAL AGREEMENT

7.1 Scope of our work

7.1.1 We are requested to consider the following:

“When did KCRC determine that a supplemental agreement was appropriate and what processes were followed in order to finalise an agreement?”

7.1.2 In this chapter, we have provided the reader with a summary of the procedures that KCRC has in place in respect of supplemental agreements and an overview of the rationale for and the uses of supplemental agreements.

7.1.3 We have then explained the processes followed through the Corporate Tender Board and the Managing Board for entering into the supplemental agreement.

7.2 Background

7.2.1 Rule 781 of the Procurement Manual indicates 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 thereafter set out follows tender negotiation procedures.

7.2.2 Rule 783 makes the Chairman and Chief Executive the approving authority for contract negotiations, and the authority is delegated to Divisional tender boards and the Corporate Tender Board.

7.2.3 Rule 784 authorises Heads of Departments to approve negotiations:

“(d) When a party makes a claim against the other party to a contract;

(e) when any term or price of an existing contract has to be varied to meet changed circumstances or requirements”.

7.2.4 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 for variations to the works, but including Claims Management, required to be in accordance with the Capital Projects Manual.

7.2.5 As we have discussed earlier in this report, it is KCRC’s contract philosophy to partner and share risk with its contractors. Under this philosophy, disputes should be resolved in a pro-active manner (refer to Chapter 4).

7.2.6 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 is reasonably possible. The Airport Core Programme works and MTRC works in Hong Kong have all been undertaken on a similar basis. KCRC’s West Rail record so far in entering into 28 supplemental agreements is not unusual or alarming in context.

- 7.2.7 The principal purpose of a supplemental agreement is to change the terms and conditions of an existing contract. Most commonly, it is the terms as to time which are changed.
- 7.2.8 If certain matters arise on projects (for example, unforeseen ground conditions or significant variations), the contractor becomes entitled to additional time and costs pursuant to the contract terms.
- 7.2.9 KCRC can accept, in theory, the time (and cost) consequences, but these are sometimes uncertain. If it is desired to avoid delay, KCRC can request acceleration under the contracts, but that imposes no effective obligation on the contractor to meet particular dates.
- 7.2.10 To preserve completion dates or to set new dates which are reliable, the contract must be varied by agreement between the contracting parties. That is the principal, and most important, area in which supplemental agreements are used.
- 7.2.11 Supplemental agreements may also be used simply to compromise or settle claims and other disputes.
- 7.2.12 Dispute resolution procedures, even mediation as provided in KCRC contracts, are relatively expensive for both parties. The full and detailed submission and evaluation of claims is a long, tedious and contentious operation, detrimental to co-operative and amicable relationships at site and managerial levels.
- 7.2.13 The Engineer must decide the principles and with reasonable detail assess the claim. Not all claims are black or white decisions. The Engineer is not permitted to negotiate settlements; that 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.
- 7.2.14 Compromise and settlement are normally the preferred route and that, too, should properly be the subject of supplemental agreement since it does not fall within the contractual framework.
- 7.2.15 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 Airport Core Programme projects) although care must be taken to avoid dilatoriness and rupture of relationships.
- 7.2.16 Where the purpose of an agreement, however, is to recover or maintain time obligations, it is important that it is in place at the earliest possible date to avoid or minimise effects on other contracts, and on project completion. An agreement to recover time obviously is only effective while recovery can in practice be achieved.
- 7.2.17 During the progress of the work, however, it is also important that any supplemental agreement be comprehensive. It is purposeless to agree that certain delaying events will be compensated, and delay recovery measures 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.

- 7.2.18 Hence, prior to any negotiation to enter a supplemental agreement, it is necessary to establish a plan for the negotiation, which covers all essential points that are required by KCRC. It is useful if, in addition, matters which it is desirable (but not essential) to settle are also set out, with the distinction between essential and desirable matters clearly made.
- 7.2.19 The strategy for negotiation should be developed to show a “wish” list and a “base” list. There will also be, within the “wish” list, matters which may be of major importance, albeit not essential, and matters (for example, new key dates in a delay recovery programme) which must be settled but which are potentially flexible if a basic agreement is found.
- 7.2.20 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.
- 7.2.21 We consider, however, that specific procedures for approval of the plans, including the financial and other technical parameters, should be in place. Although the result of negotiations requires approval (i.e. such negotiations are ad referendum) nevertheless prior approval of the plan would be useful in establishing the relative priority of the several objectives.
- 7.2.22 Where the objective of a supplemental agreement is, essentially, to preserve the railway completion date, it is obviously necessary to reach such an agreement (at least in principal) before the delays concerned prevent that objective. That is largely a function of programme monitoring, not of any policy or rules with respect to agreements.
- 7.2.23 It simply is not feasible to set out guidelines for the approach to determining whether or when such an agreement is desirable. That must depend upon the nature of the delays encountered, the stage of the contract concerned, and the feasibility of delay recovery, in each individual case.
- 7.2.24 We have observed in the case of the three selected contracts that the agreements have been reached in time to substantially avoid or overcome delay. In that sense, the policy actually adopted by management is, thus far, clearly successful.
- 7.2.25 Whatever criticisms may be levelled at the agreement with Siemens on DB-1500, our understanding is that management are wholly satisfied that delays are being overcome, as a result of the agreement.
- 7.2.26 Where the objective of a supplemental agreement is more the resolution of disputes and claims than the achievement of key dates, the approach can be structured differently.
- 7.2.27 The purpose of such agreements is, in essence, to determine with reasonable speed, what is fair between the parties. KCRC gains from such agreements, in avoiding destructive disputes, but the gains are less tangible than programme gains. In these cases, there is less time pressure to reach agreement and the financial analysis is more important.

7.2.28 Most agreements will, in fact, combine aspects of delay recovery and of dispute resolution. Since the latter will often involve less urgency than the former, that should be recognised in negotiation plans.

7.3 Documents presented at the Corporate Tender Board

7.3.1 The minutes indicate that the issue of a supplemental agreement for DB-1500 was first raised at the meeting of the Corporate Tender Board held on 17 October 2001. These minutes state:

- “3. *CCE said that the project team must find out what was the real problem behind Siemens’s poor performance. He said that, if Siemens’s poor performance resulted from its very low tender price, the Corporation should consider providing a sum of money to Siemens in the form of bonus incentives to meet the contract key dates. This would enable the company to deploy sufficient resources to the contract to catch up all the slipped target dates. He added that this would not only ensure that the contract could be completed on time by Siemens, but also could save the Corporation from possible claims made by other contractors due to the delay of the contract. He said, however, that the Corporation should only consider this option when all other options to improve Siemens’s performance on the contract had failed.*
4. *Both DEX an DWR expressed concerns that giving Siemens a lump sum payment in order to help the company catch up all the slipped dates of the contract might set a bad example for the Corporation’s other contracts.”*

7.3.2 At the next meeting of the Corporate Tender Board on 14 November 2001, a confidential memorandum from DWR to the Board dated 14 November 2001 and titled “Contract No. DB-1500 – Telecommunications System, Approval to Negotiate with Siemens” was tabled and discussed. The memorandum states that:

“Introduction

The Corporate Tender Board is invited to consider and approve a strategy for a negotiation with Siemens Limited, the contractor for contract DB-1500-Telecommunications, to obtain a supplemental agreement that will commercially resolve all disputes related to the works and enable the delivery of the contract to meet the overall project objective of commencing revenue operations by the earlier opening date of 1 September 2003.”

7.3.3 The memorandum goes on to outline the proposed negotiation strategy as follows:

“ARGUMENT/PROPOSAL

13. *The Corporation, through the auspices of the Engineer, has unsuccessfully attempted to enforce the provisions of the contract in resolving the manifest problems. This arises from a sense that the contractor has made a mistake in underbidding the job * This commercial pressure also appears to have been applied to sub contractors both in terms of sub contract buying and performance. Given the current circumstances the Corporation’s interests will not be served by a strict reliance upon contractual and legal principles. The best way to resolve the position and protect the Corporation’s interests will be to avoid an adversarial situation and reach a collaborative commercial agreement with the contractor.*
14. *To this end it is proposed to form a negotiating team in accordance with rules 781 to 788 of the Procurement Manual led by SDP and comprising DWR, CS-GC, GM-PT, CM-RS with support from SEM(E) and SA/SDP. The team will explore the position with the contractor to obtain an agreement to achieve the following objectives –*

Non-negotiable interests-

- (a) *the appointment of a Project Director whose sole interest is the delivery of the project on time together with the establishment of a joint management structure empowered to support the Project Director; and (sic)*
- (b) *the delivery of the telecommunications systems in time to open the railway for revenue operations on 1 September 2003;*
- (c) *the sums associated with any commercial agreement shall not exceed the tender total submitted by STE, as increased by the value of variations instructed or to be instructed by the Engineer amounting to HK\$485.29 million comprising HK\$457.94 million plus HK\$27.35 million.*

Negotiable issues-

- (d) *the settlement of all claims and variations, as set out in paragraph 11, to a contemporary date;*

* **This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to views on Siemens’ internal corporate policy to which KCRC is not privy, could give rise to adverse legal consequences.**

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- (e) *the cost of delay recovery measures, to be undertaken from the date of the supplemental agreement, associated with eliminating up to 13 weeks delay as mentioned in paragraph 9 in respect of the PAS, PID and CCTV sub systems design and installation;*
- (f) *the costs of delay recovery measures, to be undertaken from the date of the supplemental agreement, associated with eliminating up to four weeks delay as mentioned in paragraph 9 in respect of the radio system design and installation;*
- (g) *the establishment of incentives to be available to the contractor upon the achievement of specified targets to be set in respect of the unfinished part of the works;*
- (h) *re-establishing the key dates schedule, with liquidated damages according to the delay recovery programmes. This may include introducing additional key dates to obtain greater and more effective control upon the contractor's performance; and*
- (i) *resetting the interim payment schedules and milestone schedules to be compatible with the delay recovery programmes.*

Implicit within the above objectives will be ensuring that sufficient resources of the necessary calibre are dedicated to the project together with achieving resolution of the contractor's problems with its subsystems sub contractors affecting timely delivery. It is also a fundamental underlying principle that the negotiations will not compensate the contractor for his tendering losses.

Financial

- 15. *Rule 786 of the Procurement Manual requires advance authorisation of the financial limits to which the negotiating team can commit the Corporation.*
- 16. *Analysis of the available cost information suggests that a settlement could be achieved within a limit calculated as follows:*

Item	HK\$'million	
<i>Committed costs-</i>		
<i>Variations</i>	12.02	
<i>Claims</i>	4.70	16.72
<i>Assessed potential costs-</i>		
<i>Variations</i>	15.33	
<i>Claims</i>	3.00	18.33
<i>Sub total</i>		35.05
<i>Negotiating allowance for delay recovery, acceleration and commercial settlement</i>		62.95
<i>Total</i>		98.00

17. *Settlement at this limit would result in a revised Contract Sum of HK\$384.76 million, comprising the original Contract sum of HK\$286.76 million plus the settlement limit of HK\$98 million.*

Conclusions

18. *Contract DB 1500-Telecommunications is an essential system, supporting system safety needed for railway opening. The current delays can be mitigated if positive action is taken now. The best way of achieving the successful delivery of the project is to resolve the problems besetting the project through a collaborative commercial agreement with both parties working in partnership. This will incur the Corporation in additional cost that if kept within the limit stated at paragraph 16 would remain significantly below the modified STE tender total and still constitute value for money.*

Recommendation

19. *The Corporate Tender Board is invited to endorse the negotiation objectives set out in paragraphs 13 and 14 and to authorise the commitment of cost up to the limit stated at paragraph 16.”*

7.3.4 The minutes of the Corporate Tender Board Meeting held on 14 November 2001 state:

- “6. *CCE said that he knew that Siemens had also not been performing well in certain other contracts with the Corporation. He said, however, that, in order not to complicate the issue, the negotiations with Siemens should focus on Contract DB-1500 and not the others.....*
9. *In response to SDF, DWR said that the proposed sum of HK\$62.95 million for the commercial settlement was an estimate, based on both his understanding of the Siemens’ project costs and also the tender price difference between Siemens and STE. DWR said that the remaining sum of HK\$35.05 million would be used for the settlement of all existing and potential variations and claims under the contract, and it was recommended that the revised contract sum for the contract would be limited to HK\$384.76 million.*
10. *After considering the argument and proposal outlined in paragraph 13 of the submission, Members unanimously agreed that, under the current situation, the best way to protect the Corporation’s interests would be to negotiate a supplemental agreement with Siemens. The Board noted that CCE had the authority to approve the negotiations under Rule 783 of the Procurement Manual.”*

7.3.5 The minutes of the Corporate Tender Board Meeting on 14 November 2001 indicate that the following Corporate Tender Board members attended:

- KY Yeung
- James Blake
- Samuel Lai
- Daniel Lam
- Ian Thoms
- Jonathan Yu
- KK Lee
- Kenneth Leung
- David Fleming
- YT Li

7.3.6 The minutes note that Jimmy Leung, GM-RS (Acting), CM-RS and Michael Arnold were also in attendance.

7.4 Documents presented to the Managing Board on 19 November 2001

7.4.1 The four-page Managing Board Paper IP 01/28 titled “Contract DB-1500 – Telecommunications Systems”, to which was attached the twelve-page confidential memorandum submitted by DWR to the Corporate Tender Board as referred to in Section 7.3.2, was tabled at the 206th Managing Board Meeting held on 19 November 2001.

7.4.2 The paper sets out the current position as follows:

- “8. *Siemens’ contract as a whole is running some 10 weeks behind programme. In particular, the critical software development subcontracted to ONL is now some 13 weeks behind schedule. While there are possible work-around solutions available to enable West Rail to open on time without having this software in place, it would be highly desirable if the integrated system were to be fully functional on Day One.*
9. *The delays on the contract can be ascribed to poor management of the entire contract by Siemens from the outset, with the late engagement of ONL by Siemens * ONL’s progress has not been helped because of various commercial disputes between it and Siemens. While Management through the Engineer has tried to enforce the provisions available under the contract to resolve the delays, it is now apparent that Siemens had under-priced its original bid for the work. ** This approach is believed to be one of the root causes of the commercial disputes with ONL.*
10. *Management is of the view that this situation cannot be allowed to continue if the current target completion date for West Rail is to be met. The delays are now such that there is insufficient time for terminating the contract or trying to enforce its provisions by more conventional methods. Management considers that the best way to resolve the situation, while protecting the Corporation’s interests, is to try to reach a commercial settlement with Siemens which provides Siemens with the incentive to perform.....”*

* **This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.**

** **This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to views on Siemens’ internal corporate policy to which KCRC is not privy, could give rise to adverse legal consequences.**

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7.4.3 The paper goes on to outline the proposed negotiation plan and the proposed settlement ceiling, details of which are set out in Section 7.3.3.

7.4.4 An extract of the minutes of the 206th Meeting of the Managing Board held on 19 November 2001 states:

“78. Mr. Connolly said that he had noted from the earlier Paper IP 01-25, which had been to the New Railway Projects Steering Committee, that the likely outturn cost would be about HK\$87 million more, whereas Paper IP 01-28 stated that the additional amount would be up to HK\$98 million, and he asked why there was this difference. Director, West Rail explained that, when the estimates for Paper IP 01-25 had been prepared, Paper IP 01-28 had not then been written. Also it was not Management’s intention to commit the whole of the HK\$98 million if such could be avoided. Mr. Connolly referred to the discussion earlier in the Meeting under Paper 01/117 concerning the sealing of subcontracts and asked how the Corporation had gotten into the situation in DB1500 of there being disputes between the sub-contractor and the main contractor with the Corporation paying the bill. Senior Director, Capital Projects said that problems with Siemens’ internal management and controls were the root cause of the problem. This had been taken up earlier during the year, with only partial success. Chairman said that the Corporation could be considered partly to blame for having accepted a low tender, in the belief that this was a deliberate attempt on the part of Siemens to secure a KCRC contract. Nevertheless, the aim was not to compensate Siemens either for under-pricing the work or for their subsequent delay, but only to agree what it would take to complete the contract to the Corporation’s dates. Mr. Connolly commented that this approach would not be the best message to send to the market. Chairman replied that the problem was that there was now no time to retender the work.

79. *The Board then noted the content of the paper.”*

7.4.5 The minutes note that the following members of the Board were present at the meeting:

- KY Yeung
- Denys Connolly
- Edmond Lau Ting- chung
- Nicholas Ng
- Denise Yue
- Vincent Cheng Hoi-chuen
- Keith Lam Hon-Keung
- Vincent Lo Wing-sang

7.4.6 The following people were also noted as being in attendance at the meeting:

- David Fleming
- Michael Arnold
- James Blake
- Samuel Lai
- Jonathan Yu
- KK Lee
- Ian Thoms
- Daniel Lam
- Kenneth Leung
- Irene Yau

7.4.7 The Managing Board Paper 01/28 was Item 18 under Any Other Business on the agenda for the meeting. During our interviews with members of the Managing Board, we were told that the meeting had continued into lunch; as a result, Mr. Nicholas Ng and Ms. Denise Yue had to withdraw from the meeting to attend other commitments. The paper was not therefore discussed by all members of the Managing Board.

7.5 Documents presented to the Managing Board on 17 December 2001

7.5.1 The six-page Managing Board Paper 01/136 titled “Contract DB 1500 – Telecommunications Systems, Approval to enter into a supplemental agreement and to increase approved project estimates and contract sums”, to which was attached the four-page Managing Board Paper 01/28 and the twelve-page confidential memorandum submitted by DWR to the Corporate Tender Board as referred to in Section 7.4.1, was tabled at the 207th Managing Board Meeting held on 17 December 2001.

7.5.2 Paper 01/136 was presented to the Managing Board by SDP. The paper summarises the negotiations with Siemens as follows:

“3. *Negotiations took place in Germany between 23 November 2001 and 27 November 2001. The first key issue addressed in the negotiations was how to resolve the delays in software development work for the public address system, the passenger information display system and the closed circuit television system. Siemens had sub-contracted this to a specialist company, Optical Network Limited (ONL), and claimed that the major responsibility for delays rested with this subcontractor. Siemens proposed to replace ONL with three separate specialist sub-contractors, as follows-*

- (a) *for the public address systems, AV Digital, which has undertaken similar work on East Rail in a timely and satisfactory manner;*
- (b) *for the passenger information display system, Roctec Technology, which has undertaken similar work for the MTRCL and is currently employed as a sub-contractor on the MTRCL’s Tseung Kwan O Extension; and*
- (c) *for the closed circuit television system, COE, which has previous Hong Kong experience and has undertaken large CCTV projects internationally.*

The negotiation team was told that these sub-contractors have proven systems in operation and only a minimal amount of customisation would be required to meet the specifications for West Rail, Phase 1. AV Digital and COE made presentations to the team, both of which made a favourable impression. The team concluded that Siemens’ proposal was the best way forward.

4. *During the remainder of the first and second days of negotiations, the team also resolved a number of technical issues, particularly relating to programme and resources. Of particular importance was that Siemens agreed to replace its obdurate vice president with a new controlling officer, as well as to establish an appropriate chain of command and project management team with defined responsibilities and accountabilities.*
5. *The opening of contractual and commercial discussions on the third day revealed a significant difference in expectations and positions between the two sides amounting to about HK\$238 million, with the Corporation's contractual valuation of HK\$321.81 million, comprising the tender total of HK\$286.76 million plus the Engineer's assessment of variation and claim entitlements amounting to HK\$35.05 million, set against Siemens expected "open book" costs of HK\$560 million.*
6. *Siemens' open book position included allowances for loss of profit and overheads to recover the impact of what is now known to be an unrealistically low priced tender, plus an estimated cost for terminating ONL's employment. The team made it very clear to Siemens that these items were totally Siemens' responsibility and that the Corporation would not consider compensating Siemens for the consequences of its commercial misjudgement. The team stated that the Corporation was only prepared to accept legitimate contractual entitlements for variations and historic claims. However, the team indicated that the Corporation was prepared to look to the future and could consider paying Siemens any reasonable costs it might incur in implementing delay recovery measures, and accelerating key dates.*
7. *Negotiations reached an impasse on the third day when Siemens agreed to accept HK\$98 million to settle all historic claims and variations up to 26 November 2001, and to implement delay recovery measures to achieve the agreed revised key dates, but insisted upon a further HK\$20 million to accelerate two key dates to ensure railway opening on 1 September 2003.*
8. *On the fourth day, the negotiating team reported to the Chairman, before resuming negotiations with the Siemens team. The Chairman endorsed the position taken the previous day, but gave the team the authority to round up the Corporation's offer to HK\$100 million on the condition that all objectives were achieved, including Siemens giving a commitment to accelerate the two key dates. Discussions between the sides continued throughout the morning, including direct contact being made between Siemens and the Chairman, following which Siemens accepted the Corporation's offer of HK\$100 million. In order to provide Siemens with an incentive to perform, the HK\$100 million will be paid to an agreed schedule, the first payment of HK\$40 million being made in January 2002, with four further payments being made in February, April, July and September 2002 subject to completion of the specified milestones.*

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9. *One area where the team were not able to reach agreement was in respect of Siemens agreeing to waive all potential future claims and variations up to the completion of the contract. While both sides were reasonably confident that they were able to identify what variations might be necessary up to the end of the contract, Siemens was not prepared to waive its right to payment in respect of unforeseeable items. The team had little alternative but to accept Siemens' position on this matter."*

7.5.3 The paper goes on to propose the following:

- “12. *Management therefore proposes that the Corporation should enter into a supplemental agreement with Siemens Limited to settle all variations, claims and other matters to 26 November 2001, and –*
- (a) *to establish a new schedule of key dates with liquidated damages, with some dates advanced to meet West Rail's opening date of 1 September 2003;*
 - (b) *to establish revised installation access dates to meet the current station programmes;*
 - (c) *to establish revised payment and milestone schedules in keeping with the revised programme of works;*
 - (d) *to approve the proposal to replace ONL with three new specialist sub-contractors as set out at paragraph 3; and*
 - (e) *to pay to Siemens an amount of HK\$100 million additional to its tender total of HK\$286.76 million in consideration of the agreement. The HK\$100 million will be paid according to an agreed schedule, the first payment of HK\$40 million being paid in January 2002 with four subsequent payments being linked to specified achievements in February, April, July and September 2002.*
13. *Subject to Members' agreement to the above proposal, Management further proposes that the APE and Contract Sum for contract DB-1500 be increased as follows-*

	<i>HK\$'million</i>
<i>Current APE and contract sum less hedging costs (refer to Paper 00/103)</i>	302.52
<i>Less-</i>	
<i>Amount for variations previously approved but no longer required</i>	15.76
<i>Tender total</i>	286.76
<i>Additional consideration in respect of the supplemental agreement</i>	100.00
<i>Proposed revised APE and contract sum (less hedging costs)</i>	386.76
<i>Original hedging costs (refer to Paper 99/133)</i>	4.39
<i>Proposed revised APE (including hedging costs)</i>	391.15

14. *At a revised contract sum of HK\$386.76 million, the deal struck with Siemens still represents good value for money, as it is HK\$66.79 million less than the second lowest tender offered by Singapore Technologist (sic) Limited at HK\$457.94 million (excluding issued variations and hedging costs)."*

7.5.4 The following discussion of the paper is recorded in the minutes:

- "70. *Miss Yue said that she was worried that the Corporation, as an employer, was compensating its contractor for poor performance. It was not the case of Management being unaware of the position when an extremely low-priced tender was submitted by Siemens. Management was comfortable with accepting the tender in the belief that it was a commercial decision of Siemens with the aim of doing business with the Corporation. In 2000, Management was already concerned about the poor progress made by Siemens. In October 2000, Management approved the sub-contracting by Siemens. She queried whether, at that time, Management had formed a professional view on the capability of the sub contractors. Only until the previous month had Management agreed with Siemens that the sub-contract between Siemens and Optical Network Limited should be terminated. The sequence of events had left the Corporation with no alternative but to be held hostage by Siemens because the Corporation wanted West Rail to open in September 2003, and the Corporation wanted the telecommunications systems to be operational by that time. Siemens had got the Corporation in a tight corner. At the last Board Meeting, five objectives had been laid down for Management's discussions with Siemens. One of these objectives had not been achieved. Although Senior Director, Capital Projects was confident that there should not be any future potential claims on the Corporation, this remained to be seen after the completion of the project. The Corporation still needed to worry because of the poor performance of Siemens."*
- "71. *Chairman said that he accepted the responsibility for misjudgement in the tender process. In his five years of service with the Corporation, he had made two errors of judgement. One was related to the ATP system and the other was this. He said that he owed the Board an apology for the error of judgement."*
- "72. *Senior Director, Capital Projects said that, in regard to Miss Yue's concern regarding potential claims, the mechanisms in the agreement for monitoring performance and resolving potential problems gave every reason to believe that there should not be any undue cause for worrying."*

- “73. Mr. Lau asked whether there was any fall back plan if Siemens did not perform. Senior Director, Capital Projects said that the Corporation could open West Rail with limited telecommunication systems in place, but that the purpose of the agreement was to avoid that situation. In the Supplemental Agreement, there would be three new specialist subcontractors. Two of them had given impressive presentations and third had an established track record in Hong Kong. The problems associated with the previous sub-contractor, Optical Network Limited, had been removed. The agreement had restored confidence in all railway and station systems being available for opening in September 2003, which was earlier than Siemen’s original completion date. The first tranche of payment would be made in January 2002. The second and third tranches of payment would be made at factory acceptance dates.”
- “74. Miss Yue referred to paragraph 8 of the paper and asked about the specific milestones against which payments would be made. Senior Director, Capital Projects said that, in January 2002, all claims and variations should be settled, and the contracts for the three specialist sub-contractors would be awarded. In March 2002, the second tranche of payment would be made against the factory acceptance Stage 1 tests in respect of the public address system and the closed circuit television system. General Manager, Railway Systems (Acting) explained that factory acceptance tests were functional tests carried out at the producer’s factories and were witnessed by the Corporations engineer’s. In May 2002, there would be the second factory acceptance tests for the public address system and the closed circuit television system. The public information display system would have only one general factory acceptance test. By 31 August 2002, all partial acceptance tests would be completed at five stations. The other stations would follow later behind the relevant civil works programme access dates for the systems contractors. Installation would have been completed when all sums under the Supplemental Agreement had been paid.”
- “75. Mr. Lau noted in paragraph 9 of the paper that Siemens had refused to waive all potential future claims and variations up to the completion of the contract. Senior Director, Capital Projects said that a waiver had not been given because of the uncertain risks involved. The only alternative was to re-tender the contract. Director, West Rail added that both parties were reasonably confident that they were able to identify what variations might be necessary up to the end of the contract, Siemens would not accept a waiver of all potential future claims because it did not know what other parties might claim. There was too much risk which was beyond its control.”

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“76. Mr. Lo asked about the position in respect of liquidated damages. Director, West Rail said that they were built in with the key dates. The Corporation could sue for liquidated damages. Construction Manager, Rail Systems added that there were 9 key dates and liquidated damages could range from HK\$92,000 to HK\$105,00 (sic) per day. They were secured against performance bonds and a parent company guarantee. Company Secretary said that an enhanced reporting and monitoring system would be established. Reports would be made on a more regular basis.”

7.5.5 The minutes of the 207th Meeting of the Managing Board on 17 December 2001 indicate that:

“77. The Board then -

- (a) APPROVED that the Corporation enter into a supplemental agreement with Siemens Limited in accordance with the proposals set out in paragraphs 12 and 13 and the heads of agreement at Annex B;
- (b) APPROVED that the Approved Project Estimate, including hedging costs, for contract DB-1500-Telecommunications Systems be increased from HK\$306.90 million by HK\$84.25 million to HK\$391.15 million (comprising the revised contract sum of HK\$386.76 million plus hedging costs of HK\$4.39 million); and
- (c) NOTED that a draw down would be made from the West Rail Programme Reserve of HK\$84.25 million.

Mr. Ng noted that the above approvals from the Board were given extremely reluctantly.”

7.5.6 The minutes of the Meeting on 17 December 2001 note the following Board Members were present:

- K Y Yeung
- Edmond Lau Ting-chung
- Nicholas Ng
- Denise Yue
- Vincent Cheng Hoi-chuen
- Tim Chung Shui-ming
- Keith Lam Hon-keung
- Vincent Lo Wing-sang

7.5.7 The minutes note that the following people also attended the meeting:

- David Fleming
- Shirley Wong
- James Blake
- Samuel Lai
- Jonathan Yu
- YT Li
- KK Lee
- Ian Thoms
- Daniel Lam
- Kenneth Leung
- Akber Khan

8. HOW THE SUPPLEMENTAL AGREEMENT WAS QUANTIFIED, NEGOTIATED AND APPROVED

8.1 Scope of our work

8.1.1 We are requested to consider the following:

“What factors were taken into account by KCRC in coming into a conclusion that the contractor should be paid additional monies?”

“What internal procedures were in place to determine the appropriate or maximum amount of the additional monies payable and were these procedures being followed in all cases?”

“What procedures were in place to override the internal assessment of the maximum amount payable and were these procedures being followed in all cases?”

8.1.2 In this chapter, we have provided an overview of the claims procedures followed by KCRC.

8.1.3 We have then commented on the manner in which the internal assessment of the maximum amount payable to Siemens under the supplemental agreement was quantified. Finally, we have commented on how that amount was overridden.

8.2 Background

8.2.1 The General Conditions of Contract provide that where the contractor makes a claim for an extension of time, a claim for payment of cost or a claim for additional payment under Clauses 45, 57 and 58 respectively, the Engineer and his representatives are obliged to review and assess potential entitlements in accordance with the requirements of the contract.

8.2.2 KCRC, however, are able to and should take a wider approach to the evaluation of contractors' claims. This permits them to factor into any assessment the risk of a dispute being taken to a formal dispute resolution process (such as arbitration) with a decision made against them, and the cost implications of pursuing formal proceedings to a final decision.

8.2.3 In making such an independent assessment, KCRC are also able to consider the effect of delays on a particular contract impacting on interfacing contracts together with the associated financial risk, for example from claims for additional payment/prolongation from the interfacing contractor being delayed.

8.2.4 Accordingly, KCRC are able to consider opportunities to “buy back” time, regain certainty and responsibility in the achievement of key dates, and re-establish entitlement to levy liquidated damages within the context of the whole West Rail project not seen, or available for consideration, by the Engineer on a particular contract.

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- 8.2.5 Furthermore, KCRC have the opportunity to take a considered approach to the possibility that rejected claims will be pursued by the contractor notwithstanding KCRC's rejection.
- 8.2.6 Since few construction claims are entirely black or white, there is a chance that a rejected claim will escalate to a dispute necessitating implementation of formal dispute resolution procedures, which could ultimately result in a decision against KCRC.
- 8.2.7 The costs of such resolution processes are frequently substantial and, at some stage, must be considered in the overall possible settlement scenario. It may be better to negotiate a mutually agreeable settlement on a particular matter with a contractor early in a contract, thereby avoiding costly legal proceedings, than to risk a judgement against KCRC at a later stage, with KCRC's own consequent legal costs and responsibility for the claimant's costs. This approach also helps to maintain harmonious working at site level.
- 8.2.8 It should be noted that there appears to be no documented procedure for addressing the specific matters or heads of recovery raised within a contractor's claim or for assessing the quantum thereof.
- 8.2.9 This is not surprising since, just as every construction project is unique, so too is every claim. The heads of recovery cited by a contractor will probably appear in many claims, but the methods and details adopted in each are unique.
- 8.2.10 It might, nevertheless, be of some value for KCRC to develop outline evaluation plans for major claims (in excess of, say, HK\$50 million) to give guidance to project staff.
- 8.2.11 The administrative procedure for processing a contractor's claim is drawn principally from the KCRC West Rail Claims Management Procedure (PCA-010), and is summarised in the following sections.
- 8.2.12 Upon receiving a claim notification from the contractor, the employer's agent (usually the Engineer) allocates a reference number, notifies the contractor of this reference and registers the claim (PCA-010, paragraph 5.3.1).
- 8.2.13 He then reviews the notification, together with any substantiation provided, and prepares a preliminary opinion (PCA-010, paragraph 5.3.3) that is forwarded to the employer's representative (usually KCRC's own project manager).
- 8.2.14 If the employer's agent considers the claim valid, he prepares a Claims Analysis Report and Recommendation ("CAR&R") which is sent to KCRC's representative (PCA-010, paragraph 5.3.7). This provides a concise review of the salient points of the claim. A CAR&R is also prepared when the employer's agent considers the claim to be invalid but KCRC's representative considers otherwise.
- 8.2.15 This procedure appears to make the preparation of a CAR&R conditional upon either of the acceptance of the validity of the claim by the employer's agent, acceptance of the validity of the claim by KCRC's representative, or there being a likelihood of an adverse impact on the programme.

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- 8.2.16 This seems needlessly complicated. There are likely to be few, if any, claims that are not covered by one of these situations. The procedure could therefore be simplified by simply requiring a CAR&R for every claim notified.
- 8.2.17 There is an apparent inconsistency in the procedure regarding notification to the contractor when the employer's agent considers the claim to be invalid. PCA-010, paragraph 5.3.6 requires "*If the Employer's Agent considers the claim is invalid he shall notify the Contractor and copy the correspondence to the Corporation's Representative*". However, the preceding paragraph of PCA-010, paragraph 5.3.5, states ... "*the Employer's Agent ... will not offer any advice to the Contractor as to the validity or otherwise of the claim pending advice from the Employer's General Manager in accordance with paragraph 5.4.3*".
- 8.2.18 Paragraph 5.4.3 requires that advice should not be given to the contractor as to the validity, or otherwise, of a claim until after review by the Claims Review Panel. This is much later in the review process and is not compatible with the obligation on the employer's agent to notify invalidity in accordance with PCA-010, paragraph 5.3.6. It is suggested that consideration be given to revising the procedure to address this inconsistency.
- 8.2.19 If requested by the KCRC's representative, the employer's agent will, concurrent with preparation of the CAR&R, prepare a separate report considering the feasibility of implementing delay recovery measures (PCA-010, paragraph 5.3.10). This will include a justified recommendation (including a cost-benefit analysis) as to whether the KCRC's representative considers that delay recovery measures should be implemented.
- 8.2.20 The CAR&R and report on delay recovery form the justification for raising a Change Authorisation (PCA-010, paragraph 5.3.8) which will, in turn, be routed through and reviewed in accordance with KCRC's Cost Control System. Once such review is complete, the Change Authorisation will be forwarded to the Claims Review Panel for consideration.
- 8.2.21 Prior to convening a meeting of the Claims Review Panel, the Change Authorisation and its supporting documentation will be reviewed by Corporate Legal Counsel – Contracts who will provide comments for the Claims Review Panel (PCA-010, paragraph 5.3.9).
- 8.2.22 The Claims Review Panel will consider the Change Authorisation together with the supporting CAR&R and will advise the employer's general manager and KCRC's representative of its intended method of dealing with the issue (Claims Procedures Manual Rule 519).
- 8.2.23 Where it is thought that rejected claims may develop into formal disputes and KCRC may have potential liability, or where it is considered that a supplemental agreement to settle claims may be beneficial, an appropriate proposal shall be drafted for endorsement by the Senior Claims Review Panel (PCA-010, paragraph 5.4.2).

- 8.2.24 Once the need for a supplemental agreement has been identified by the Senior Claims Review Panel through KCRC's wish to "buy back" time or to crystallise its financial liability, the responsible Construction Manager shall, in conjunction with the contract's Administration Manager, prepare a negotiating proposal to enter into a supplemental agreement (PCA-009, section 8, paragraph 5.2.1). This serves to outline the purpose, background, terms of reference and financial impact of the matters under consideration and to make a recommendation.
- 8.2.25 This negotiating proposal shall be reviewed in accordance with PCA-009, section 8, paragraph 5.2.2, prior to commencement of negotiations.
- 8.2.26 Once the negotiating proposal is endorsed, the Senior Claims Review Panel shall nominate a negotiating panel to negotiate with the contractor (PCA-009, section 8, paragraph 5.2.3) who shall negotiate with the contractor on the basis of a draft supplemental agreement prepared in accordance with PCA-009, section 8, paragraph 5.2.4.
- 8.2.27 PCA-009, section 8, paragraphs 5.2.5 to 5.2.6 regulates changes to the draft supplemental agreement arising from negotiations with the contractor.
- 8.2.28 PCA-009, section 8, paragraphs 5.4.1 to 5.4.4 provide a procedure for finalising and execution of the agreed supplemental agreement.
- 8.2.29 These procedures provide a reasonably clearly documented procedure for administering claims and negotiating supplemental agreements. In practice a decision to deal with a single claim by way of supplemental agreement is unlikely.
- 8.2.30 Developing a supplemental agreement is only likely to occur when there is a need to address a multitude of claims of varying degrees of validity. However, the methodology provides sufficient flexibility to deal with most circumstances which may arise.

8.3 Documents presented to the Corporate Tender Board

- 8.3.1 We have been provided with a confidential memorandum from DWR to the Corporate Tender Board dated 14 November 2001 and titled "Contract No. DB 1500 – Telecommunications System, Approval to Negotiate with Siemens". The memorandum summarises the proposed settlement ceiling as follows:

15. *Rule 786 of the Procurement Manual requires advance authorisation of the financial limits to which the negotiating team can commit the Corporation.*

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16. *Analysis of the available cost information suggests that a settlement could be achieved within a limit calculated as follows:*

Item	HK\$'million	
<i>Committed costs-</i>		
<i>Variations</i>	12.02	
<i>Claims</i>	4.70	16.72
<i>Assessed potential costs-</i>		
<i>Variations</i>	15.33	
<i>Claims</i>	3.00	18.33
<i>Sub total</i>		35.05
<i>Negotiating allowance for delay recovery, acceleration and commercial settlement</i>		62.95
<i>Total</i>		98.00

17. *Settlement at this limit would result in a revised Contract Sum of HK\$384.76 million, comprising the original Contract sum of HK\$286.76 million plus the settlement limit of HK\$98 million.*

8.4 The Quantification of the Additional Monies Payable to the Contractor

- 8.4.1 We have obtained copies of the documentation prepared by KCRC management to support the calculation of the maximum amount payable to Siemens under the proposed supplemental agreement, and have summarised the build up of the calculation in the following sections.
- 8.4.2 Siemens had been instructed to execute certain variations, which the Engineer had assessed at HK\$12.02 million. That amount is straightforward, and is carried directly to the proposed settlement figure.
- 8.4.3 Certain variations were anticipated (not confirmed) and these were:

		HK\$'million
(a)	Entrance C2, NAC	3.00
(b)	Half duplex interface, SP1900	2.80
(c)	FSD CCP at TIS/YUL/LOP	0.68
(d)	Terminals/cameras, WRB	0.60
(e)	Relocate devices	8.25
	Total	15.33

- 8.4.4 These also are carried into the proposed settlement figure. However Item (a) for HK\$3 million is a future variation which is not covered by the agreement. This item was subsequently settled in January 2002 for HK\$1.15 million through KCRC's normal variation approval process.

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8.4.5 Siemens had also submitted a number of “cost” claims (for delay and similar), the relevant figures being:

Claim	Siemens HK\$'million	Engineer HK\$'million
2	20.77	2.00
3	0.80	0.00
4	40.40	0.00
5	11.96	0.40
6	60.33	0.00
7	11.74	2.30
Total	146.04	4.70

The principal claims were in respect of the use of leaky cables on the viaducts (Claim 4) and for “project coordination” problems (Claim 6). It is noted that these attracted zero evaluations by the Engineer.

8.4.6 In addition, the Engineer considered that there was a potential claim for HK\$3 million in respect of delayed access.

8.4.7 The foregoing amounts give the first element of the proposed settlement figure:

	Section reference	HK\$'million
Committed variations	8.4.2	12.02
Future variations	8.4.3	15.33
Submitted claims	8.4.5	4.70
Potential claims	8.4.6	3.00
Total		35.05

8.4.8 However, as item (a) (refer to Sections 8.4.3 and 8.4.4) of the future variations was not actually settled as part of the supplemental agreement, the settlement of the variations was actually worth only:

	HK\$'million
Committed variations	12.02
Future variations	12.33
Submitted claims	4.70
Potential claims (if included)	3.00
Total	32.05

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8.4.9 The Engineer produced a further evaluation (dated 22 November, 2001), which adjusted the value of committed variations and future valuations. This totalled HK\$18.5 million, as follows:

	Estimate HK\$'million	Revised HK\$'million
Committed variations	12.02	9.33
Entrance C2, NAC	3.00	1.41
Half duplex interface	2.80	1.66
FSD CCP at TIS/YUL/LOP	0.68	0.98
Terminals, cameras, WRB	0.60	0.43
Relocate devices	8.25	0.00
Claims	4.70	4.70
Potential claims	3.00	0.00
Total	35.05	18.51

8.4.10 This, however, was produced specifically for the discussions with Siemens and is referred to in KCRC's notes of the meeting with Siemens on 25 November, 2001 (at note 7). Hence, it would be expected to be very conservative and should not be regarded as a reliable figure.

8.4.11 The Engineer also estimated the amounts which might be required to settle the disputed claims, if the basic position was not found (by dispute resolution or similar) to be in KCRC's favour. The assessment was:

Claim	Claimed HK\$'million	Basic HK\$'million	Difference HK\$'million	Risk HK\$'million
2	20.80	2.00	18.80	9.40
3	0.80	0.00	0.80	0.00
4	40.40	0.00	40.40	4.00
5	12.00	0.40	11.60	5.80
6	60.30	0.00	60.30	6.00
7	11.70	2.30	9.40	4.70
Total	146.0	4.70	141.3	29.90

8.4.12 The HK\$29.9 million "risk" figure is the estimated amount which was presented to us in a paper dated 26 February, 2002 and used in Mr. Tien's statement to Legislative Council on 28 February 2002, but it is not clear whether this was presented earlier in any form.

8.4.13 A risk analysis approach to claims settlement proposals is good practice. However, it is unusual to prepare that in such a simple manner. It may be noted that (save for Claim 3) each figure is either 50% of the difference or 10% (claims 4 and 6) of the claim where the basic position is that there is no entitlement.

8.4.14 Full risk analysis of claims (conducted, for example, by Government in some circumstances) requires "high" and "low" risk percentages for at least each of liability and quantum, giving a range within which a settlement should fall.

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- 8.4.15 We have not seen the contractor's submissions (if any detailed submissions were received) nor have we undertaken sufficient analysis to consider the extent to which KCRC was at risk, either as to liability or quantum. We have no reason to suppose that the Engineer's evaluations were other than to high professional standards.
- 8.4.16 The "risk" figure is not shown in the Corporate Tender Board paper dated 14 November, 2001. In that paper, it appears to be subsumed within the HK\$62.95 million negotiating allowance for delay recovery, acceleration and commercial settlement.
- 8.4.17 The other part of this sum amounting to approximately HK\$33.05 million was an estimate for delay recovery. We have been told that this amount was based upon an examination of the pricing difference between the average of the Engineer's estimate and the second lowest bidder's price for the three problematic systems of HK\$173.7 million and the price offered by Siemens for the systems of HK\$106.1 million, the general idea being that KCRC should pay no more than half the difference.
- 8.4.18 It would be impossible, without extensive time-consuming work and the willing cooperation not only of KCRC staff (who have at all times co-operated) but more particularly of Siemens to establish now more accurate figures for those variations and claims which have been included in the supplemental agreement. While the method of deriving figures cannot be said to be in accordance with best industry practice, it is not possible to produce better.
- 8.4.19 It is important to bear in mind that the final figure agreed with Siemens was, in any event, a negotiated figure. There is no reason to suppose that, had more accurate figures been available, the result would have been any different.
- 8.4.20 *[These paragraphs in the original Report dealt with the issue of liquidated*
8.4.21 *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].*
- 8.4.22 The doubts and confusion as to underlying figures, while probably irrelevant in the context of a negotiated settlement, nevertheless give cause for concern. There appears to be no procedure in place by which figures for claims and supplemental agreements are subject to independent scrutiny.
- 8.4.23 The situation where the estimated figure for Entrance C2 at Nam Chong is included in the proposed settlement figure but is not included in the settlement, albeit that is a small sum, is a matter which should be known to, and clearly decided by, the negotiating team. Even though the result may have been no different, there should be a clearer audit trail.

8.5 Overriding the Internal Assessment

- 8.5.1 Rule 786 of the Procurement Manual states that “*The negotiator and negotiating team should be authorised in advance to commit the Corporation, if necessary, within limits set by the relevant approving authorities*”.
- 8.5.2 If the negotiating team is unable to secure an agreement within the limits set, it would be wholly inappropriate to have a set procedure for over-riding those limits. That would be akin to stating that they are not “limits.”
- 8.5.3 It is, however, perfectly appropriate that there be a higher authority able to vary the upper limit in appropriate cases. Where the negotiating parties are very close to resolution at the limits, minor adjustment should be possible without recourse to an entire re-evaluation or re-negotiation.
- 8.5.4 Thus, as a matter of practicality, where the developed limit in DB-1500 was HK\$98 million, it would have been destructive to KCRC’s aims had it not been possible to revise that limit to HK\$100 million. The decision to increase the limit, in that circumstance, must be applauded.
- 8.5.5 In most instances, however, the appropriate response to a failure to secure an agreement within pre-set limits must be to seek further negotiations after examination of the limits, and matters raised in, or in connection with, the “failed” negotiations.
- 8.5.6 It is not unusual for the other party to negotiations to raise matters not previously considered or understood in full. Hence, after a failed negotiation, the proper procedure is (if appropriate) to seek revision to the limits, and further negotiation.
- 8.5.7 It is rare for it to be desirable simply to accept a disagreement; in the event of failure, a clear strategy to deal with the problems which negotiation was designed to overcome must be developed.
- 8.5.8 In our opinion, just as the original limits ought to be reviewed by a party unconnected to the contract, the revision to limits should similarly be reviewed. It is important that settlements by way of supplemental agreement are fully justified.
- 8.5.9 Because it is a settlement, the final figure is usually impossible to verify by auditing. It is all the more important, therefore, that the negotiating limits are verifiable by audit. It is our understanding, upon interviews, that KCRC does not have a technical audit team (examining contract accounts) in place. In our view, that is a potentially serious omission. We have found no procedures in place by which fairly large sums are independently checked.

9. CONSIDERATION OF ALTERNATIVES TO A SUPPLEMENTAL AGREEMENT

9.1 Scope of our work

9.1.1 We are requested to consider the following:

“Did KCRC give due consideration to other alternatives?”

9.1.2 In this Chapter, we have provided the readers with an understanding of the legal resources available to KCRC.

9.1.3 We have then commented on whether the termination of DB-1500 was a viable option and on whether any other options could have been considered.

9.2 Background

9.2.1 In Chapter 6, we have provided the reader with an understanding of the problems being encountered on DB-1500 and the actions that senior management had taken to address these problems in order to get DB-1500 back on schedule.

9.2.2 It is clear that, despite these actions, DB-1500 was slipping further behind schedule. Thus, whilst KCRC could have continued to try and compel Siemens to meet the original terms and dates of the contract, there could be no certainty that this approach would have been successful.

9.2.3 In addition, as DB-1500 is closely interrelated with a number of other contracts on West Rail, KCRC had to consider the impact that the problems on DB-1500 would have on the project as a whole.

9.3 Legal resources at KCRC

9.3.1 Before commenting in particular about the alternatives to the supplemental agreement, it is appropriate to make the following general observations about KCRC’s available resources on the West Rail project for obtaining input on legal issues.

9.3.2 KCRC’s General Counsel (“CS-GC”) attends (relevantly for present purposes) meetings of the Managing Board, the Corporate Tender Board and the New Railway Projects Steering Committee. If legal issues arise during the deliberations of those bodies, CS-GC will deal with those issues or ensure that they are dealt with.

9.3.3 In addition to CS-GC, KCRC also employs another in-house counsel (Mike Randall), who is assigned as the in-house counsel to the West Rail project. Mr. Randall – or his legal delegate - attends (relevantly for present purposes) the weekly senior management briefings, weekly Claims Control Committee meetings and all Claims Review Panel meetings. If legal issues arise during such meetings, Mr. Randall will deal with such issues or ensure that they are dealt with. Additionally, Mr. Randall has regular ad hoc contact with DWR, and other General Managers, regarding legal issues that arise.

- 9.3.4 As and when a Claims Analysis Report and Recommendation document was prepared and discussed at a meeting of the Claims Review Panel, Mr. Randall or his legal delegate would provide legal input and dispense legal advice to the meeting on an as needed basis.
- 9.3.5 Both Mr. Randall and CS-GC have considerable experience in project work. Mr. Randall, in particular, was heavily involved in assisting the Government in the successful implementation of the Airport Core Programme projects, being the infrastructure projects for the new airport at Chek Lap Kok.
- 9.3.6 Accordingly, KCRC was well served by very able and experienced in-house counsel.
- 9.3.7 In addition to its in-house counsel, KCRC also were able to call upon, and as necessary did so, the services of the solicitors firm, Johnson Stokes and Master. The responsible partner at JSM, Mr. Kevin Owen, was previously in-house counsel at the Airport Authority and is a capable and experienced construction / projects lawyer.
- 9.3.8 In summary, the legal resources that were available to KCRC on the West Rail project were more than adequate, when compared to industry norms.
- 9.3.9 The real question, therefore, is whether the particular legal input was appropriate and adequate, on a case by case analysis.

9.4 Termination of DB-1500

- 9.4.1 During our interview with KCRC's General Counsel ("CS-GC"), he advised us that the possibility of terminating DB-1500 was considered. He formed the view, at the time, that termination was not an option because the contractor had not, as at November 2001, breached any terms of the contract which would have permitted KCRC to terminate the contract.
- 9.4.2 The Engineer had issued two Clause 46.1 notices (Rate of Progress letters), but crucially the Engineer had not issued a certificate under Clause 74.1(d) and the key date provisions had not been breached. Additionally, Siemens had some extant claims for time and money, which further complicated the matter.
- 9.4.3 CS-GC's legal advice was conveyed orally, at the time, to the Corporate Tender Board, of which he is a member. Unfortunately, his advice and comments were not recorded in the minutes of the relevant Corporate Tender Board meeting.
- 9.4.4 No legal advice was sought or raised when the matter came before the Managing Board for discussion.
- 9.4.5 As a cross-check, KCRC has recently obtained a legal opinion from Johnson, Stokes & Master, regarding the issue. That opinion essentially confirms the opinion taken at the time by CS-GC.

9.4.6 The relevant part of their written legal opinion is as follows:

As a result of delays being restricted to 3 out of the 7 systems included in the Contract, the fact that Siemens had not, in November and December 2001, missed any Key Date for completion under the Contract and that Siemens had outstanding claims for additional time and money, we believe that Siemens would have been in a strong position in November and December 2001 to have successfully argued (for the purposes of Clause 16.6 of the General Conditions) that they were not in breach of their “due diligence and expedition” obligation under Clause 42.1 of the General Conditions, (to execute the whole of the Works with reasonable care and speed), even though certain parts of the Works were not being executed in accordance with the Works Programme. As a result of delays being restricted to 3 out of the 7 systems included in the Contract, the fact that Siemens had not, in November and December 2001, missed any Key Date for completion under the Contract and that Siemens had outstanding claims for additional time and money, we believe that Siemens would have been in a strong position in November and December 2001 to have successfully argued (for the purposes of Clause 16.6 of the General Conditions) that they were not in breach of their “due diligence and expedition” obligation under Clause 42.1 of the General Conditions, (to execute the whole of the Works with reasonable care and speed), even though certain parts of the Works were not being executed in accordance with the Works Programme.

It is likely, for this reason, that the Engineer under the Contract was not in a position to issue written warnings to Siemens that they were failing to proceed with the Works with due diligence or were persistently or significantly in breach of their obligations, and why the Engineer was not in a position to issue a certificate to this effect to KCRC, pursuant to Clause 74.1 (d) of the General Conditions

It follows that KCRC was not in a position in November and December 2001 to issue a notice terminating the Contractor’s appointment under the Contract pursuant to Clause 74.1 (d) of the General Conditions or pursuant to any other the ground contained in that Clause.

We do not believe, for the same reasons outlined above, that KCRC would have been in a position in November and December 2001 to establish that Siemens was in repudiatory breach of the Contract or that any delay which may have occurred in executing any part of the Works would have enabled the Corporation to terminate the Contract at common law. Siemens had not at any stage given an indication that they did not intend to remain bound by the Contract, and delays to 3 of the 7 telecommunication systems included in the Contract occurring some 4 or 5 months before the first Key Date for completion (giving the Contractor the opportunity to recover his delays) would not, we believe, be held by a court or an arbitrator to have substantially deprived KCRC of the benefit of the Contract.

9.4.7 In very broad terms, termination of a contract should be considered as a last resort. Termination almost invariably causes delay and extra cost, not all of which is likely to be recoverable even if the termination is valid.

9.4.8 Over and above this, however, is the reality that rarely is it clear cut that there was in fact a right to terminate. Termination of contracts, at least where the alleged basis is non-performance or breach, is one of those areas of the law that almost always involves complicated legal and / or factual issues.

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- 9.4.9 Having made that general observation, we turn now to consider the specifics of the case involving DB-1500.
- 9.4.10 We have considered whether it was open to KCRC, should it have been so minded, to take part or all of the three problematic systems away from Siemens and arrange for another (direct) contractor to carry them out. We do not believe that this was legally an option on the basis of the contract conditions.
- 9.4.11 Under Clause 46 of the General Conditions of Contract, the Engineer was empowered to issue Rate of Progress warning letters only in respect of “the Works” as a whole, or in respect of any “Stage”.
- 9.4.12 The forfeiture power, contained in Clause 74, only empowered KCRC to terminate the entirety of the contractor’s employment under the contract. Under Clause 74.1(d), the warning letter must have been a warning letter in respect of a failure to proceed with “the Works” with due diligence, or a warning letter about the contractor being “persistently or significantly in breach of his obligations”.
- 9.4.13 We have also considered whether KCRC could have instructed or required Siemens to have replaced the sub-contractors who were non-performing (particularly ONL).
- 9.4.14 Clause 5.11 of the General Conditions provides the Engineer with power to *“instruct the Contractor to discontinue the participation in the Works of any [sub-contractor] if, in the opinion of the Engineer, the subcontractor causes or contributes to a material breach by the Contractor of any term of the Contract”*.
- 9.4.15 There is no evidence in the papers that the exercise of this power was considered by the Engineer. However, our view is that the power was unlikely to have been a viable or available option here.
- 9.4.16 First, it involves the same area of uncertainty of whether Siemens were yet in *“material breach”* of the terms of the contract.
- 9.4.17 Secondly, looking at the matter from the point of view of general legal principles and also from the point of view of general project management, it is a serious matter for an employer to step in and demand that the main contractor replace a major sub-contractor. Such steps should not be taken lightly.
- 9.4.18 Thirdly, issuing such an instruction would not have resolved all of the project issues and claims, and as such would not have delivered the certainty of completing on time that was provided by the supplemental agreement.
- 9.4.19 Johnson, Stokes & Master suggest that there are legal authorities to the effect that “due diligence” and expedition effectively mean “reasonable” care and speed by the contractor. Our view is that the relevant obligation upon the contractor probably is slightly more onerous than that, but in any event that does not change the overall conclusion.
- 9.4.20 Johnson, Stokes & Master’s analysis suggests that it was highly relevant that, as at the last quarter of 2001, Siemens had not yet in fact failed to meet any of the key dates. That appears to have been the case.

- 9.4.21 However, in our view it was not absolutely necessary, as a matter of law, for the contractor to have missed a key date before (theoretically at least) a right to terminate could have arisen. Under Clause 74.1(d), failure to proceed with “the Works” with due diligence was but one of the two limbs.
- 9.4.22 The other limb, under which the Engineer could act to issue a termination certificate, was that the contractor was “persistently or significantly in breach of his obligations”. Depending upon the facts, the contractor might have been in such breach had he persistently failed to work in accordance with the works programme (Clauses 16.6 and 42.1 of the General Conditions).
- 9.4.23 That said, we do not take issue with the overall view expressed by CS-GC and Johnson, Stokes & Master to the effect that the better view was that KCRC did not have a legal right, as at November or December 2001, to terminate the contract or Siemens employment thereunder.
- 9.4.24 As stated above, having reviewed the available material, we broadly agree with CS-GC and Johnson, Stokes & Master that termination was not really a viable option in the latter part of 2001, either under contract or at common law.
- 9.4.25 With the benefit of hindsight (which is an unfair way to analyse things and is a luxury that the project management team did not have at the time), one might venture to suggest that the Engineer possibly could have issued more warning or show cause notices, under Clauses 46.1 (and / or under the power that seems to be implicit in Clause 74.1(d) in its own right).
- 9.4.26 However, we are not really in a position to second guess the Engineer and the KCRC project team about this. They were on the ground at the time and were in the best position to judge what was necessary and appropriate for the running and proper project management of the contract.

9.5 Possible options or alternatives, other than the supplemental agreement route

- 9.5.1 During our meetings, various members of the Managing Board were asked whether options or alternatives were considered, other than the option of entering into a supplemental agreement.
- 9.5.2 CS-GC told us that, at the time, he took the view that entering into negotiations with Siemens was the only sensible way forward. As recorded above, he was also of the view that termination was not an option.
- 9.5.3 From our meetings with the members of the Managing Board, in broad terms, they each confirmed that the discussions at Managing Board level concentrated upon the solution that was put forward to them, namely the proposed supplemental agreement.
- 9.5.4 However, there was general consensus that it was recognised that the supplemental agreement was the only commercially sensible way to proceed, termination not being a sensible option.

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- 9.5.5 Members of the Managing Board were also asked whether, even with the benefit of hindsight, they could think of some alternative or option that was available but which was overlooked. No such alternatives or options were identified.
- 9.5.6 In its written answers to the Transport Panel of the Legislative Council, KCRC identified the following options:
- *Do nothing, risk further delays and resolve claims through the dispute resolution provisions in the contract;*
 - *Terminate the DB-1500 contract and re-tender; and*
 - *Settle all extant claims and variations, and establish an effective delay recovery programme through a supplemental agreement.*
- 9.5.7 Analysing and considering the above options, KCRC's management concluded that the supplemental agreement route was the only commercially viable option.
- 9.5.8 Having reviewed the matter, we are unable to identify any viable alternative or option that was available but which was overlooked. (It appears that the Engineer did not give serious consideration to issuing an instruction under Clause 5.11 of the General Conditions, but the issuing of such an instruction would have been quite problematic and would not have resolved all of the project issues and delivered the certainty provided by the supplemental agreement.)

10. MONITORING OF CONTRACTOR PERFORMANCE UNDER THE SUPPLEMENTAL AGREEMENT

10.1 Scope of our work

10.1.1 We are requested to consider the following:

“What measures were put in place in the Supplemental Agreement or thereafter to ensure that the contractor shall meet its obligations under the original contract and the supplemental agreement?”

10.1.2 In this Chapter, we have provided an overview of the measures put in place in the supplemental agreement to ensure that Siemens meets its contractual obligations.

10.1.3 We have also provided a summary of the current progress on the contract.

10.2 Overview of measures put in place in the supplemental agreement

10.2.1 There can be no general rule for what is appropriate or normal practice. Each agreement must be considered in the context of the problems it is designed to resolve. Certain features of agreements may be regarded as fairly standard, but the terms of each must be considered separately.

10.2.2 The prime objective of KCRC in reaching a commercial settlement with Siemens was to ensure that Siemens had the necessary incentive to complete the original contract within the timescale required to open West Rail as planned in September 2001.

10.2.3 Thus, the key measure put in place in the supplemental agreement for DB-1500 to ensure that Siemens met the required timetable was to link the settlement of the amount of HK\$100 million against agreed milestones, as follows:

	Description	HK\$'million	Payment certification date
1.	Settlement of claims and variations.	18.50	31 December 2001
2.	Incentive payment.	21.50	31 December 2001
3.	Award PAS/PIDS/CCTV subcontracts by 31 December 2001.	20.00	31 January 2002
4.	Complete FAT1 for PAS and CCTV subsystems by 28 February 2002.	15.00	31 March 2002
5.	Complete FAT2 for PAS and CCTV subsystems and FAT for PIDS subsystem by 31 May 2002.	15.00	30 June 2002
6.	Complete PAT for all 7 subsystems for 5 locations by 31 August 2002.	10.00	31 August 2002
	Total	100.00	

10.2.4 In addition, due to the problems encountered on DB-1500, it was agreed that the senior management of KCRC and Siemens in Germany would meet on an ad hoc basis should any further problems arise in the performance of DB-1500.

10.2.5 KCRC have met once since the supplemental agreement was signed.

10.2.6 The following points were noted in the minutes of the senior management team meeting held on 25 March 2002:

“Progress status

4. *Siemens referred to the summary of progress status, and stated that the actual overall progress was 2.9% behind the planned figure of 55.1%. The specific critical areas were software and installation...*
5. *On software design, Siemens said that they were resolving some differences in opinion with new vendors, but foresaw no significant difficulty because the software for these sub-systems was mainly “off the shelf”, and, as such, they would soon be able to catch up where there were minor delays. KCRC considered that a useful marker on the progress would be the completion of the high level design and documentation, which were currently on track. KCRC said that the current focus was on software development, and they were implementing bi-weekly monitoring on the baseline programmes prepared by the vendors. As the current progress on software design had shown improvement, it was anticipated that the delay could be fully recovered by the end of April 2002. KCRC awaited positive demonstration of the full recovery.*
6. *KCRC noted that as the three sub-systems were using off-the-shelf equipment and design, this had allowed the delay to be recovered substantially.*
7. *the FATs for most equipment were completed or on schedule...Integration and interface management between sub-systems were also achieving satisfactory progress.*

Installation and installation design status

9. *... Siemens said that the installation design was the other critical area where delay was significant, nevertheless recovery measures were in place. These included adopting a fast-track approach, utilising joint work-shop sessions, to simplify and speed up the submission process, whilst focussing (sic) resources on the completion of more installation. The other measure taken to recover the delay was the establishment of a taskforce for handling the installation design....KCRC acknowledged the success of the approach, and said that since a workable procedure was now in place, the next essential move for Siemens would be to ensure that sufficient resources were committed to enable the team to focus on delivery.*

Physical progress update and recovery

10. ...The current and forecast progress indicated that the current delay could be recovered by the end of April, 2002, the success of which would depend on satisfactory progress being achieved on both the installation design and the software design as discussed earlier. It was agreed that April would be a critical month in terms of recovery progress on Contract DB-1500.

Matters related to Supplemental Agreement

15. KCRC stated that the criterion related to the 4th SA payment, viz “Complete FAT1 for PAS and CCTV sub-systems by 28 February 2002”, had also been achieved, and payment was due on 31 March 2002. It was also noted that the first Key Date for DB-1500, KDI [31 March 20002], which is subject to LDs, had been achieved one week early. Looking forward, it was agreed that the second Key Date, KD2 [31 May 2002], could be achieved, provided that Siemens maintained the current impetus on installation.
17. KCRC concluded that special emphasis for the next quarter was on installation, and it would be crucial for Siemens to carry out site inspection as soon as possible, in order to identify what areas and facilities they required. KCRC would facilitate the proceedings to ensure the relevant civil contractors co-ordinate and work together with Siemens.”

10.3 The contractor’s actual performance after entering into the supplemental agreement

- 10.3.1 The Weekly Progress Review Charts for the first quarter of 2002 indicate the following:

Date	Planned submission by this date	Actual submission approved	Weeks behind schedule	Project status
25 January 2002	354	279	10	Red
22 February 2002	354	311	4	Yellow
8 March 2002	382	329	4	Yellow

The Quarterly Review Meeting

- 10.3.2 The minutes of the Quarterly Review Meeting held on 25 March 2002 note that:

“13-1.1 KCRC indicated that it had been difficult to agree the percentage of progress for each month in the past. Improvement was reported in the last quarter and should be maintained in the future.

13-3.1.1 The Final Design Documents for these three subsystems were submitted.

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- 13-3.2.1 It was agreed that a joint KCRC/Siemens review would be adopted prior to formal submission and various working meetings were held with Siemens to expedite the installation design submissions.*
- 13-3.2.2 Siemens outlined their recovery plan for quality submissions with the establishment of the Installation Design Task Force using KSR as a model...*
- 13-3.3 KCRC noted that the situation has improved with Siemens' cooperation. Adequate or more time was allowed for KCRC's review of the FAT Procedures being the actual test was held.*
- 13-3.4.2 Siemens advised that sufficient resources are available to perform installation work simultaneously at a number of WR locations and trackside. Siemens also reported that there was significant progress at KSR, WRB and PMC.*
- 13-3.4.3 KCRC requested Siemens to provide a high level breakdown of installation targets to be achieved with dates for the next three months and commented that Siemens installation at trackside has been slower than expected, especially for Radio. Siemens agreed to provide a summary of targets by 27 March 2002.*
- 13-6.1 Siemens reported that they often had difficulties in obtaining timely access to rooms/areas for installation work. KCRC requested Siemens to coordinate with the Civil contractors based on their detailed installation programmes as early as possible."*
- 10.3.3 In Annex 1 of the supplemental agreement, the first Key Date of 31 March 2002 required the completion of the installation and testing of the Fibre Optic Transmission System and the Metropolitan Area Network within Kam Sheng Road Station and the West Rail Building, together with certain interfaces and connectivity. This first Key Date was achieved by Siemens on 25 March 2002.

11. INFORMATION PROVIDED TO THE MANAGING BOARD IN SUPPORT OF APPROVAL AND MONITORING OF THE CONTRACT

11.1 Scope of our work

11.1.1 We are requested to consider the following:

“Was KCRC’s Managing Board informed of all the relevant factors in determining the tender and any subsequent significant development and, if so, were they informed on a timely basis?”

“Additional procedures in respect of the DB-1500 contract with Siemens:

- 1. Was KCRC aware that the tendered bid was unusually low?*
- 2. Was KCRC’s Managing Board aware of the risks and implications of accepting an unusually low tender?”*
- 3. Having accepted a low bid, what measures did KCRC take to ensure that the contractor would perform in accordance with its contractual obligations?”*

11.1.2 In this Chapter, we have explained the documents that were presented to the Managing Board and the discussions that took place at the time that DB-1500 was awarded to Siemens.

11.2 Documents provided to the Managing Board during the tendering process

11.2.1 A three-page Managing Board Paper 99/133 titled “Approval to award a design and build contract, Contract No. DB-1500 – Telecommunications Systems” was tabled at the 182nd Managing Board Meeting held on 22 November 1999. The paper notes that Paul Andersen, GM-RS at that time, would attend the meeting for the discussion of the paper. However, Paul Andersen was not found in the attendee list, as set out in Section 11.2.10 and SDP spoke to the paper.

11.2.2 Attached to the paper was a twelve-page confidential memorandum from DWR to the Corporate Tender Board dated 3 November 1999 and titled “Contract No. DB-1500 –Telecommunications System, Final Tender Assessment Report”.

11.2.3 The paper states that:

“This paper invites Members to approve the award of Contract DB-1500 – Telecommunications Systems to Siemens Limited in the sums of US\$22.43 million and HK\$120.04 million (equivalent to HK\$294.76 million).”

11.2.4 The paper summarises the tendering process and states that:

Technical Assessment

“4. The technical assessment has confirmed that both Siemens Ltd and STE attained the required “pass” in accordance with the tender evaluation rules following the adoption of the Motorola APCO 25 radio system to demonstrate compliance with the performance specification. Both tenderers have demonstrated that they understand the nature of the works to be constructed and can provide the key staff and resources to complete the works safely, to the required specifications and according to the specified key dates.

Financial Assessment

5. In terms of price, the Annex demonstrates that Siemens Ltd has submitted the lowest conforming tender.
6. Director, Finance has confirmed that, using the Corporation’s guidelines, supported by independent financial checks by Dun & Bradstreet, Siemens AG will be required to provide a parent company guarantee for its subsidiary company. STE is financially adequate in its own right.

Proposal

7. The Corporate Tender Board agrees with the finding that the lowest compliant tender has been submitted by Siemens Ltd., and that this represents the best value for money. The Corporate Tender Board therefore proposes that the contract be awarded to Siemens Ltd.”

11.2.5 The last part of the paper invites the members of the Managing Board to approve the award of contract DB-1500 to Siemens.

11.2.6 The Final Tender Assessment Report, as mentioned in Section 11.2.2, contains the following information:

- A summary of the background to the tendering process;
- A ranking of the conforming tenders by price, including a comparison with the Pre-Tender Engineer's Estimate;
- A summary of the Detailed Technical Assessment including that both of the final tenders (i.e. Siemens and STE) were technically compliant (both having agreed to replace the non-compliant TETRA radio technology with APCO 25 technology);
- A summary of the Detailed Financial Assessment indicating that the Siemens tender was the lowest – within this summary, it was significantly lower than the Pre-Tender Engineer's Estimate;
- A summary of the Financial Capability Test carried out on Siemens and STE indicating that Siemens had failed the test, mainly due to its “low shareholder's fund and low working capital”, and that Siemens therefore required a Parent Company Guarantee (it was further noted that Siemens parent company did pass the Financial Capability Test);
- A proposal that provision be made for a post-contract variation of HK\$8 million in respect of two variations to the scope of the work to be carried out; and
- A conclusion and recommendation that the contract be awarded to Siemens as the lowest conforming tender.

11.2.7 Regarding the concerns raised by the Tender Review Panel over the low price offered by Siemens, paragraph 28 of the Final Tender Assessment Report states that:

“The Review Panel expressed concern that the Siemens Ltd. offer is 66% lower than the pre-tender Engineer's Estimate, while the Singapore Technologies offer is 46% lower. Analysis of the pricing make-up reveals that generally, the unit costs used by Siemens Ltd. and Singapore Technologies are much lower than similar rates used in the Engineer's Estimate. Notwithstanding this competitive pricing, it has been confirmed that both tenderers have proposed adequate resources to carry out the works.”

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11.2.8 The minutes of the 182nd Meeting of the Managing Board held on 22 November 1999 are as follows:

“101. *Senior Director, Capital Projects spoke to the paper.*”

102. *Mr. Pong said that he was approached by Singapore Technologies Electronics Ltd (STE) who were under the impression that they had submitted the lowest bid, but the Corporation had then changed the specification, as a result of which Siemens had been awarded the contract. Senior Director, Capital Projects referred Members to paragraph 11 on page 4 and paragraph 15 on page 5 of annexed Corporate Tender Board paper and said that STE was not correct. Siemens' currency adjusted bid had been the lowest one. Award of the contract to Siemens had been recommended after both Siemens and STE had been given the opportunity to clarify their bids. Both had been offered the same new equipment and neither had changed their tender prices. Thus, Siemens had remained as the lowest conforming tenderer. Mr. Pong then asked if he could explain this to STE and Chairman said that Mr. Pong could do so.*”

104. *The Board then*

- (a) *APPROVED that Contract DB-1500 Telecommunications Systems be awarded to Siemens Ltd., in the sums of US\$22.43 million and HK\$120.04 million (equivalent to HK\$294.76 million);*
- (b) *UPGRADED that portion of project DB-1500 contained under Head 75000 West Rail Division, Component 10.2 West Rail, Phase I, to the status of an Approved Major Project with an Approved Estimate of HK\$299.15 million (which is HK\$294.76 million plus HK\$4.39 million in hedging costs for the US\$portion of Tender Total); and*
- (c) *NOTED that the amount of HK\$308.92 million, being the difference between the preliminary project estimate of HK\$608.07 million contained in the 1999 Estimates of Revenue and Expenditure and the Approved Project Estimate of HK\$299.15 million referred to at paragraph (b) above, will be transferred to the Programme Reserve.*”

11.2.9 The minutes note that the following members of the Board were present at the meeting:

- KY Yeung
- Frank Pong Fai
- Edmond Lau Ting-chung
- Nicholas Ng
- Tim Chung Shui-ming
- Denise Yue
- Keith Lam Hon-Keung

11.2.10 The following people were also noted as being in attendance at the meeting:

- David Fleming
- Ian Peterson
- James Blake
- Samuel Lai
- Clement Chiu
- Jonathan Yu
- KK Lee
- Ian Thoms
- YT Li

11.2.11 From our interviews with the members of the Managing Board, it is clear that they were aware of Siemens' low tender price, as compared to the second lowest tender and KCRC's own estimate for the contract.

11.2.12 However, in presenting the paper, there was no indication of the potential risks and implications associated with the acceptance of the low tender price, nor were any recommendations put forward to the Managing Board concerning additional monitoring procedures that may be appropriate in view of the low tender price.

11.2.13 As a result, there was no discussion by the Managing Board in respect of the risks and implications of accepting low tender bid, or any additional monitoring procedures.

11.3 Legal advice obtained in relation to the low tender bid

11.3.1 During our interview with KCRC's General Counsel ("CS-GC"), he told us that no external legal advice was obtained prior to the finalisation of the tender process.

11.3.2 However, CS-GC did consider the issue himself. He formed the view, at the time, that the legal position was clear. The issue of whether or not Siemens' bid had to be accepted was to be determined by reference to the relevant provisions of the World Trade Organisation Government Procurement Agreement, in particular Article XIII thereof. CS-GC's advice was that, unless it could be demonstrated that Siemens could not comply with the conditions of participation and/or were incapable of fulfilling the terms of the contract, then Siemens must be awarded the contract, on the basis that it was the lowest-priced compliant tenderer.

11.3.3 CS-GC is a member of the Corporate Tender Board. Unfortunately, his advice and comments were not recorded in the minutes of the relevant Corporate Tender Board meeting.

11.3.4 No legal advice was sought or raised when the matter came before the Managing Board.

11.3.5 As a cross-check, KCRC has recently obtained a legal opinion from Johnson, Stokes & Master regarding the issue. That opinion essentially confirms the opinion taken at the time by CS-GC.

11.3.6 The relevant part of the written opinion from Johnson, Stokes & Master is as follows:

In view of the provisions of Article XIII 4(b) of the GPA, and the requirement that the Corporation make the award of Contract DB-1500 to the entity submitting either the lowest tender or the tender which was determined to be the most advantageous, we believe that had the Corporation failed to award Contract DB-1500 to Siemens Limited as the entity submitting the lowest compliant tender (and with no other tender having any advantage over the tender submitted by Siemens Limited), Siemens Limited could have sought to challenge the Corporation's decision to award the contract to another tenderer, under the Bid Challenge Procedure established by the Government of the HKSAR under Article XX of the GPA, on the basis that the Corporation was in breach of the provisions of the GPA.

11.3.7 We take no serious issue with the legal view held by CS-GC at the time, nor with the subsequent legal opinion obtained from JSM. We agree that, in legal terms, KCRC would have left itself open to attack had it decided not to award the contract to Siemens.

11.4 Documents provided to the Managing Board during the monitoring process

11.4.1 Prior to the monthly Managing Board meetings, members are provided with the following documents:

- Board agenda and papers;
- Minutes of the weekly directors' meetings;
- The fortnightly Situation Report; and
- The Monthly Progress Report.

11.4.2 From the minutes of the Managing Board meetings, it was noted that, after the award of the contract to Siemens in November 1999, there was no discussion of the contract until the meeting held on 19 November 2001 at which an information paper was tabled in respect of the negotiation plan for reaching a supplemental agreement with Siemens.

11.4.3 The fortnightly Situation Report provides a one page, A3 size summary of the progress of the construction on West Rail and the current status of each of the contracts. This report is explained in more detail in Sections 6.2.15 to 6.2.18.

11.4.4 The Situation Report shows the progress status by using a traffic light for each contract as follows:

- Green – activities are on programme or there are no significant delays;
- Amber – activities are not on programme and are being closely monitored but are not critical to timely project completion; and
- Red – activities are not on programme and are critical to timely project completion.

Kowloon-Canton Railway Corporation
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11.4.5 The progress status and the comments presented in the Situation Report in respect of DB-1500 is summarised in Section 6.3.1.

11.4.6 In summary, the Situation Report shows that the progress status for DB-1500 as follows:

- From the start of the contract until 10 February 2001 On target or green
- From 24 February 2001 to 24 March 2001 Amber
- From 7 April 2001 to 16 June 2001 On target or green
- From 30 June 2001 to 26 January 2002 Amber
- Since 23 February 2002 Green.

11.4.7 The comments from 15 July 2000 onwards primarily refer to lateness in awarding subcontracts, in preliminary design work and in software development.

11.4.8 We believe that the progress status and the comments shown on the Situation Report do not appear to convey the full extent of the problems that were being experienced on DB-1500 or the impact that these could have on the overall completion of West Rail on time.

11.4.9 Certainly, the sense of urgency provided by the progress status and comments shown in the Situation Report is different from that indicated in the four-page Managing Board Paper IP 01/28 titled “Contract DB-1500 – Telecommunications Systems”, which was tabled at the 206th Managing Board Meeting held on 19 November 2001.

11.4.10 This paper indicates that the position on DB-1500 is far more serious as follows:

“8. *Siemens’ contract as a whole is running some 10 weeks behind programme. In particular, the critical software development subcontracted to ONL is now some 13 weeks behind schedule. While there are possible work-around solutions available to enable West Rail to open on time without having this software in place, it would be highly desirable if the integrated system were to be fully functional on Day One.*

9. *The delays on the contract can be ascribed to poor management of the entire contract by Siemens from the outset, with the late engagement of ONL by Siemens. * ONL’s progress has not been helped because of various commercial disputes between it and Siemens. While Management through the Engineer has tried to enforce the provisions available under the contract to resolve the delays, it is now apparent that Siemens had under-priced its original bid for the work. The resulting poor rate of progress reflects the fact that there is no incentive for Siemens to perform in any way other than one which minimises its losses, an approach which has been strongly pursued by the vice president of Siemens’ telecommunications and information sub-division. This approach is believed to be one of the root causes of the commercial disputes with ONL.*

* **This deletion has been made as KCRC has been advised by its external legal advisers that inclusion of these words, which relate to the contractual relationship between Siemens and a subcontractor to which KCRC is not privy, could give rise to adverse legal consequences.**

10. *Management is of the view that this situation cannot be allowed to continue if the current target completion date for West Rail is to be met. The delays are now such that there is insufficient time for terminating the contract or trying to enforce its provisions by more conventional methods. Management considers that the best way to resolve the situation, while protecting the Corporation's interests, is to try to reach a commercial settlement with Siemens which provides Siemens with the incentive to perform....."*

11.5 Discussion of the problems on DB-1500 by the Managing Board

11.5.1 Our interviews with the members of the Managing Board have confirmed that the first time that the problems in respect of DB-1500 were brought to their attention as an agenda item was at the meeting of the Managing Board held on 19 November 2001, at which the negotiation plan was presented.

12. CONCLUSIONS: DB-1500 FOR THE TELECOMMUNICATIONS SYSTEM

12.1 Introduction

12.1.1 In this Chapter, we have set out our overall conclusions developed principally from our review of the documentation in respect of DB-1500 and our meetings with members of the Managing Board and senior management.

12.1.2 We have also provided some more detailed comments on a number of key matters that arose during our review.

12.1.3 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.

12.2 The original contract strategy

12.2.1 In determining its contract strategy for West Rail, KCRC decided to group seven telecommunications systems into one contract.

12.2.2 As six out of the seven systems interface with each other, it was considered that having one contractor would reduce the risks associated with interfacing the systems and would also remove the need for a separate systems integration contractor.

12.2.3 It was also anticipated that a larger contract would provide economies of scale to the selected contractor, which would result in a more attractive price for the contract.

12.2.4 The adverse aspect of grouping the seven systems into one contract became apparent in practice when issues arose with Siemens' performance on three of the systems.

12.2.5 Due to the grouping of the seven systems under one contract, it was not possible to re-enter the contract in respect of any of the systems in isolation. Nevertheless, taking all the factors into consideration, we believe that it was a correct decision to group the telecommunication systems under one contract.

12.2.6 As mentioned above, the seven systems were grouped into one contract as it was believed that this would reduce the interface risk and provide a more attractive price for the contract. However, in doing so, this increased KCRC's risk that it would be adversely impacted by the contractor's performance on some of the systems.

12.2.7 Conversely, had KCRC tendered the systems in individual contracts, this would have reduced its risk relating to the performance of individual contractors but would have increased the interface risk and could have resulted in overall higher tender prices due to reduced economies of sale.

12.2.8 Going forward, KCRC has to consider the balance of these risks in deciding whether to group a number of systems under one contract. However, should KCRC group a number of systems under one contract in future, we recommend that they consider the establishment of key dates under such a contract in a manner that would give them additional project management options (such as earlier access to contractual remedies) should the contractor not perform. For example, separate and different key dates could be established for each system under the contract.

12.3 The limited number of conforming tenders

12.3.1 KCRC pre-qualified five tenderers in respect of this contract, but unfortunately two of these tenderers withdrew during the tender period. After the receipt of the remaining three tenders, one was determined by KCRC to be non-compliant, leaving two tenders from which to award the contract.

12.3.2 We believe that pre-qualifying only five tenderers increases the risk that an inadequate number of conforming tenders are subsequently received, as was the case on this contract.

12.3.3 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.

12.3.4 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.

12.3.5 Another reason why there appears to have been a limited number of conforming tenders on DB-1500 is that KCRC set out in the tender documents that each tenderer should have had appropriate experience of installing similar systems on a railway elsewhere in the world.

12.3.6 Given the speed at which technological changes have occurred in telecommunication systems in recent years, the requirement for specific experience almost inevitably reduced the number of potential tenderers.

12.3.7 We therefore believe that such experience of installing a similar system could have been specified in the tender documents as an advantage rather than as a mandatory requirement. This would have increased the number of conforming tenders from which to determine selection of the contractor.

12.3.8 In drafting tender documents, we recognise that KCRC must be clear on its requirements. However, care should also be taken to ensure that such requirements are not set out in too restrictive a manner thereby limiting unduly the number of possible tenderers.

12.4 The low tender price

- 12.4.1 Some members of the Managing Board and the senior management have put forward their views as to why the tender price submitted by Siemens was so much lower than both the second lowest tender and the Engineer's estimate.
- 12.4.2 However, as we have not had access to Siemens personnel in order to discuss this issue, we are not in a position to comment on how they determined their tender price or on the overall strategy that Siemens adopted in tendering for this contract.
- 12.4.3 Whilst the tenders were being evaluated, there was discussion of Siemens' low tender price at the Tender Review Panel. We understand that, when a particularly low tender price is received, a letter may be sent to the relevant contractor. In such a letter, he is asked to confirm his understanding of the requirements of the contract, and to confirm that he has both the resources and the ability to complete the contract by the scheduled dates.
- 12.4.4 There was a suggestion at the Tender Review Panel that a letter should be sent to Siemens to draw their attention to the significant difference between their prices and market levels for the Radio System. However, it was decided not to do this because it could have compromised KCRC's position by affording the tenderer the opportunity to reopen its tender price in contradiction to the normal practices of KCRC.
- 12.4.5 Another step that KCRC could have undertaken would have been to arrange a meeting with the appropriate senior management of Siemens. Such a meeting would have enabled KCRC to challenge Siemens on the level of their tender price to ensure that they were fully aware of the requirements of the contract. This would have also provided an opportunity to obtain from Siemens appropriate assurances as to their ability and resources to complete the contract.
- 12.4.6 However, KCRC did send their Telecommunications Manager to visit a number of overseas locations of both Siemens and the second lowest tenderer. The purpose of this visit was to carry out a technical evaluation of both conforming tenderers and to assess their ability to perform the contract from a technical viewpoint.
- 12.4.7 At the time that DB-1500 was awarded, Siemens was going to develop the software for the three problematic systems in-house. Subsequently, Siemens requested that this software development be subcontracted to ONL.
- 12.4.8 Prior to agreeing to this request, representatives of KCRC visited ONL to determine whether they had the resources and the ability to carry out this subcontract. Based on the satisfactory results of this visit, KCRC agreed that Siemens could subcontract the software development to ONL.

12.5 The award of the contract

- 12.5.1 When the award of DB-1500 was put to the Managing Board for approval, we believe that the members were made aware of the low level of the tender price as compared with the other conforming tender price and the Engineer's estimate. However, we note that the members did not raise any particular concerns on this issue.

12.5.2 It is clear that the risks and implications of accepting such a low tender bid were not presented to the Managing Board. It also appears that such issues were not discussed and there was no suggestion that special measures should be put in place to address these risks, such as obtaining additional performance security from Siemens.

12.5.3 In our opinion, senior management should have raised these issues with the Managing Board before it was decided to award the contract to Siemens, so as to ensure that the Managing Board had recognised the risks in awarding the contract at such an apparently low price.

12.6 The management of the contract

12.6.1 As a result of the processes put in place for the management of the contracts for the West Rail project, KCRC were aware from an early stage of the problems being encountered on DB-1500.

12.6.2 From the documentation that we have reviewed and the meetings that we have held with senior management, we believe that appropriate actions were taken by senior management to address the problems as they arose in a timely manner.

12.6.3 We also believe that the problems arising on the contract were brought to the attention of appropriate levels of KCRC management below Managing Board level in a timely manner such that more senior management resources were brought to bear on the problems as they became worse.

12.7 The monitoring of the contract

12.7.1 The primary document that is provided to the Managing Board to facilitate their monitoring of the various contracts on the West Rail project is the fortnightly Situation Report.

12.7.2 The one-page A3 size Situation Report provides, inter alia, an overall summary of the project progress, significant issues, key event indicators and the status of each awarded contract.

12.7.3 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, and a brief one-line comment on any significant issues.

12.7.4 We have concerns about both the content and use of this Situation Report.

12.7.5 We have seen weekly management reports which also use the traffic light system for showing the status of contracts. These reports are circulated amongst the West Rail management but are not seen by the Managing Board.

12.7.6 We have noted that the criteria for determining the traffic light colours on the Situation Reports are different from the criteria that are used to set the traffic light colours on the weekly management reports.

- 12.7.7 The criteria used in the Situation Reports 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 reports.
- 12.7.8 In our opinion, to avoid confusion, the criteria for determining the appropriate traffic light should be the same for both reports.
- 12.7.9 Furthermore, from our review of the Situation Reports in respect of DB-1500, we noted that, even though significant delays and problems were being encountered on the contract, a red traffic light was never assigned to it on the Situation Report.
- 12.7.10 We noted that a red traffic light was assigned to the contract on the weekly management reports for 36 weeks in 2001. But because the Managing Board does not receive these reports, they were not aware that senior management had assigned a red traffic light to DB-1500 on them.
- 12.7.11 As already indicated, we believe that similar criteria for determining the traffic lights should be applied to both reports. We are also concerned that the Managing Board were apparently not aware of the emerging problems on the Siemens contract until the proposed negotiation plan for the supplemental agreement was presented to them in November 2001.
- 12.7.12 One of the reasons why it appears the Managing Board were not aware of these problems is because of the manner in which the Situation Report is provided to the Managing Board. At present, this report is circulated to the members prior to each monthly meeting, but is not formally presented or discussed at the meeting.
- 12.7.13 We believe that the members of the Managing Board would be better informed about the progress of the West Rail project and the problems being encountered on individual contracts, if highlights of the Situation Report were to be formally presented to the Managing Board by senior management and discussed at each monthly meeting.
- 12.7.14 As noted elsewhere, we are recommending that the New Railway Projects Steering Committee should have greater involvement in the monitoring of individual contracts, and senior management could make a detailed presentation to them of the Situation Report
- 12.7.15 Had the members of the Managing Board been aware of the problems being encountered on DB-1500 earlier, this would have provided them with the opportunity to consider the steps being taken by senior management to resolve the problems, although we do not think that they would have disagreed with the actions being proposed by senior management.

12.8 The quantification of the supplemental agreement

- 12.8.1 At the time when the negotiation plan for a supplemental agreement was presented to the Managing Board, the proposed settlement limit of HK\$98 million comprised HK\$35.05 million of committed and potential variations and claims, and HK\$62.95 million as a negotiating allowance for delay recovery, acceleration and commercial settlement.

- 12.8.2 We have seen further calculations which split the amount of HK\$62.95 million into HK\$29.9 million as the amount required to settle claims in dispute, with the balance related to the payment for the delay recovery measures on the three problematic systems.
- 12.8.3 The balance of HK\$62.95 million of the proposed settlement limit represented the negotiating allowance for the commercial settlement that KCRC was seeking to reach with Siemens. As this did not represent a contractual entitlement for Siemens but was more in the nature of an incentive payment, the documentation to support the calculation of this amount is limited.
- 12.8.4 Overall, we believe that the quality of the supporting documentation and calculations in respect of the proposed settlement limit could have been improved. We recommend that in future such information should be prepared in a manner that allows for the information to be independently scrutinised.

12.9 Liquidated damages

- 12.9.1 *[These paragraphs in the original Report dealt with the issue of liquidated*
- 12.9.2 *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].*

12.10 Overall conclusions

- 12.10.1 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.
- 12.10.2 However, if they had taken a 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.
- 12.10.3 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.
- 12.10.4 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 Siemens 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.

- 12.10.5 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.
- 12.10.6 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.
- 12.10.7 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.
- 12.10.8 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.
- 12.10.9 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.
- 12.10.10 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.
- 12.10.11 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.
- 12.10.12 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.
- 12.10.13 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.
- 12.10.14 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.