

立法會
Legislative Council

LC Paper No. CB(2) 183/00-01
(These minutes have been seen
by the Administration)

Ref : CB2/PL/EA

LegCo Panel on Environmental Affairs

**Minutes of Special Meeting
Held on Wednesday, 25 October 2000 at 9:30 am
in Conference Room A of the Legislative Council Building**

Members Present : Prof Hon NG Ching-fai (Chairman)
Hon Cyd HO Sau-lan (Deputy Chairman)
Ir Dr Hon Raymond HO Chung-tai, JP
Hon Fred LI Wah-ming, JP
Hon Bernard CHAN
Hon WONG Yung-kan
Hon Mrs Miriam LAU Kin-yee, JP
Hon Emily LAU Wai-hing, JP
Hon CHOY So-yuk
Hon LAW Chi-kwong, JP
Hon Abraham SHEK Lai-him, JP
Hon Henry WU King-cheong, BBS
Hon Tommy CHEUNG Yu-yan, JP
Hon Michael MAK Kwok-fung
Hon Albert CHAN Wai-yip
Dr Hon LO Wing-lok
Hon LAU Ping-cheung

Member Attending : Hon NG Leung-sing

Members Absent : Hon Martin LEE Chu-ming, SC, JP
Hon Eric LI Ka-cheung, JP

Public Officers : Mr Kim Salkeld

Attending Deputy Secretary for the Environment and Food

Mr John Collier
Director of Drainage Services

Mr C H LAM
Assistant Director/Sewage Services
Drainage Services Department

Mr C K HON
Chief Engineer/Strategic Sewage Disposal Scheme
Drainage Services Department

Mr Donald TONG
Principal Assistant Secretary for the Environment and Food

Clerk in Attendance : Mrs Constance LI
Chief Assistant Secretary (2)5

Staff in Attendance : Ms Joanne MAK
Senior Assistant Secretary (2)2

Action

I. Administration's proposal to increase the approved project estimate of 320DS "Strategic Sewage Disposal Scheme Stage I: completion of sewer tunnel system from Kwai Chung to Stonecutters Island"
(LC Paper No. CB(2)99/00-01(01))

At the invitation of the Chairman, Deputy Secretary for the Environment and Food (DS(EF)) explained the reason for the Administration to present this funding proposal to the Panel without waiting until after the International Review Panel (IRP) had submitted its report on Strategic Sewage Disposal Scheme (SSDS) at the end of November 2000. DS(EF) said that according to the meeting schedules of the Panel and the Finance Committee (FC), if the proposal was to be discussed by the Panel at its regular meeting in early December 2000 after receiving the IRP report, the Administration would not be able to submit the proposal to the Public Works Subcommittee (PWSC) until mid January 2001 and not to FC until mid February 2001. He said that as the approved project estimate remaining under the item 320DS was currently at a low level, this would expose the project to considerable cashflow risks in the period from early December 2000 to mid February 2001. He further pointed out that should any problems crop up on the payment of bills preventing the

Action

Administration from meeting its contractual obligations, it could lead to significant additional costs to the Government due to delays of the project.

2. DS(EF) informed Members that the Administration proposed to forward the proposal to PWSC in mid November 2000 and to FC in early December 2000, so that Members could make the final decision on the proposal after IRP had submitted its recommendations in the end of November 2000. The Administration considered it better to inform Members of the proposal as early as possible to facilitate Members' consideration.

3. DS(EF) highlighted that, according to the current forecasts, even if the proposed increase in the approved project estimate for 320DS was approved, the total budget for the SSDS Stage I would still be within its overall approved project estimate of \$8,323.7 million. He explained that the request for additional funding for the project 320DS was necessary because the savings achieved under other items of SSDS Stage I could not be transferred to 320DS.

4. Director of Drainage Services (DDS) informed members that 99% of the tunnel excavation works of SSDS Stage I had been completed, with less than 300 metres to excavate. He said that the major technical problems had been resolved, and that all the works for SSDS Stage I were expected to complete and put in operation by the end of 2001 after completion of the shafts and the remaining tunnel lining works.

5. Chief Engineer/SSDS (CE/SSDS) of the Drainage Services Department (DSD) then gave a PowerPoint presentation on the project 320DS and explained the technical difficulties encountered in the construction works. He also briefed members on the method used in tunnel excavation and the progress of the tunnelling works for SSDS Stage I.

6. As regards the construction of the two tunnels covered by 320DS, CE/SSDS said that they were designed to collect sewage from Tsuen Wan, Kwai Chung and Tsing Yi areas which produced 25% of the sewage to be treated under SSDS Stage I. CE/SSDS further said that the excavation works and tunnel lining works for one tunnel (Tunnel G) had been successfully completed. The excavation works of the other tunnel (Tunnel F) were expected to be completed in the next few weeks. He said that the delay of the project 320DS was due to -

- (a) replacement of a faulty mucking system in 1998; and
- (b) additional ground strengthening and stabilization works required to deal with the poor ground conditions.

7. CE/SSDS pointed out that the faulty mucking system was the asset of the original contractor for 320DS. However, as the original contractor had unilaterally

Action

suspended work in mid 1996, Government subsequently re-entered the sites in December 1996 and took over the mucking system. CE/SSDS said that the new contractor chose to use the mucking system and discovered serious latent defects when active excavation works were carried out. These problems were associated with the mechanical hoisting and also the electronic control and they affected the safe operation of the whole mucking system. After seeking expert advice, it was finally found necessary to completely replace the mucking system.

8. On the ground conditions, CE/SSDS informed Members that the tunnel from Tsing Yi to Stonecutters Island (Tunnel F) passed through faults like the Lead Mine Pass Fault, the Fractured Rhyolite Dyke Zone and the Tolo Channel Fault, which were found to be more extensive than that predicted by the pre-excavation investigations. Such ground conditions were extremely difficult for tunnelling. As a result, additional ground strengthening and stabilization measures were needed which were not only time-consuming but had also incurred additional costs. CE/SSDS stressed that it was often difficult to have precise information beforehand on the location and extent of faults deep underground. Tunnel F could be regarded as the first tunnel in Hong Kong which had such extensive faults at a great depth and was successfully excavated by a tunnel boring machine.

Discussion

9. Mr LAW Chi-kwong considered that the Administration should provide more information on the initial recommendations of the IRP on the SSDS Stage I works. He felt that the information on the IRP's views given in the Administration's paper was too brief.

10. DS(EF) said that IRP had advised in September 2000 recommending that all scheduled Stage I tunnels could be completed as soon as possible because the rock conditions for the remaining construction had been fully investigated. With the agreement of the Chairman, the letter from IRP was tabled for members' information.

(Post-meeting note: The IRP's letter of 15 September 2000 to the Director of Environmental Protection was subsequently circulated to Members vide LC Paper No. CB(2)124/00-01 dated 26 October 2000.)

11. DDS added that the major technical risk to completion of works had significantly diminished and good geological information of the remaining section of Tunnel F had already been ascertained.

12. Noting that the Government had entered into arbitration with the original contractor over the forfeiture of contracts, Mr Albert CHAN enquired about the financial implications if Government won the case or otherwise.

Action

13. DDS replied that the arbitrator had conducted three hearings in this year and would make his conclusions by the end of this year. He explained that if the arbitration was in favour of the Government, Government would have a major claim against the contractor. It would be vice versa if the Government lost the case.

14. Mr Albert CHAN further asked whether the need for extra funding was caused by re-assessments of project costs by the new contractor or delays due to the problems of the previous contract. DDS responded that additional funding was required to enable the continuation and completion of works under 320DS, so that the Stonecutters Island Sewage Treatment works (SCISTW) could be put to full use. He said that the reason for extra funding was two-fold. Firstly, the contingency provision had been consumed in replacing the faulty mucking system left behind by the original contractor, and this would form part of the Government's claim against the contractor if Government was successful in the arbitration. Secondly, extra funding was needed to deal with the geotechnical difficulties experienced during tunnel excavation. He explained that even though considerable pre-excavation investigations had been done, the extent of the Fractured Rhyolite Dyke Fault, for example, was unforeseeable.

15. While agreeing that the alignment of faults was difficult to ascertain, Ir Dr Raymond HO expressed concern about the method or technology adopted in the geological investigation. He said that the accuracy of geological information would have impact on the subsequent stages of SSDS. He hoped IRP's report would provide sufficient information on the geotechnical difficulties and recommend on the appropriate technology.

16. Assistant Director / Sewage Services (AD/SS) replied that extensive research and investigations on rock conditions had been carried out before tunnel excavation. Many boreholes had also been drilled along the tunnel alignments and about \$200 million had been spent on the site investigations and engineering studies. AD/SS explained that as Tunnel F was 150 metres below ground level, it would be difficult to have 100% accurate information on the actual ground conditions at each location of the tunnel until after works had commenced. He added that in undertaking the site investigations, various "hi-tech" methods including Tomography had been used to assess the ground conditions. He further said that as new technology for geological investigations was being developed, his department would examine the cost-effectiveness of applying new technology to the subsequent stages of SSDS.

17. Mr Tommy CHEUNG queried whether the \$200 million spent on site investigations had been wasted if the poor ground conditions in Tunnel F could not be revealed by these investigations.

18. DS(EF) replied that IRP had been requested to look into the nature of geological investigations carried out for SSDS Stage I, and to advise whether sufficient investigations had been done or whether new technology or new

Action

approaches should be applied to the subsequent phases of SSDS. DDS added that when the site investigation works commenced in early 1990s, the costs involved were considered to be fairly substantial and the works comprehensive. However, with the benefit of hindsight, the Administration now considered that such level of investigations were not sufficient to reveal the extent of faults such as the Tolo Channel Fault. He said that the Administration would learn from these experience in assessing ground conditions for future stages of SSDS.

19. Ir Dr Raymond HO sought clarification on the problem of the mucking system. He asked whether the new contractor had examined the mucking system when the latter took over the site. If so, he considered that the new contractor should be responsible for the replacement cost instead of charging it to Government.

20. DDS replied that the problems with the mucking system were not known until it was put under full loading. He explained that as the original contractor had not subjected the equipment to maximum loading, the major breakdown occurred only when the tunnelling works were in full swing. He informed members that the issue of whether to replace the system had been considered at length by the Engineer and DDS, and independent expert advice had also been sought. AD/SS added that the mucking system had been used by the original contractor and no defects with the system had been found at that time. He said that the independent expert also confirmed that such defects could only be detected when the system was under full loading. The new contractor therefore could not detect the problems with the system at the time of tender.

21. Notwithstanding the Administration's explanation, Ir Dr Raymond HO was of the view that the new contractor, which was a renowned engineering firm, should be experienced enough to check the capacity of the mucking system as stated in the system manual. Dr HO considered that the new contractor should be liable for the replacement cost of the faulty mucking system. The Chairman asked whether there was any provision in the present contract on the use of the mucking system by the new contractor and the liability of the new contractor for the replacement of the system. Mr Tommy CHEUNG echoed similar concerns. CE/SSDS said that it would not be fair to hold the new contractor liable for a latent defect of the machine. DDS added that the replacement cost would form part of the Government's claim against the original contractor if Government was successful in the arbitration.

22. Noting that the mucking system was found defective as early as 1998, Mr Tommy CHEUNG asked why the Administration had waited until now to seek additional funding to replenish the contingency provisions which had been used to replace the mucking system. Mr CHEUNG also asked whether the Administration would seek further additional funding for the Stage I projects. DDS responded that among the 19 items making up the SSDS Stage I programme, there might be one or two items for which additional funding would be required after the Administration had finalized the contractor's claims. However, the overall estimate should still be

Action

within the overall project budget for Stage I. As for the timing of the funding request, DDS explained that unless the full extent of additional expenditure required for completion of the works were known, the Administration was not hopeful that Members would approve additional funding solely for the replacement of the mucking system.

23. Miss CHOY So-yuk said that the Administration had undertaken not to seek additional funds for SSDS Stage I and to complete the works in 1999 when seeking an additional \$1.7 billion for the SSDS Stage I programme in 1997. She was disappointed that the Administration failed to keep its promises. She also queried that the Administration had not released the investigation report of the Tseung Kwan O site settlement and that IRP had not commented on the settlement in its letter of 15 September 2000. Miss CHOY urged the Administration to undertake that -

- (a) the Administration would not need further additional funding for SSDS Stage I; and
- (b) there would be no recurrence of subsidence problems similar to that happened to Tseung Kwan O.

24. DS(EF) assured Members that the Administration was reasonably confident that the SSDS Stage I programme would be completed next year. He said that the tunnelling works for Stage I were now 99% complete and there were no remaining significant risk with the rock conditions. He hoped Members could appreciate the complexity of the tunnelling works which were a major engineering challenge given the difficult site conditions and risks. He said that the investments would bring significant return to Hong Kong next year as SCISTW would be able to clean up 70% sewage from the main urban area.

25. DS(EF) added that every effort had been made to keep costs within control and savings had been achieved for other projects under the SSDS Stage I programme. He explained that failure to adhere to the original timetable was due to the unpredictability and risks pertaining to underground works.

26. As regards the Tseung Kwan O subsidence problems, DDS said that investigation was in progress under the management of the Territory Development Department (TDD), and a report would be available by the end of the year. DS(EF) said that IRP had been provided with information on the situation in Tseung Kwan O and IRP would submit its full report by the end of November this year. He clarified that the subsidence problem of Tseung Kwan O was not relevant to this application for additional funding for 320DS. He said that as Government's primary concern was to ensure that all the buildings in Tseung Kwan O were safe, TDD's investigation was to establish this. Responding to Miss CHOY's concern that there should be an overall review of SSDS, DDS said that this was already being carried out by the IRP.

Action

27. Referring to Annex D of the Administration's paper, Mr LAU Ping-cheung sought clarification on the additional \$11 million requested for replenishing the contingencies provision for 320DS. He asked whether the original approved project estimate of \$487.6 million had also included provisions for contingencies.

28. AD/SS advised that the original approved project estimate of \$487.6 million had included a contingency provision of \$39 million for 320DS. The total contingency provision would be \$50 million if the request for an additional \$11 million was approved.

29. Mr LAU Ping-cheung commented that the Administration should review the system that the Consultant Engineer was responsible for designing, implementing and monitoring works and for cost control. He considered that there was a conflict of interest for the Consultant Engineer to decide on the contractor's claims. He suggested that a check and balance system should be introduced modelling on the management system of building projects, so that a surveyor would be responsible for cost control. DDS replied that the issue had been raised at the policy briefing session of the Panel on Planning, Lands and Works. He said that the Secretary for Works had undertaken to examine the role of the surveyor in delivering engineering projects as opposed to building projects.

30. Due to the time constraints for further discussion at the meeting, the Chairman suggested and Members agreed that another special meeting be scheduled on 1 November 2000 at 10:45 am to continue discussion of the funding proposal.

31. The Chairman advised that members could put forward any further questions through him to the Administration.

32. The meeting ended at 10:45 am.

(Post-meeting note: A list of further questions raised by members was forwarded to the Administration after the meeting.)

Legislative Council Secretariat
6 November 2000