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(for information)

A Summary of the Ad Hoc ACE Meeting on 12 June 1996

Background

The Stonecutters sewage treatment plant of the Strategic Sewage Disposal Scheme (SSDS) Stage I will adopt a chemically enhanced primary treatment (CEPT) process. A Chemical Dosing Study is underway to assess the choice of chemicals, the dosage rates, and the disinfection process for the CEPT process. The International Review Panel (IRP) who advised the Government last year on the SSDS Stage II Options Review was retained to advise Government on the Chemical Dosing Study. Members of the Panel are Professor Donald Harleman of the Massachusetts Institute of Technology, USA, Professor Poul Harremoës of the Technical University of Denmark, and Professor Qian Yi of Tsinghua University, Beijing. The Panel was in Hong Kong from 10 - 12 June 1996 and held a discussion with ACE members on 12 June 1996.

Summary of the Meeting

2. Professor Peter Hills of ACE was the convenor of the meeting. ACE members who attended the meeting were Mr. Leong Che-hung, Mr. Otto Poon, Dr. Ho Kin-chung, Mr. David Melville, and Ms. Lisa Hopkinson. In addition to the IRP, Dr. Mike Chiu and Mr. David Hall of the Environmental Protection Department, and Dr. Martin White of the consultant EML also attended the meeting. Secretary to ACE, Mr. Danny Tsui and Mr. Edward Chu of PELB were also in attendance.

3. Discussions at the meeting included subject matters such as the disinfection process, the amount of sludge created, whether secondary treatment was necessary, and the re-use of wastewater from the sewage treatment plant.

4. On disinfection, the study process which led to the recommendation of hypochlorites and UV radiation as the final candidates for further studies were explained by the IRP. The relative advantages and disadvantages of these two disinfection methods were also discussed. The effectiveness of disinfection processes on both viral and bacterial organisms were also discussed. The IRP referred to studies on this subject carried out in Honolulu, Hawaii. The

executive summary of the Honolulu study would be made available to Members when received. Prof. Qian also briefly explained about disinfection of sewage in China.

5. The meeting also discussed the amount of sludge to be generated from the CEPT process and the estimated additional amount of sludge to be generated if secondary treatment was adopted. Prof. Harleman explained that the amount of sludge to be generated from the CEPT process would be less than that from a treatment process using lime. Also, more sludge would be generated if secondary treatment was adopted. However, as CEPT was able to remove more suspended solids and biochemical oxygen demand than conventional primary treatment, then the additional amount of sludge from an add-on secondary treatment process would be less than the conventional primary plus secondary treatment processes.

6. On the issue of secondary treatment, the meeting learned that as it was an expensive process, the decision to adopt it should come after studies on the efficacy of the CEPT process. The meeting also discussed the prediction of some Water Quality Objectives parameters not being met at the dispersal zone of the interim outfall.

7. The subject of wastewater recovery was also briefly discussed. There was a suggestion that treated wastewater could be used for chilled water cooled air conditioning in commercial buildings. However, the requirement for an expensive distribution system which was not yet in place was noted. The present situation of waste water recovery in China, San Diego, California, and Hong Kong were also briefly mentioned.

8. Lastly, with regard to the question on whether Hong Kong was moving in the right direction in sewage treatment, the IRP indicated that Hong Kong was building a state of the art CEPT plant and getting good value for money. The sewage charges that were collected to support the operation and maintenance of sewage services was very low compared to cities such as Boston, USA where the average bill per household is about HK\$500 per month. The case of San Diego was also mentioned to show that the CEPT process was suitable for oceanic cities such as Hong Kong. The IRP also was of the opinion that public education was paramount to make the community see sewage services and sewage charges in the proper perspective.