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(ACE 19/95)
for discussion

PUBLIC CONSULTATION ON THE REVIEW OF STAGE II OF THE STRATEGIC SEWAGE DISPOSAL SCHEME

INTRODUCTION

This paper informs Members about the public consultation programme for the Review on Strategic Sewage Disposal Scheme Stage II Options and seeks Members' views on the findings of the consultants and the views of the International Review Panel (IRP).

BACKGROUND

2. Members have been aware of the state of water pollution in Hong Kong, particularly in the central harbour, and on a sewage strategy to abate harbour pollution. Members were advised on various occasions that the thrust of this strategy was a 10-year capital programme, the Strategic Sewage Disposal Scheme (SSDS), which would provide collection and treatment of sewage discharges around the harbour at the Stonecutters treatment works (Stage I) before dispersal in the South China Sea via a long oceanic outfall (Stage II). Discharges from Hong Kong Island North (Stage III) and South-west (Stage IV) would be treated at Mt. Davis and disposed of via the same outfall.

3. In order to minimise further deterioration in the water quality in the harbour, urgent works needed to be carried out. Accordingly, the Government is committed to complete by 1997 a High Priority Programme (HPP), which consists of Stage I of the SSDS and the most urgently needed regional sewerage improvement schemes related to it. Construction of the HPP started in April 1994 and is progressing to schedule.

4. In view of criticism of the oceanic outfall proposal and in order to consider emerging technologies in sewage treatment and disposal, in July 1994 the Government commissioned consultants to advise whether there are alternatives to the original outfall proposal which are environmentally acceptable and cost-effective. Three academic experts in wastewater treatment and disposal from the United States, China and Denmark were separately appointed to be members of the IRP to oversee and to provide independent advice to the Government on the consultants' review. The Administration also undertook to consult the Environmental Affairs Panel of the Legislative Council, the Advisory Council on the Environment, and the public on the findings of the consultants and the IRP.

MAIN REPORT OF THE REVIEW

5. The consultants examined a wide range of treatment and disposal options and developed a shortlist of different treatment processes for detailed evaluation, identified potential sites for treatment processes and possible outfall locations, and undertook a cost/benefit comparison of alternative schemes using Net Present Value (NPV) techniques. The study did not require the consultants to recommend a particular option. A decision on which option to study further will be made following the Government's consideration of the Main Report, the advice of the IRP, and a period of public consultation. The consultants' Main Report has been received recently and copies have been given to Members on 26.4.95. The Main Report contains an Executive Summary which sets out the nine options which could be regarded as alternative SSDS Stage II arrangements as well as the IRP's report. Table 1 shows the comparison of the nine options in terms of costs, environmental benefits, reliability and ease of operation, and their implications for sewage charges for the general public.

6. The HPP will be completed by 1997 and will curtail harbour pollution by 70%. The present works at Stonecutters, for Stage I of the SSDS, will not pre-empt any of the Stage II options set out in Table 1. Moreover, the independent examination conducted by the IRP endorsed the thrust of the strategy, which is to collect all wastewater into a collection system and provide centralised treatment at Stonecutters. However, the IRP also recommended that the treatment process at Stonecutters should be Chemically Enhanced Primary Treatment and that it was unnecessary to build an outfall as long as originally proposed. They considered that a shorter outfall to the southwest or southeast of Lamma Island would achieve water quality objectives and be cheaper to build. These recommendations are being evaluated.

PUBLIC CONSULTATION

7. As the consultants' final report, the Main Report, with comments made by the IRP, has now been received, the government intend to consult the public widely on it. A comprehensive Executive Summary, a summary written in layman's language, and a more general leaflet on the background of the review, the options identified for SSDS Stage II and the views of the IRP on the SSDS, have been prepared and distributed. Briefings have been or will be organised for the Environmental Affairs Panel of the Legislative Council, journalists, district board members, green groups and professional institutions. This public consultation programme commenced in late April 1995 and will last for about 6 weeks. Given the environmental importance of the SSDS and the interest expressed on this subject so far, the general public as well as the groups to be consulted are expected to welcome the opportunity to express views on the findings and recommendations made in the Main Report..

ADVICE SOUGHT

8. Members are asked to note the public consultation programme and give their views on the findings contained in the Main Report.

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Table I

Options	Meeting Bacterial and Dissolved Oxygen Water Quality Objectives	Reliability and Ease of Operation	Rough Indication of Capital/Annual Operating Cost ¹ (\$)	Possible Sewage Charges at 1995 Prices Upon Commissioning of the whole SSDS (\$/m ³)
1. Treat Kowloon and Hong Kong Island flows at SISTW to primary effluent standard. Outfall off S.I., M.D. or L.I.	X	√	\$6.5B/\$393M	1.9
2. Treat Kowloon flows at SISTW and HK Island flows at M.D. Both to primary effluent standard. Outfall off S.I., M.D. or L.I.	X	√	\$6.9B/\$435M	1.9
Treat Kowloon flows at SISTW and H.K. Island flows at M.D. Both to secondary treatment standard by BAF. Outfall off S.I., M.D. or L.I.	√	X	\$9.3B/\$681M	2.3
4. Similar to Option 3 but BAF works incorporates nitrogen removal. Outfall off S.I., M.D. or L.I.	√	X	\$10.9B/\$809M	2.5
5. Treat Kowloon sewage to primary standard at SISTW, then convey to Lamma Island. Untreated flows from H.K. Island connect into tunnel and join H.K. flows to L.I. Both receive biological nutrient removal (BNR) treatment at L.I. Outfall off L.I.	√	√	\$12.2B/\$860M	2.7
6. Treat Kowloon and H.K. Island flows at SISTW to primary standard then convey to L.I. for BNR. Outfall off L.I.	√	√	\$12.3B/\$851M	2.7
7. Treat Kowloon and H.K. Island flows at SISTW to primary standard then convey to Green Island for secondary treatment by BAF. Outfall off L.I. or G.I./M.D.	√	X	\$10.3B/\$775M	2.5
8. Similar to Option 7 but incorporate nitrogen removal by BAF at G.I. Outfall off L.I. or G.I./M.D.	√	X	\$11.5B/\$901M	2.7
9. Treat Kowloon and H.K. Island flows at SISTW to chemically enhanced primary treatment standards. Outfall off L.I.	√	√	\$6.6B/\$471M	1.9

Abbreviation

SISTW	Stonecutters Island Sewage Treatment Works
SI	Stonecutters Island
MD	Mt. Davis
LI	Lamma Island
BAF	Biological Aerated Filter
GI	Green Island

Note¹: The costs for the nine options take into account disinfection using chlorination and a Lamma Island outfall. Current SSDS without disinfection but with a longer outfall may result in a charge of \$1.9 per cubic metre of water at 1995 prices upon commissioning of the full scheme. Present sewage charge to recover the operating cost of existing sewage service is \$1.2 per cubic metre of water.