



長春社 since 1968

The Conservancy Association

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16 May 2003

Members of Legislative Council  
C/o Secretariat of Panel on Financial Committee

Urgent by Email and Fax (21210420)

Dear sir/ madam

**Re: Ngong Ping Sewage Treatment Works (NPSTW)**

The Association writes to you again, after the submission on 10 April 2003 to the Environmental Affairs Panel, and request you to withhold funding approval for the “Outlying Islands sewerage, stage 1 phase 1 part 1 - Ngong Ping sewerage, sewage treatment and disposal” project until the Administration has proved the cost-effectiveness of the \$250.4 million worth project and provided adequate justifications for the current option compared to other less costly but potentially more environmentally friendly alternatives.

***Cost-effectiveness***

The Administration has not released the full feasibility study report of the project to the public. However, based on the limited available information the Association went through careful analysis and concluded that **the project is likely to be over-designed and its budget over-estimated** for the following reasons:

1. The plant’s design capacity of 5,100 cubic meters per day is based on an assumption of 47,000 daily visitors and 500 residents producing an average of 107 litres per capita per day. Since an average visitor is unlikely to stay in the area for more than six hours per day and its sewage production is hence much less than a full-time resident, **this estimate is likely to lead to an over-design of two times or more than the actual capacity required.**

2. Given the uncertainty in estimating the actual sewage production of visitors in the area and the fact that it will take a number of years for visitor numbers to reach the design maximum, it is only logical to choose a modular design and build the plant in stages. For instance, if the plant can be built at half the current size, it can cope with initial demand in early years. The second phase of the plant can be timed to suit the growth of visitors to the area. This way the chance of over-design and over-spending is greatly reduced. **If the plant is built at full capacity immediately as proposed, public funds will likely be wasted to construct unnecessary and unwanted demand.**
3. The estimated capital expenditure for the plant alone is HK\$153 million. Whilst the chosen SBR process is technically acceptable, this estimate is equivalent to a capital expenditure of \$30,000 per cubic meter of design capacity. **This figure is about 10 times the cost of building a similar plant in Mainland China (after discounting land costs).** Whilst it is accepted that Hong Kong has a higher cost structure than the Mainland, this cost differential seems hard to justify under the current circumstances. Surely **more explanation is needed before the suspicion of gross over-budget can be dispelled.**
4. In the current design there is a full capacity pipeline capable of transporting 5,400 cubic meters per day (more than the treatment plant capacity of 5,100 cubic meters per day) to the seashore for ocean discharge. Since the sewage is intended to be tertiary-treated up to water reuse standard and that ocean discharge is only deemed to be necessary during emergency shutdown of the plant, it is doubtful if this investment of \$35.6 million (about 5.7 km twin effluent export pipeline) in a full capacity pipeline is justified. **The environmental benefits and potential cost savings of alternative solutions, such as a 24-hour buffer tank or artificial wetlands for emergency discharge, must be fully examined and explained to the public before such funding application should be considered.**
5. Furthermore, the idea of installing a buffer tank is also a possible solution to resolve the greater need of flushing water during weekends. As far as the Association understands, the daily capacity of the treated effluent is not enough to serve the peak flow of visitors during holidays. Fresh water will be needed to provide the flushing services; whilst the treated effluent from the plant during weekdays will have to be drained into Tung Wan. Comparatively, the buffer tank could serve as a reserve and keep the balance of the treated effluent. Such apparently more resources-conserving option is not open-mindedly considered by the Administration.

## *Sustainable Development*

The Association is disappointed that the administration has not demonstrated that the full potential of the project to promote sustainable development would be realised. The World Summit on Sustainable Development held last year showcased a demonstration project, Rietvle Nature Reserve near Pretoria, which enshrined sustainable development principles by taking three key elements, economic, social and environmental together and incorporating sewage treatment, water reuse and also ecotourism into one project.

The Association believes that the NPSTW, if well designed, will serve as an excellent opportunity for Hong Kong to apply concepts of total water resource management in a demonstration project.

Whilst we support the objective of improving eco-efficiency through wastewater reuse, **we would urge Members to withhold funding approval for the project until the above issues are fully explained to the public and that the design and budgeting for the project is optimised for higher cost-effectiveness and improved eco-efficiency.**

Yours sincerely

Lister Chueng  
Chief Executive

c.c.

Sustainable Development Unit (Attn Ms Chang King-Yiu) (By Fax )  
Secretary for Environment, Transport and Works (By Fax 2523 5327 / 2537 0856)  
Director of Drainage Services Department (By Fax 2827 8605 / 2519 6441)  
Director of Water Supplies Department (By Fax )

Encl.

The Conservancy Association's submission to Legco Environmental Affairs Panel on 10 April  
2003



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Submission to Legislative Council Panel on Environmental Affairs

The Conservancy Association

10 April 2003

The Association understands that the Legislative Council Panel on Environmental Affairs is invited to give views to on PWP Item 208DS “Outlying Islands sewerage, stage 1 phase 1 part 1 - Ngong Ping sewerage, sewage treatment and disposal”. The Environment, Transport and Works Bureau and Drainage Services Department also have jointly provided a paper (CB (1) 1202/02-03 (03)) for members’ reference. Whilst we support the concept of wastewater reuse in principle for the benefit of improved eco-efficiency, we would like Members to request clarification from the Administration to our following queries before giving support to this specific project.

1. Cost- effectiveness

The Association finds that the estimated project cost \$250.4 million is very high compared to a normal tertiary treatment plant of the proposed size. We have not been shown any data or feasibility study report to justify that the design and construction of the proposed plant is the most cost-effective scheme available.

2. Resource utilization

Despite the high quality of treated sewage from the proposed plant, the Administration has yet to announce how the treated sewage is going to be reused. From our discussion with MTRC and Water Supplies Department it is understood that the question of water reuse has not been fully resolved. Why should we need to spend such a huge sum of public money if the treated sewage which is supposedly as good as drinking water, is not planned to be reused fully? The government has a duty to coordinate all parties and to ensure that this precious resource is fully utilized. We also believe that Ngong Ping, as a rather self-contained development area, is a good choice to implement a demonstration project of reuse of treated sewage.

Fresh water is regarded as a kind of limited resources no different with other fuel resources. Nonetheless, the total water management issue has not been properly addressed so far. We hope that the Administration will fully make best use of the proposed Ngong Ping Tertiary Treatment plant or else the \$250.4 million can hardly be justified.

Thus we hope that the Members will request the Administration to justify the cost of the project and announce the full implementation plan of reuse of the treated sewage at Ngong Ping.

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