LETTERHEAD OF The Conservancy Association

The Conservancy Association's comment on the findings of Phase I of SSDS EIA Study

The Conservancy Association's ("CA") comment below is formulated on the basis of the *Briefing Document on Options Evaluation and Comparison* ("Briefing Document") published by the Consultants and a subsequent explanatory letter issued by the EPD to the CA on 24 September 1998.

From the Briefing Document it is clear that the Consultants conducted a thorough and detailed assessment of different options on sewage disposal based on a wide range of explicit and implicit assumptions: water quality standards, land constraints, potential risks and environmental impacts, perceived community responses, and political realities of what is and what is not possible. It is unfortunate that some of these assumptions are so engrained in the Consultants' minds that many of these implicit assumptions are not even mentioned in the Briefing Document.

The fundamental departure of the CA's frame of reference from that of the Consultants, as represented by the set of assumptions it adopted, is that Hong Kong should take a regional and long-term perspective when formulating its sewage disposal policy. A narrow self-serving view will only produce short-term solutions which may appear to save initial costs but will, in fact, cost much more to the communities in both Hong Kong and its neighouring cities.

The crux of the matter is about excessive nutrient levels in Hong Kong waters. The way to reduce nutrient discharge is to adopt a process to remove nitrogen and phosphate. For the following reasons the CA considers that Hong Kong must adopt biological treatment with nutrient removal ("BNR") as a minimum before disposing of its sewage:

1. There is a worsening trend of excessive nutrient level in Hong Kong waters. Inorganic nitrogen level exceeded the adopted criterion of 0.4 mg/1 in Rambler Channel in 1995 and 1996 and in the various parts of the Victoria Harbour in 1995. Though the options proposed by the Consultants might result in a fall in nutrient level in Victoria Harbour, the Consultants admitted that none of the options proposed could help achieve the nitrogen concentration standard of 0.1 mg/1 in Hong Kong's southern waters and bays because of the influence of discharges from the Pearl River. The implication is clear we need a concerted effort by both Hong Kong and its neighours to remove nutrients from their sewage discharges.

2. The Consultants did not elaborate on the impact of the accumulated effects of a long-term and rising nutrient levels in Hong Kong waters and, for that matter, near-shore waters in South China. It is beyond the CA's resources to study the scientific links of rising nutrient levels and, for instance, major ecological disasters like the toxic algae growth that led to the destruction of most of the fish farms along the South China coast earlier this year. It is however reasonable for all of us to ask one simple question: should the nutrient level keep rising unchecked, will more ecological disasters happen more frequently in one form or the other?

3. The CA accepts that Hong Kong alone will not be able to solve the nutrient problem by simply adopting BNR on its own. BNR is also expensive compared to simpler treatment options. No governments in Hong Kong or in other Pearl River delta cities will want to adopt BNR unless it is proven to be necessary. There is however one political reality we all have to face: unless Hong Kong, being the wealthiest city in China, is willing to take the lead and make a contribution for the benefits of the whole region, no other Guangdong cities can be persuaded to do so. In the end, everyone living in the Peart River delta will lose out for a narrowly minded choice by Hong Kong.

Given the above reasons, the CA considers that only BNR can produce acceptable environmental performance for Hong Kong in the long term.

If Hong Kong accepts that BNR is a necessary process in treating its sewage, the four shortlisted options by the Consultants, of which only Option 4 contains BNR, looks grossly inadequate. With only one viable option, it has obviously not provided sufficient choices for policy makers. The fundamental problem is that the Consultants, when conducting the study, has always assumed that BNR is only an optional, add-on feature for the future. Given that BNR is essential, the government should take a fresh look at the matter from a different perspective. At the very least, a number of semi-distributed system of sewage treatment options should be assessed in detail because of the following changes:

1. Technological changes

   Recent developments in sewage treatment processes, especially some sequential batch reactor ("SBR") process, has reduced the capital costs and land requirements for BNR. A savings of land and capital of between 25% to 40% compared to traditional BNR processes are not uncommon. Some of these are proprietary, not generic, processes. The government should instruct the Consultants, or invite some third parties, to fully review the viability of these new processes for Hong Kong as it is not unknown that consultants may in general have a bias against using proprietary processes because of their lack of updated information.

   The other technological development that is taking place in many countries, such as Japan, is to construct very compact and fully enclosed sewage treatment plants so that the NIMBY ("Not In My Back Yard") syndrome is reduced when choosing appropriate sites for these plants.

   Combining the above two factors, the reason of land constraints for rejecting a BNR plant on the Stonecutters Island, Green Island or Mount Davis sites become much less convincing.

2. Land value

   The idea of applying full commercial value for cost evaluation purposes to a piece of land alloted for sewage treatment is, to say the least, a controversial concept. It is not clear from the Briefing Document whether, or if so, how the Consultants

account for the value of land in putting forward its capital cost estimates for various options: Nevertheless, the significant drop in land value in the past twelve months (one might even argue that there is no market value for land at this very moment because of the government's suspension of land sales) warrants a total rethink on this issue. It is also necessary to review the land issue in light of the government's proposals to accelerate land formation and land reclamation programmes so as to ascertain whether new treatment plant sites, if upgraded to a less offensive state, may be incorporated into other forms of land use. Decentralised treatment options should not be rejected out of hand primarily because of land constraints.

3. Cost estimates for Deep Tunnels

All of the four shortlisted options in the Briefing Document envisage the dwelling of deep tunnels of comparable lengths to SSDS Stage I. The saga of huge cost overrun and long delays in the construction of deep tunnels in SSDS Stage I must be well known to members of this Chamber. Given this very costly experience to Hong Kong's taxpayers, questions must be raised about how reliable these cost estimates are and whether other options requiring less deep tunnels can be considered, given the very nature of uncertainty in underground construction. Again a possible solution to get around, to a large extent, the potential uncertainties in deep tunnel construction is a semi-distributed system.

For the avoidance of doubt, the CA does not in principle object to the Option 4 incorporating BNR as proposed by the Consultants. However the CA believes that more BNR options, including semi-distributed systems, should be assessed, reviewed in light of the various new developments listed above, and put forward for the community to choose from before one option is selected for EIA in the next stage of the study. The matter of choice for various BNR options should be based on its environmental impacts and cost-effectiveness.

In conclusion, the CA wishes to reiterate its position that only options incorporating biological treatment with nutrient removal should be adopted for Hong Kong as the immediate stage following SSDS Stage I. BNR should be adopted now, and not as something optional for the future.

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5 October 1998
The Conservancy Association