

To
The chairperson
Environment Committee
Legco

2007/1/22

Chlorination sterilization of sewage effluent of HATS—Risk to Marine life and man
Dr JMK Wong HK Marine Conservation Society

Dear Madame

HKMCS is surprise to see the HK government rush to push ahead with Chlorination sterilization of sewage effluent, against Expert and Academic opinions and advices at the 2004 ACE Special meeting on HATS. At that meeting almost all Academics, professors and NGO including members of the IRP are not supportive of chlorination sterilization.

Sea water has self cleansing ability .Survival or mortality rate of Coliform bacteria had been studied by R Mitchell of Harvard University .He reported that E coli were killed by marine microbes in 5 to 7 days 1000000/ml reduced to 100/ml. Salmonella bacteria in sewage had also been studies by Purer & Shuval of Hebrew University Isreal and found to be killed by sunlight and sea water microorganisms. Natural sea water contains many bactericidal elements including salinity current in addition to microbes and invertebrates as well as many benthic organisms. Sea water self cleansing ability should not be undermined and we should let Vic harbor re establish a healthy marine ecosystem and let nature clean itself. There is no need to make a hasty decision that is costly socially, economically as well as ecologically. Actions that we have to rectify years later at the great expenses in all 3 aspects.

HK Government has the responsibility to protect the marine environment and restore a healthy and natural marine ecosystem not to interfere with the recovery of a nature marine environment by adding unnatural and harmful chemicals to the marine water body. If the aim of sterilization is to cater for few hundred swimmers in Tuen Wan area at the expense of permanent damage to the marine life and risk of health to man and protected species such as sea turtle, finless porpoise and dolphins as well as our shrimp and fish at a very high cost financially as well as social and ecologically. We should be very cautious we should look into other alternatives.

Chlorine in a well known potent chemical for disinfection killing bacteria and fungi I but also harmful other marine microbes and invertebrates as well as higher animals. Any residual chlorine discharge to the sea is undesirable. Organochlorine

and chlorine metabolites are potentially carcinogenic agents.

Large quantity of Neutralizing agent sodium thiosulphate will alter the nature of water in the area upsetting a natural balance marine ecosystem, the chemical composition of sea water is changed this will affect the homing ability of sea turtle returning to HK waters. Long term continuous addition of sulphate into the seawater can lead to reduction of dissolved oxygen in the water body .This has been reported in Germany.

Additional sulphate in the water can increase phytoplankton excretion of Dimethylsulphide some of these escape to the atmosphere forming Methane Sulphate Aerosol (MSA)causing adverse effect to the clarity of air above the sea level.

The already operating Phase I of HATS is proved to be effective in providing a healthy environment to marine life to reestablish in Vic harbour as seen by reappearance of coral and sea horses and squids. These are signs of healthy recovery of a healthy and lively Vic harbour. We should observe more before we take any unnecessary actions interfere with and upset the natural balance marine environment. It has taken more than 3 decades to get corals and sea horses back to our harbour with the implementation of Hats I which remove of particular matters that smothered and killed all benthic organisms. No more chemical additives please.

Economically it is more cost effective to build a sea water swimming pool provide for the swimmers of Tuenwan .The money saved can be used to build an much needed emergency road to serve the deprived villagers in Tin Kau. If we spend unnecessary money for the swimmers in Tuenwan .What about Tolo Harbour? .Is that the next area we are going to sterilize to provide for swimmers.? Do we have no responsibility to the marine life ,marine environment for future generations .Do we have no responsibility to the community as a whole.? Are we only accountable to our senior government officers and some politicians.?

No more chemical additive to hinder the recovery of our sea including the Victoria harbour .Donot waste tax payers money and damage our sea..

Dr John MK Wong

HK Marine Conservation Society