Greenpeace's position on "The new dredged/excavated sediment disposal management framework"

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Background

Since Greenpeace exposed the illegal dumping of toxic materials in the South China Sea by contractors for the construction of Container Terminal No.9 (CT9) in 2000, the environmental group has been monitoring closely ocean dumping incidents both within and outside Hong Kong waters. The Dumping At Sea Appeal Board in May 2001 upheld the position that the erroneous practice of the Environment Protection Department in relation to CT9 should not be allowed in future.

At present, East Sha Chau, located at the North of Chek Lap Kok Airport, is the sole legal dumping pit for contaminated sediment. However, it is expected that this contaminated mud disposal facility will be exhausted by late 2007. The government is planning to build another Contained Aquatic Disposal Facility (CAD) at Airport East or East Sha Chau. **Greenpeace is against this proposal as well as any other plans to allow illegitimate toxic dumping at sea.**

Problems of the New Classification of Sediment

A new classification system using a tiered testing approach was applied for all constructions that commenced on or after 1 January 2002. However, Greenpeace identifies that there are certain problems of the new biological test which may be damaging to the environment:

1. The major difference between the old and new classification system is the basis of decision making. The ultimate decision on disposal of dredged sediments in the new classification scheme is based on biological screening while the old classification system used chemical screening as its basis. The new classification system is based on the measurement of toxicity rather than the measurement of chemical contamination. It is argued by the government that the old classification system was a conservative and expensive approach to sediment management. However, the government also agreed that the old system is an environmental secure method in managing contaminated sediments. The new classification system emphasizes on the measurement of bio-availability of the contaminants and its actual toxicity. The biological test is based on the toxicity measured according to the contaminant bio-availability. The bio-availability of heavy metals are affected by a number of physical factors like oxidation effects, pH variation, salinity, redox potential etc.

Therefore, the toxicants in those sediments classified as “non-toxic” would be activated and released into surroundings once the physical parameters changed.

2. Evaluation of dredged material impacts on the environment depends on many input parameters and models that are subject to a great deal of uncertainty. The new test does not explicitly address uncertainty quantitatively, resulting in predictions with unknown levels of conservatism built into them.

3. The Lower Chemical Exceedance Level (LCEL) defined is equal to the upper limits of Class B sediment in the old system where Class B sediment is identified as moderately contaminated materials that requires special care during dredging and transport. However, in the new system, the Category L sediment having chemical pollutant level below the LCEL would be considered non-toxic and can be simply dumped into the open sea disposal sites without further biological analysis. The new system is actually level down the sediment toxicity level so that the moderately contaminated materials classified under previous system would now be classified as non-toxic sediments and adopt simple open sea disposal.

4. A worse case is that those sediments which were classified as Class C under previous system could now be classified as Category M under the new system. Those sediments with high concentration of heavy metals could now be disposed into open sea once it passes the biological testing regardless the concentration of heavy metals are above the LCEL. Under the new classification system, only the highly polluted sediments would be disposed in confined marine disposal site or receive special disposal treatment. It is estimated that about 40% of contaminated sediments would be classified as non-toxic under the new system. As a result, a large amount of moderately or even highly contaminated sediments would be disposed in open sea disposal sites where no special attention on monitoring works would be made. This would lead to a serious problem that contaminated sediments would be dispersed in a large area of Hong Kong sea instead of putting into a confined area.

5. The biological screening conducted at present employs overseas species and protocols only and no local species and protocols are developed. It is important to consider information about local species known to occur in the area of the disposal site and the effects of the material to be dumped and of its constitutes on those organisms. Individuals within populations might vary in their response to chemical stressors in dredged material. The disadvantage of such bioassay analyses is that they do not identify and quantify the contaminants themselves. Nor are such analyses truly predictive of the long-term impacts of the contaminants on marine organisms. The new measurement system cannot assure that the measurement test would post no significant health effect to human, especially in long-term.

6. The determination of the threshold of LCEL and UCEL are critical. Sediments which are below the LCEL may have score a positive result in biological testing. However, the bioassay is only conducted if it fails the Tier 2 chemical test.

7. More important, sea disposal of wastes is inappropriate, regardless of the methods used for sediments testing. A more sustainable and responsible method for contaminant sediment disposal should be developed for the long-term basis. Dumping at sea is only a passive way against the pollution, a more active and root-solving approach should be adopted for combating the pollution problems. Pollution still exists even though we dump it in into sea. The pollution problem is only not visible to us but it does not mean they have no adverse impact in real. Disposal option is just transferring the pollution problem from one place to another without actually solve the problem.

8. The new toxicity test ignores the effect of bio-accumulation. The sediment bioassessment has only conducted with short-term exposure period. The longest time period measured only for 20 days. However, most sediments or extracts do not provoke a lethal response in such a short time. The factor of bio-accumulation along the food chain is therefore totally ignored. The biological test could only indicated the acute toxicity to tested species and the effects of chronic toxicity and bio-accumulation in humans are not reflected from the test.

Detrimental Effects of Ocean Dumping

According to the London Convention 1972 of which Hong Kong is one of the signatory parties, the contracting parties shall promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste that is liable to create hazards to human health, harm living resources and marine life.

It is blatantly obvious that the construction of another CAD facility does not adhere to the spirit of the London Convention as it is foreseeable that the dispersive characteristics of the site and its proximity to sensitive receivers will be detrimental to the marine environment.

The proposed new CAD, which is located at Airport East and East Sha Chau, is one of the major habitat of the endangered Chinese White Dolphin. The government has also admitted that the deterioration of water quality and the loss of habitat due to dredging of seabed and dumping of toxic mud are unavoidable. It is inevitable that there will be increases in concentration of suspended sediment, heavy metals, PAHs, PCBs and TBT and a decrease in dissolved oxygen as a result. More importantly is that the mud disposal operations will also cause potential damage to nearby artificial reef complexes and the Lung Kwu Chau and Sha Chau Marine Park, which is the nursery for the endangered Chinese White Dolphin.

Greenpeace believes it is illegitimate to go ahead in pursuing the proposal while the government is fully aware of the harmful effects the CAD will bring. The Chinese Government has already designated an area within the Chinese waters nearby as a nature reserve for these precious dolphins. This move strongly reflects the importance of this marine habitat for dolphins. It will be very unwise for the Hong Kong government to

continue to maintain this unsustainable and environmentally destructive disposal option. The dwindling marine ecosystem, once destroyed, is difficult to retrieve.

Stop polluting the marine environment

The proposed new dumping pit at Airport East with a total area of 210 hectares is expected to handle 8 million cubic metres of toxic dredged materials for projects arising between 2007 and 2010. The near exhaustion of the CAD at East Sha Chau cannot justify for the building of another CAD as in 1996 a marine park has been established in nearby waters therefore any dredging or disposal activities will definitely be harmful to the sensitive receivers there. This proposal is not only a waste of time and effort as it has a short lifespan of only four years, but also a serious misallocation of resources. **As the government is well aware of the existing potential risks of handling the disposal of contaminated mud at sea, a detailed study of sustainable options such as Confined Disposal Facility should be undertaken immediately. Moreover, a more stringent policy should be implemented to block any unnecessary dredging so as to reduce future disposal demand.**

It is already a widespread global trend stigmatising the disposal of toxic substances at sea. It is a shame that Hong Kong is still going alone in maintaining this outdated and environmentally destructive mud disposal practice. The Environmental Protection Department has already committed a grave error in the CT9 case. The Government should learn from its mistakes instead of repeating them until it's too late.

Greenpeace finds no moral or legitimate reasons to support the Government's plan for the construction of another CAD. Hong Kong citizens should have the right to refuse being exposed to seafood that has been contaminated by toxic substances, and the fundamental right to enjoy a clean and sustainable marine environment

We strongly urge all government departments in the Hong Kong SAR, including Civil Engineering Department and the Environmental Protection Department, to take action now to protect and clean up our fragile marine environment before it's too late.