

For discussion  
on 21 December 2004

**Legislative Council Panel on Environmental Affairs**  
**Staffing Proposal on**  
**Handling Cross-Boundary Environmental Issues**

**PURPOSE**

This paper briefs Members' on a proposal to strengthen staffing support for the Environmental Protection Department (EPD) at the directorate level to deal with new and urgent cross-boundary environmental issues with effect from 1 April 2005.

**PROBLEM**

2. EPD does not have adequate staffing support at the directorate level to deal with new and urgent cross-boundary environmental issues.

**PROPOSAL**

3. We propose to create two permanent directorate posts in EPD, namely, one Administrative Officer Staff Grade B (AOSGB) (D3) and one Principal Environmental Protection Officer (PEPO) (D1) with effect from 1 April 2005. We also propose to delete the rank and the permanent post of Director of Environmental Protection (DEP) (D5) with effect from the date of retirement of the incumbent, projected to be around 31 July 2005 and two permanent PEPO (D1) posts with effect from 1 April 2005.

**BACKGROUND**

4. At the meeting of this Panel on 25 October 2004, Members endorsed a proposal to facilitate the merging of the Environment Branch (EB) of the Environment, Transport and Works Bureau (ETWB) with EPD, with effect from 1 April 2005. Members noted that the merger proposal would release four directorate posts, namely one DEP(D5) and two PEPO(D1) posts from EPD and one Administrative Officer Staff Grade C (AOSGC)(D2) post from EB. Members were also informed that the Administration was reviewing

the possibility of permanently redeploying the above posts to handle a number of urgent cross-boundary environmental issues.

Encl. 1

5. The merger proposal was endorsed by the Establishment Subcommittee of the Finance Committee on 17 November 2004. Having reviewed the proposed organisational structure of the merged organisation (see **Enclosure 1**), some Members of the Establishment Subcommittee were concerned that cross-boundary issues were to be handled by officers at the D2 level. They suggested that officers given this important task should at least be pitched at the D3 level.

6. The various new and urgent tasks on the environment front which require substantial additional input at the directorate level are explained in the ensuing paragraphs.

### **Regional Air Pollution**

7. The air quality of Hong Kong is increasingly affected by the pollution in the Mainland, in particular the adjacent Pearl River Delta (PRD) Region. Given the rapid economic development in Guangdong, the declining regional air quality has partially vitiated the efforts made locally to improve our air quality. Although our roadside air quality has improved since 1999, the concentrations of respirable suspended particulates and ozone recorded by our general air quality monitoring stations have increased by 4% and 18% respectively. We cannot improve the air quality in Hong Kong without working with Guangdong to effectively improve the regional air quality of the whole PRD Region.

### *Regional Smog Problem*

8. The pollutants generated by vehicular emissions as well as industrial and commercial operations in the PRD Region have an adverse impact on the air quality on the whole region. Under sunlight, these pollutants undergo photochemical reactions to form ozone and smog. The regional smog problem is especially serious when weak northerly wind prevails in the PRD Region or when the region is under the influence of subsiding air at the periphery of a typhoon because the ambient air pollutants in the PRD Region cannot be dispersed effectively under such conditions.

*Co-operation between Guangdong and Hong Kong*

9. To address the regional air pollution problem, the HKSARG is working closely with Guangdong to reduce the total air pollutant emissions in the PRD Region. The Joint Study on Regional Air Quality (the Joint Study), completed by EPD and Guangdong Environmental Protection Bureau (GDEPB) in 2002, identified the relative significance of different industrial and commercial sources of pollution and their direct and indirect impacts on regional air quality so that pollution control measures can be prioritised accordingly. The Joint Study also points out that we must jointly control the total emissions of pollutants in order to address the regional air pollution problem. The HKSARG and the Guangdong Provincial Government reached an agreement in April 2002 to reduce by 2010, on a best endeavour basis, the regional emissions of sulphur dioxide, nitrogen oxides, respirable suspended particulates and volatile organic compounds (VOC) by 40%, 20%, 55% and 55% respectively, using 1997 as the base year. Achieving these targets will not only enable Hong Kong to meet its current air quality objectives but also significantly improve the air quality of the PRD Region and relieve the regional smog problem.

10. In December 2003, the two governments jointly drew up the Pearl River Delta Regional Air Quality Management Plan (the “Management Plan”) with a view to meeting the above emission reduction targets. A Pearl River Delta Air Quality Management and Monitoring Special Panel was also set up under the Hong Kong/Guangdong Joint Working Group on Sustainable Development and Environmental Protection to follow up on the implementation of the Management Plan. As part of the Management Plan, the two governments set up a regional air quality monitoring network in 2004. After testing, the network will be in full operation in 2005 to provide comprehensive and accurate air quality data. We have also completed a manual for compiling inventories of emissions in 2004 to enable both sides to follow a consistent approach in assessing emission levels and monitoring the progress of emission reductions from 2005 onwards.

*Emissions Reduction by Guangdong*

11. The emissions reduction policy of Guangdong Province focuses on power plants, vehicles and the most polluting industrial processes. Measures taken include the following –

- (a) to promote clean energy production and supply systems, construct

gas-fired power plants and provide for the transmission of electricity from the western provinces;

- (b) to restrict the use of high sulphur fuels, close down small power generation units and retrofit such units with flue gas desulphurisation (FGD) systems to reduce emissions from power generation;
- (c) to phase out coal-fired boilers, industrial boilers and industrial technologies and equipment with inefficient energy consumption and causing serious pollution;
- (d) to reduce VOC emissions from paints; and
- (e) to build metro expressway systems, develop green transport and reduce vehicle emissions to control pollution caused by the exhaust of motor vehicles.

12. Guangdong authorities have plans to pursue the following emissions reduction measures —

- (a) installation of FGD systems in Shenzhen Xibu Power Plant (Units 5 and 6), Dongguan Shajiao Power Plant A (Unit 5) and Taishan Power Plant (Units 1 and 2) by end-2004;
- (b) FGD retrofitting works for Shenzhen Mawan Power Plant, three power plants in Shajiao of Dongguan, Guangzhou Huangpu Power Plant, Zhujiang Power Plant and Zhuhai Power Plant are to be completed in 2005-06;
- (c) preparations for FGD retrofitting other power plants in the region are also underway. The target is to retrofit all power generation units of a capacity above 125MW by 2007. The relevant projects will involve power generation units with a total capacity of 11,290 MW and can reduce emission of sulphur dioxide by 225,000 tonnes each year;
- (d) four liquefied natural gas power plants are being constructed and are expected to be commissioned by 2006; and
- (e) paints using VOC such as xylene as solvents are being replaced.

13. The HKSARG is also exploring with the GDEPB an emissions trading pilot scheme covering power plants in Hong Kong and Guangdong. The scheme has already obtained the endorsement of the Central People's Government (CPG) and the State Environmental Protection Administration (SEPA).

14. The community has expressed grave concern about the deterioration of air quality and the smog problem and the need to take up pollution control with Guangdong as a matter of urgency. The subject is also frequently reported in both the local and international media. The successful co-operation with Guangdong to improve regional air quality is critical to protecting the health of our citizens as well as maintaining the image of Hong Kong as Asia's world city. The Environmental Affairs Panel of the LegCo has also expressed strong support for the Government to intensify collaboration with Guangdong.

15. We need to have sufficient resources to maintain a constant dialogue with the Mainland counterparts, monitor the progress of measures agreed between the two governments, supervise the implementation of individual pollution programmes, evaluate the effectiveness, determine priorities as well as take up with the senior level of the Guangdong Provincial Government, wherever necessary, to help smooth out implementation issues and introduce new measures and policies to improve the regional air quality. As the causes of regional air pollution involves complicated technical chemical reaction as well as the aerodynamics of air dispersion, we need to also work with other governments, such as California of the USA to leverage on their past experience and expertise to combat air pollution.

16. In addition, there are a large number of manufacturing undertakings owned by Hong Kong businessmen in the PRD Region. They can usefully help reduce emissions by adopting cleaner production technologies and effective pollution control technologies. EPD need to have the resources to implement a proactive programme to enhance the environmental awareness and the corporate social responsibility of these enterprises and be prepared to render technical advice upon request.

### **Water Pollution**

17. Hong Kong is separated from the Mainland by the Shenzhen River and shares the water bodies of Deep Bay and Mirs Bay with Shenzhen.

### *Water Quality of Pearl River Delta*

18. The PRD has many streams and rivers with numerous pollution sources discharging into its waters. Domestic and industrial wastewater discharges, urban storm water runoff, and non-point source pollution from agricultural and livestock farm run-off are the main pollution sources. Except in the larger municipalities such as Guangzhou, Shenzhen and Zhuhai where a portion of the wastewater is treated, most of the municipal wastewater is discharged into the river systems without much treatment. The Pearl River flow therefore carries a high pollution load and this has a marked influence on the western and southern waters of the HKSAR, particularly in the wet summer season when the estuarine flow is large.

19. The PRD Water Quality Protection Special Panel was set up in August 2000 to develop long-term regional water pollution control strategies and water quality management plans for the Pearl River Estuary region. The governments of Guangdong Province and HKSAR agreed to tackle the subject by first determining the extent and distribution of pollution in the Estuary areas with the help of a numerical water quality model.

20. The development of the water quality model is scheduled for completion in 2005. The model will provide an analytical tool and a scientific basis for subsequent cooperative work under the Special Panel, which will include the establishment of joint water quality protection objectives, examination of water pollution control strategies and development of regional water quality management plans for the sustainable development of the PRD.

### *Water Quality of Deep Bay*

21. Deep Bay is home to the largest wetland in Southeast Asia. It comprises mudflats, mangroves, shrimp ponds and fish ponds that provide a refuelling station for many migratory birds, some rare and endangered. It sustains a unique ecosystem with a rich diversity of wildlife. Because of its ecological significance, the area around Mai Po and the inner Deep Bay area were designated a RAMSAR site in 1995.

22. In 1990, the HKSARG and Guangdong Government declared Deep Bay as a priority area for joint protective conservation action because the water body had become increasingly polluted by human sewage and livestock waste due to urbanization and livestock rearing activities. In order to restore Deep Bay to a clean and healthy state, the two governments agreed in

January 2000 a Deep Bay Water Pollution Control Joint Implementation Programme (JIP) to reduce the pollution loading to Deep Bay to an acceptable level by 2015. The key element of the JIP is the provision of adequate sewerage facilities to reduce wastewater discharge into the Deep Bay. Both governments also agreed that the JIP should be jointly reviewed every five years to evaluate the effectiveness of the various pollution control programmes and to determine if additional mitigation measures would be necessary. The first review is scheduled for 2005.

#### *Water Quality of Mirs Bay*

23. In January 2000, the Shenzhen Municipal Government (SMG) and HKSARG agreed to carry out the Mirs Bay Water Quality Regional Control Strategy Study. The objective was to jointly develop a regional water pollution control strategy to protect the Bay's water environment and its marine and tourism resources.

24. The Study, which was completed in March 2003, made projections on water quality changes and concluded that, in order to protect the Bay, development in the catchment should be capped below the carrying capacity of the Bay's water environment. The recommended pollution control strategy was endorsed by the Hong Kong-Guangdong Joint Working Group on Sustainable Development and Environmental Protection in December 2003. Both sides have since maintained close liaison to exchange information on implementation of the strategy and major development and infrastructure projects that could have significant implications on the sustainability of the Bay's water environment.

#### *Water Quality of Shenzhen River*

25. Shenzhen River delineates the boundary between the HKSAR and Shenzhen. It is seriously polluted in the middle and lower sections. The pollution of Shenzhen River has caused significant odour and visual problems, which directly affect the living quality of residents in the vicinity. At the request of the SMG, the two governments have established a Pollution Abatement Subgroup to explore ways to improve the water quality of Shenzhen River.

26. Early this year, the SMG proposed to pump seawater from Mirs Bay to flush the Shenzhen River to improve water quality. However, local green groups have raised grave concerns on its profound impacts on water quality and the ecosystem in Inner Deep Bay, particularly in respect of the Mai Po

RAMSAR site. If the RAMSAR site is somehow affected by seawater flushing, Hong Kong will be subject to major criticism from the international community for failing to comply with the RAMSAR Convention. The SMG commissioned the Centre for Coastal and Atmospheric Research (CCAR) of the Hong Kong University of Science and Technology to conduct a preliminary study on the proposal. We need to closely monitor CCAR's research and be prepared to negotiate with the SMG the implementation of the proposal to ensure that it will not affect the water quality and ecosystem of Deep Bay.

### **Cross-boundary Disposal of Public Fill and Dredged Mud**

27. Owing to the suspension of almost all reclamation projects in the Harbour, the generation of public fill has far exceeded its demand. Since the end of 2002, we have been relying on the two temporary fill banks at Tseung Kwan O and Tuen Mun to stockpile the surplus public fill temporarily for later use. We expect that the fill banks will be filled up by late 2005. In any case, these fill banks are only temporary facilities and will need to be cleared eventually for development. On 31 March 2004, the State Oceanic Administration (SOA) and ETWB signed a Co-operation Agreement on Cross-boundary Disposal of Dredged Mud and Public Fill. We are discussing with SOA the implementation details with a view to commencing the export of public fill for use in reclamation projects in the Mainland in 2005. If the export scheme cannot be implemented before the temporary fill banks are filled up, public fill will have to be disposed of at landfills. This will significantly reduce the remaining life of the landfills to about four to seven years from now. We need to actively work with the Mainland authorities to quickly identify pilot projects for the export of public fill.

28. According to the Agreement mentioned above, the HKSARG may, with reference to the needs of one or more projects, submit proposals to the CPG for the cross-boundary dumping of dredged mud when there are difficulties in handling the mud locally. Although our existing capacity for dredged mud disposal can last for at least a few more years, it is necessary to sort out the detailed procedures for effecting the Agreement and inform the stakeholders of the new arrangement in a timely fashion. We need to actively liaise with SOA to sort out the details in good time.

### **Cross-boundary Environmental Impact Assessment**

29. With the rapid development of the Mainland especially the Guangdong Province, the number of cross-boundary projects implemented in

the Mainland that may impact on the environment of Hong Kong will continue to be on the rise. Environmental Impact Assessments (EIA) of cross-boundary projects (e.g. Shenzhen Western Corridor, Tonggu Channel, Hong Kong–Zhuhai–Macao Bridge etc.), including their environmental monitoring and audit programmes, if not properly and efficiently managed, will result in unacceptable project designs, inadequate mitigation measures, adverse construction environmental impacts and delays to project programmes.

30. The differences in EIA methodologies, EIA/planning systems and levels of transparency on EIA/planning information between the Mainland and Hong Kong require the continuous efforts of the HKSARG and the Mainland authorities in enhancing understanding of each other's difficulties and limitations of each other's EIA systems. Unless co-operation is strengthened at a high level with the Mainland authorities, in particular Guangdong, we will not be able to adequately analyse the possible environmental impacts of cross-boundary projects and identify effective solutions and mitigation measures at the planning stage.

### **Implementation of International Conventions in Hong Kong**

31. Hong Kong is committed to contributing to the global efforts in environmental protection. The CPG is signatory to the Kyoto Protocol to the United Nations Framework Convention on Climate Change (KP) and the Stockholm Convention on Persistent Organic Pollutants (the Stockholm Convention). These two conventions have been extended to Hong Kong recently.

32. KP requires the signatories to control the emission of greenhouse gases (GHG). Some developed countries have the obligation to reduce emissions to a specified level. Hong Kong and the Mainland are required to control GHG emissions on a best endeavour basis. Hong Kong is also required to report its GHG inventory and other related information to CPG for consolidated submission to the Convention Secretariat from time to time.

33. The Stockholm Convention seeks to eliminate or reduce the use of Persistent Organic Pollutants (POPs) and ensure safe disposal of certain POPs. A regulatory and monitoring mechanism will have to be set up to control the import, manufacture, use, disposal and export of certain POPs. POPs inventories and related information will have to be submitted to the CPG for consolidated submission to the Convention Secretariat from time to time. We also need to discuss with the CPG cross boundary monitoring of

POPs as a matter of urgency. Hong Kong is also required to devise an implementation plan to achieve the above objectives in accordance with the timetable and format required by the CPG. The plan should be submitted to the CPG for onward submission to the Convention Secretariat before the end of 2006. Legislative amendments and public consultation exercises will be necessary to implement the Stockholm Convention.

### **Proposed Creation of AOSGB (D3) Post to be Designated as Deputy Director of Environmental Protection (4) (DDEP(4))**

34. It was the original plan to continue with the existing practice of sharing out the duties on cross-boundary environmental issues amongst the two Deputy Directors (DDEP(2) and DDEP(3)) and three Assistant Directors (Waste Policy, Water Policy, and Air Policy) as part of their normal duties. Having considered the pressing need to achieve marked progress on the items of work set out in paragraphs 6 to 33 above, the sensitive nature of the tasks involved and the need to have dialogues with the Mainland authorities at a sufficiently senior level, we propose to set up a dedicated cross-boundary team comprising an AOSGB (D3) and a PEPO (D1). The AOSGB (D3) officer will become DDEP(4) and be responsible for high level liaison with the Mainland authorities including the SEPA, the GDEPB and the Shenzhen EPB. The officer will be responsible for following up on all the environmental issues and cooperation programmes agreed with the Mainland authorities. The officer is expected to lead Hong Kong delegations in discussions with the Mainland authorities on the implementation of environmental programmes and other issues of mutual concern.

### **Proposed Creation of a PEPO (D1) Post to be Designated as Principal Environmental Protection Officer (Cross Boundary) (PEPO (Cross Boundary))**

35. DDEP(4) will need to have adequate technical support from an environmental professional whose main role is to coordinate inputs from other operational and policy divisions of EPD on programme areas requiring cooperation with the Mainland authorities. For this purpose, we propose to create a PEPO (D1) post to be designated PEPO (Cross Boundary). The officer will also be the focal point of working level liaison with the Mainland environmental authorities.

36. The proposed organisation chart of the new EPD is at **Enclosure 2**. The proposed job descriptions of the DDEP(4) and PEPO (Cross Boundary) posts are at **Enclosures 3 and 4** respectively.

Encl. 2

Encls.3-4

### **Proposed Deletion of the Director of Environmental Protection (D5) Post and Two PEPO (D1) Posts**

37. Upon the merger of the EB and the EPD on 1 April 2005, there will no longer be any operational need for the DEP (D5) post. However, the DEP post will be required to accommodate the incumbent until he has exhausted his pre-retirement leave which is currently projected to be on 31 July 2005. Since there is only one post in the rank, we propose to delete both the rank and post of DEP with effect from the date of retirement of the incumbent.

38. The merger mentioned above will also release two PEPO (D1) posts from EPD. We propose to delete the two posts, as they will no longer be required from 1 April 2005.

### **FINANCIAL IMPLICATIONS**

39. The proposed changes in directorate posts will bring about the following savings in notional annual mid-point salary cost -

<b>Deletion of posts</b>	<b>Notional annual mid-point salary cost (\$)</b>	<b>No. of Posts</b>
DEP (D5)	1,849,800	1
PEPO (D1)	2,288,400	2
<i>(a) Sub-total</i>	<i>4,138,200</i>	<i>3</i>
<b>Less : New permanent posts</b>		
AOSGB (D3)	1,580,400	1
PEPO (D1)	1,144,200	1
<i>(b) Sub-total</i>	<i>2,724,600</i>	<i>2</i>
<b>Net Savings (a) – (b)</b>	<b>1,413,600</b>	<b>1</b>

The net saving in full annual average staff cost, including salaries and staff on-costs, is \$2,523,000.

40. In overall terms, the EB/EPD merger will make possible a net release of four permanent directorate posts, involving a total saving of \$5,499,000 in terms of notional annual salary cost at mid-point or \$8,552,000 in terms of full annual average staff cost. These savings will be more than enough to cover the requirements of the two permanent posts set out in the present proposal.

### **ADVICE SOUGHT**

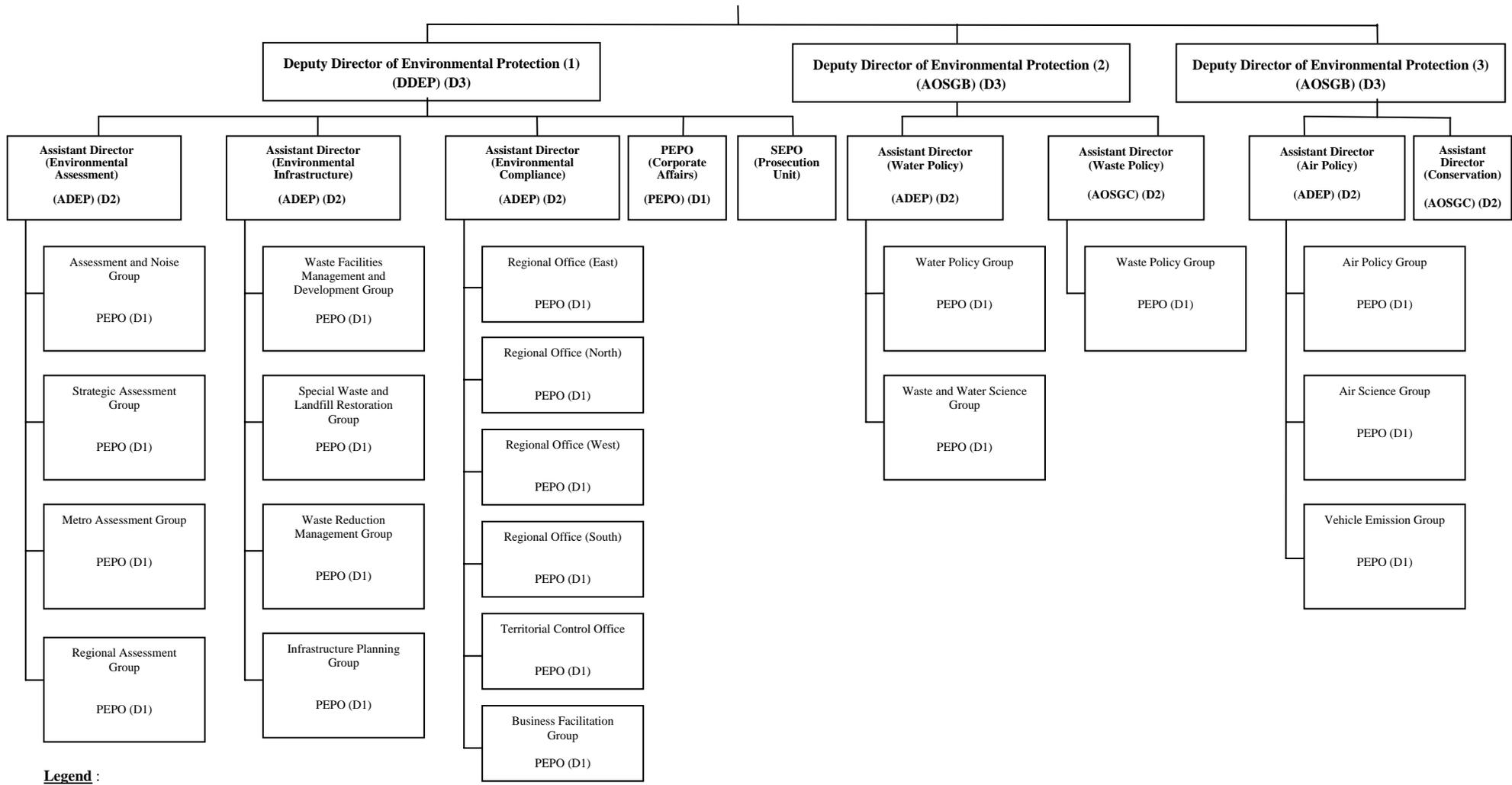
41. Members are invited to advise on the proposal.

**Environment, Transport and Works Bureau  
December 2004**

**Organisation Chart of the new EPD as at 1.4.2005  
as endorsed by ESC vide EC(2004-05)10**

**Enclosure 1**

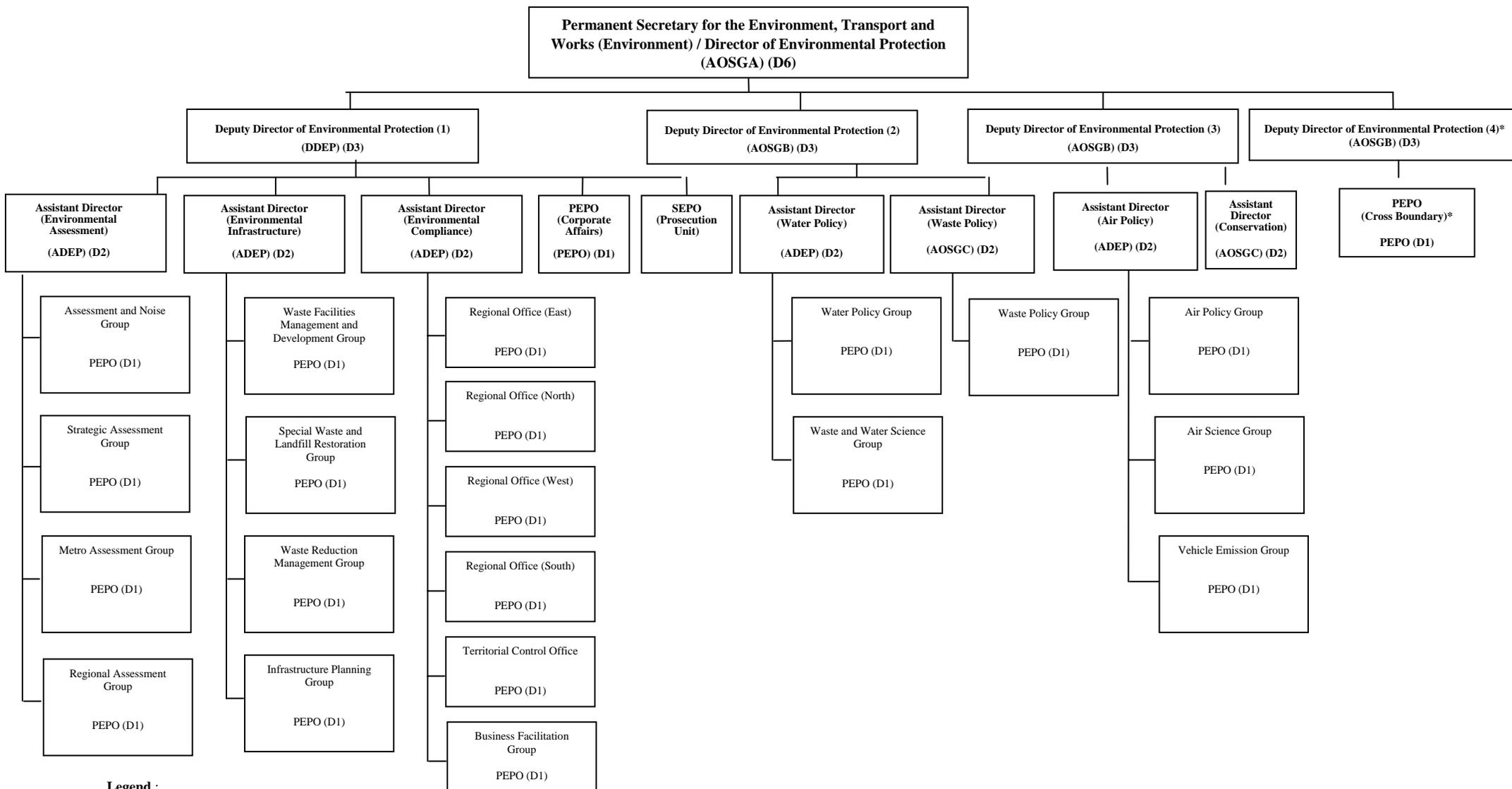
Permanent Secretary for the Environment, Transport and Works (Environment) / Director of Environmental Protection  
(AOSGA) (D6)



**Legend :**

- AOSGA Administrative Officer Staff Grade A
- AOSGB Administrative Officer Staff Grade B
- AOSGC Administrative Officer Staff Grade C
- DDEP Deputy Director of Environmental Protection
- ADEP Assistant Director of Environmental Protection
- PEPO Principal Environmental Protection Officer
- SEPO Senior Environmental Protection Officer

## Proposed Organisation Chart of the new EPD as at 1.4.2005



**Legend :**

- \* Posts proposed for creation
- AOSGA Administrative Officer Staff Grade A
- AOSGB Administrative Officer Staff Grade B
- AOSGC Administrative Officer Staff Grade C
- DDEP Deputy Director of Environmental Protection
- ADEP Assistant Director of Environmental Protection
- PEPO Principal Environmental Protection Officer
- SEPO Senior Environmental Protection Officer

**Job Description**

**Deputy Director of Environmental Protection (4)**

**Rank:** Administrative Officer Staff Grade B (D3)

**Responsible to:** Permanent Secretary for the Environment, Transport and Works (Environment)/ Director of Environmental Protection (PSE/DEP)

**Main Duties and Responsibilities -**

1. To take charge of the department's work in cross-boundary environmental issues.
2. To oversee the department's liaison activities with environmental authorities in Mainland China.
3. To ensure the effective support to the Guangdong-Hong Kong Joint Working Group on Sustainable Development and Environmental Protection.
4. To implement the Regional Air Quality Management Plan agreed with the Guangdong Provincial Government.
5. To implement environmental protection programmes in co-operation with Mainland authorities on the improvement of water quality of Shenzhen River, Mirs Bay and Deep Bay.
6. To liaise with and provide advice to Hong Kong-owned manufacturing businesses in the Pearl River Delta Region on clean manufacturing process.
7. To monitor and conduct technical exchanges with the Mainland authorities on cross-boundary Environmental Impact Assessments.
8. To pursue with the Mainland authorities the cross-boundary disposal of public fill and dredged mud.
9. To formulate and implement plans to control the emission of greenhouse gases in Hong Kong in pursuance of the Kyoto Protocol.
10. To formulate and implement plans to give effect to the Stockholm Convention on Persistent Organic Pollutants.
11. To deputise for PSE/DEP as necessary.

**Job Description**

**Principal Environmental Protection Officer  
(Cross Boundary)**

**Rank:** Principal Environmental Protection Officer (D1)

**Responsible to:** Deputy Director of Environmental Protection (4) (DDEP(4))

**Main Duties and Responsibilities –**

1. To liaise with Mainland authorities on cross-boundary environmental issues.
2. To keep abreast of developments of environmental protection policies and promulgation of environmental laws and regulations in the Mainland.
3. To provide secretarial support to the Guangdong-Hong Kong Joint Working Group on Sustainable Development and Environmental Protection.
4. To follow up with Mainland authorities on the timely implementation of the pollution control measures set out in the Regional Air Quality Management Plan.
5. To ensure the timely implementation of environmental protection programmes agreed with Mainland authorities on the improvement of water quality of Shenzhen River, Mirs Bay and Deep Bay.
6. To liaise with and provide advice to Hong Kong-owned manufacturing businesses in the Pearl River Delta Region on clean manufacturing process.
7. To conduct technical exchanges with the Mainland authorities on cross-boundary Environmental Impact Assessments.
8. To implement plans on the cross-boundary disposal of public fill and dredged mud.
9. To implement plans to control the emission of greenhouse gases in Hong Kong in pursuance of the Kyoto Protocol.
10. To implement plans to give effect to the Stockholm Convention on Persistent Organic Pollutants.