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10 July 2012

Dear Ms Wong

Re: Comments on the Project Profile for the HKAA's 3rd runway project

The revised project profile submitted by Hong Kong Airport Authority (HKAA) is either unclear or has missed out some very important assessments for EPD to base on prior to issue the project's study brief. FoE therefore would like to urge EPD to request HKAA to include the following key assessment areas for the project profile:

1. CO2 emission assessment:

There is no study to assess the additional emissions of greenhouse gases (GHG) from the additional flights and related land and sea logistics for goods and passengers incurred by the proposed 3rd runway. Although GHG is not a direct pollutant per se, increasing the emissions of GHG will make worse climate change which will then bring severe impacts to the environment and human beings living in this city and beyond. Some other green groups such as WWF who has predicted at least 18.1 million tonnes of CO2 emissions per annum will be added to Hong Kong in 2030 based on only the flights to and from Asia-Pacific destinations.

According to TM Annex 4.1.d: for air pollutants not established under the Air Pollution Control Ordinance nor above: meet the standards or criteria adopted by recognized international organizations such as WHO or USEPA as to be agreed with the Director of Environmental Protection.

According the United States Environmental Protection Agency (USEPA), CO2 has been categorized as pollutant which threatens public health and the environment. Taiwan followed suit in May 2012. FoE (HK) urges the Director of EP to request the project proponent (HKAA) to include CO2 assessment in the project profile.

The EIA for Heathrow Airport in the UK has assessed the additional emissions of (GHG) and it is a good example for HKAA to follow suit and to demonstrate to the public that HKAA is serious about the potential impact from additional GHG emissions.

As the HKSAR Government issued a document called Climate Change Strategy and Action

Agenda in late 2010 to consult the public with an aim to reduce the overall emissions of GHG of the city to 50% -60% by 2020 when compared with 2005. , it is unjustified for HKAA's proposed 3rd runway project to greatly increase the GHG emissions that works against the broader goal of the government to make Hong Kong a low carbon and sustainable city.

There are obvious social and environmental costs which will be borne by the public HKAA should include such kind of assessment in the EIA report and to suggest ways to lower and offset GHG emissions in order to bring such impact to minimum.

2. Health Impact assessment:

We believe health impact assessment is indispensable for big infrastructure projects nowadays for Hong Kong due to the seriousness of air pollution and the acknowledgement of its threats to public health. Yet HKAA has not stated certainly it would conduct a proper health impact assessment for all the sensitive receivers especially those who are having chronic sicknesses, though it has acknowledged the increase of air and noise pollutions due to additional flights and related logistics when the 3rd runway is built.

There are clear requirements stipulated under the Technical Memorandum (TM) of EIAO to examine whether a proposed project will incur negative impacts to the environment which should include impacts to the health of animals and human beings located at the proximity of the project.

TM Annex 3: FACTORS FOR CONSIDERATION IN IDENTIFYING ADVERSE ENVIRONMENTAL IMPACTS: Effects Resulting from Environmental Changes: negative effects on human health, including increases in mortality or morbidity, and/or decreases in personal well-being disruptions to normal learning, sleeping, and communication activities

TM 4.4.4.3.a: Evaluation of the Residual Environmental Impacts: The residual environmental impacts refer to the net environmental impacts after mitigation, taking into account the background environmental conditions and the impacts from existing, committed and planned projects. When evaluating the residual environmental impacts (the net impacts with the mitigation measures in place), the following factors shall be considered:

(a) the importance of the residual environmental impacts in terms of the following factors:

(i) effects on public health and health of biota or risk to life : If the impacts may cause adverse public health effects and/or adverse impacts to the health of rare and/or endangered species or pose an unacceptable risk to life and/or survival of a wildlife species, they are considered as key concerns;

Therefore it is vital for HKAA to appoint professional health experts to conduct health impact assessment for the public living and working in the airport area, Tung Chung Town (plus its new development), Tuen Mun and Kwai Chung areas to find out how the associated pollution of air and noise due to the additional flights and the related increase of land and sea transport for goods and passengers will affect the health of human beings.

Besides, the TM requires the project proponent to take into account of other approved EIAs related or close to the project, HKAA should then assess the health impacts of the 3rd runway project together with the health impacts generated by the Integrated Waste Management Facilities (IWMF). According to the EIA report of IWMF, there was an individual part for health impact assessment, which clearly stated the types of pollutants and their potential risks:

9a. HEALTH IMPACT (TTAL SITE)¹

9a.1 Introduction

9a.1.1.1 This section presents the assessment of the potential health risk impact associated with the construction and operation phases of the IWMF located in Tsang Tsui Ash Lagoon (TTAL) site.

9a.1.1.2 With reference to the Section 3.4.8.1 of the EIA Study Brief No. ESB-184/2008 for this Project, the health risk assessment can be broadly grouped into the following tasks:

- a. Assess the potential health impacts of aerial emissions from the IWMF during operational phase;
- b. Assess the potential health impacts of biogas from sorting and recycling plant;
- c. Assess the potential health impacts of fugitive emissions during transportation, storage and handling of the waste and ash;
- d. Assess the potential health impacts of any radon emissions from pulverized fly ash (PFA) within the Tsang Tsui Ash Lagoon during construction and operation of the IWMF; and
- e. Assess any other potential accidental events.

The World Health Organization (WHO) has announced in June 2012 that exhausts from diesel engines have become a known risk to different types of cancers from “probable” carcinogenic to

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http://www.epd.gov.hk/eia/register/report/eiareport/eia_2012011/EIA/EIA_HTML/S9a_HealthImpact-TTAL.htm

“definite”. Although airplanes do not burn diesel, the auxiliary units that supply electricity for the airplanes, and the trucks and ships that carry goods or passengers to the airport do burn diesel of various Euro standards as the main type of fuel, therefore the health impact of such exhausts from these sources is undoubtedly required for EPD and ACE to review. FoE (HK) recommends that at least Kwai Chung and Tuen Mun, in addition to the currently stated areas in the project profile, should be included as sensitive receiver areas with reference to the EIA of IWMF:

Air Dispersion Modelling:

9a.2.3.2 Potential cumulative impacts due to dispersion of aerial emissions from the IWMF have been predicted at existing and planned/committed Air Sensitive Receivers (ASRs) with the use of Industrial Source Complex (ISC) model (for the near field ASRs (i.e. TT1 to TT6)) and the Pollutants in the Atmosphere and their Transport over Hong Kong (PATH) Model. The proposed representative ASRs are listed in [Table 9aTable 9a](#). The detailed methodology for modelling air dispersion is presented in **Section 3** of this EIA Report.

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Table 9a Identified Air Sensitive Receivers for the TTAL Site

ASR	Description	Nature of ASR ⁽¹⁾	Building Height, m	Ground level, mPD	Distance to Project Boundary, m
TT1	Ha Pak Nai	R	9	3.4	1989
TT2	Sludge Treatment Facilities Site Office	I	-	5.0	205
TT3	EPD WENT Landfill Site Office	I	6	5.7	625
TT4	Tin Hau Temple	G/IC	3	4.7	88
TT5	Black Point Power Station (Office)	I	9	5.6	1130
TT6	Lung Kwu Sheung Tan Block F, Tuen Mun Hospital	R	6	3.4	1871
TM1	Tuen Mun Town Plaza	G/IC	66	5.8	5627
TM2	Kam Hing Building	R	104	4.5	6149
TM3	Hong Lai Garden	R	89	5.8	5961
TM4	Hong Lai Garden	R	96	5.0	5770
TM5	Block 4, Tai Hing Gardens	R	102	16.0	5245
TM6	Leung King Estate	R	102	10.0	4261
TC1	Caribbean Coast Block 1	CDA	141	7.5	14291
TC2	Caribbean Coast Block 6	CDA	153	6.8	14508
TC3	Ling Liang Church Sau Tak primary School	G/IC	21	6.4	14590
TC4	Yu Tung Court - Hor Tung House	R	108	9.3	14954
TC5	Tung Chung Crescent Block 9	R	129	11.1	14664
TC6	Yat Tung Estate - Hong Yat House	R	105	9.7	15523
AP1	Chek Lap Kok Fire Station	C	9	7.5	13317

ASR	Description	Nature of ASR⁽¹⁾	Building Height, m	Ground level, mPD	Distance to Project Boundary, m
AP2	Gate Gourmet Catering Building	C	30	6.7	12890
AP3	DHL Central Asia Hub	C	30	5.4	13636
AP4	Regal Airport Hotel	C	90	5.3	11253
AP5	SkyCity Nine Eagles Golf Course	C	-	6.2	11496
AP6	SkyCity Nine Eagles Golf Course	C	-	6.2	11700
AP7	Hong Kong SKyCity Marriott Hotel	C	45	6.2	11414
AP8	Terminal 2 Sky Plaza	G/IC	25	6.4	11573
SLW1	Sha Lo Wan House No. 1	R	9	5.0	14195
SLW2	Tin Hau Temple at Sha Lo Wan	R	9	4.9	14556
SLW3	Tin Sum	R	9	5.7	14362
KT1	Block 6, Lai King Estate	R	42	40.1	22380
KT2	Block 7, Lai King Estate	R	66	40.1	22507
KT3	Lai King Home	R	12	40	22631
KT4	Hong Chi Winifred Mary Cheung Morninghope School		6	38.5	22867
KT5	Lai Hong House, Ching Lai Court	R	135	25	23526
KT6	Princess Margaret Hospital	G/IC	30	38.9	23523
KT7	Lai Chi Kok Park Stage III	G/IC	-	7.6	24502
KT8	Hoi Yin House, Hoi Lai Estate	R	108	5.9	24842

Note: (1) R – Residential; C – Commercial; I – Industrial; G/IC –Government / Institution / Community; CDA - Comprehensive Development Area

According to the Hedley Environmental Index (HKEI), air pollution could kill an estimated 8 to 9 people a day and could incur about 7.4 million visits to doctors, 160,000 days of hospitalization, and HK\$40 billion in health-related community costs annually in the past five years (2007-2011). FoE (HK) recommends that health impacts could manifest by many factors such as the types of illnesses, Mortality rate/cardiovascular disease/cancer/tuberculosis/respiratory diseases, the frequency of illnesses affected by air and noise pollution, visits to clinics, hospitalization, increased cases of pre-mature death as well as deterioration of health for certain vulnerable groups and normal persons.

3. Baseline assessment:

FoE (HK) strongly urges EPD to request the project proponent to carry out a baseline assessment according to the following TM requirement:

TM 4.3.1c: (c) Impact Evaluation: an evaluation of the anticipated changes and effects shall be made with respect to the criteria described in Annexes 4 to 10 inclusive, and in quantitative terms as far as possible. The methodologies for evaluating the environmental impact shall be capable of addressing the following issues:

(i) the existing or projected environmental conditions without the project in place;

(ii) the projected environmental conditions with the project in place and the sum total of the environmental impacts taking into account all relevant existing, committed and planned projects;

(iii) a differentiation between the environmental impact caused by the project and that caused by other projects, and to what extent the project aggravates or improves the existing or projected environmental conditions;

(iv) the environmental impact during different phases of construction and development of the project; and

(v) the evaluation of the seriousness of the residual environmental impacts (see Section 4.4.3).

TM 4.4.2g: 4.4.2 Quality of the EIA Report: The quality of the EIA report shall be reviewed having regard to the guidelines in Annex 20 and in Section 4.3. The report shall be considered as adequate if there are no omissions or deficiencies identified which may affect the results and conclusions of the assessment. In particular, the following factors shall be considered:

(g) whether the assessment has considered and compared the environmental benefits and disbenefits of various scenarios with or without the project;

The importance of the baseline assessment was clearly stated in the judgment of HKZM Bridge JR, the Director of EP must uphold the principle which the proponent is using the best available technique to prevent or minimize pollution:

1. Paragraph 41: One approach (which was described by Mr Dykes as the bucket approach) is to impose limits on the quantities of polluting matters which a given activity may emit, into which pollutant may be poured so long as there is still space in the bucket. Another is to provide a framework for specific directives imposing quantitative limits on the extent to which the environment may be polluted, and to require proponents to satisfy the Environment Agency that they are using the best available technique to prevent or minimize pollution.
2. Paragraph 55: I agree with the learned judge the EIAO incorporates both of the two approaches referred to in Edwards. I am further of the view that the duty to minimize pollution would not depend on the extent of the pollution footprint of a designated project. Whatever the footprint of a project ((90%-80%) or (90%-30%)) a proponent must minimize

pollution.

4. Air pollution assessment:

The project profile must include assessment of the additional air pollution generated from additional flights and the related land and sea logistics for goods and passengers incurred by the proposed 3rd runway. For the study brief that will be issued by EPD, some of the key air pollutants such as PM2.5, PM10, CO, CO2, SO2, NOx, VOCs and Ozone must be included and assessed for the construction, and most importantly, for the operation phase. In the current profile document, HKAA did not include the measurement of VOCs which is an important pollutant that will react with NOx to form health harming Ozone. Without that information, there will not be enough information for the ACE to review the project's EIA in a fully informed manner.

According to the VOC regulation: The use of VOC-containing products will inadvertently release VOCs which cause air pollution and smog. To improve the air quality and achieve the 55% VOC reduction target to below 1997 level by 2010 under the joint regional air quality management plan with Guangdong, the Government has implemented a series of various control measures. One of these measures is to control VOC emissions from regulated products by the implementation of the Air Pollution Control (Volatile Organic Compounds) Regulation (the VOC Regulation) to prohibit import into Hong Kong and to manufacture in Hong Kong regulated products with VOC contents exceeding the prescribed limits set out in the VOC Regulation.²

Sensitive receivers of air pollution should also include those located from areas around the Container Terminal at Kwai Chung all the way to Tuen Mun and then Tung Chung Town, since goods will probably be transported by land from Kwai Chung via Tuen Mun to Tung Chung Highway and to reach the airport.

The Director of EP has an indispensable role to safeguard public health which is one of the main rationales of improving our environment. We urge you to fulfill due diligence and require HKAA to provide Health Impact Assessment of the project.

Without these important required information and analysis of the project profile, it will risk critical deficiency of the study brief that will be issued by EPD, and even public outcry challenging your duty to safeguard public health and our environment. In a nutshell, FoE (HK)

² http://www.epd.gov.hk/epd/english/environmentinhk/air/prob_solutions/voc_reg.html#point_1



urges EPD to demand HKAA to include the assessments of the above-mentioned areas in addition to what HKAA has put down for the project profile for the 3rd runway project. We trust you will give our comments due consideration.

Yours sincerely

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