

**立法會**  
**Legislative Council**

LC Paper No. CB(1)146/13-14  
(These minutes have been seen  
by the Administration)

Ref : CB1/PS/2/12/1

**Panel on Environmental Affairs**

**Subcommittee on Issues Relating to Air, Noise and Light Pollution**

**Minutes of the meeting**  
**held on Friday, 28 June 2013, at 4:00 pm**  
**in Conference Room 3 of the Legislative Council Complex**

**Members present** : Hon Cyd HO Sau-lan(Chairman)  
Hon Claudia MO  
Hon WU Chi-wai, MH  
Hon Gary FAN Kwok-wai  
Hon CHAN Han-pan  
Hon KWOK Wai-keung  
Hon Dennis KWOK  
Dr Hon Helena WONG Pik-wan  
Hon Tony TSE Wai-chuen

**Members absent** : Dr Hon Kenneth CHAN Ka-lok  
Dr Hon Elizabeth QUAT, JP  
Hon Christopher CHUNG Shu-kun, BBS, MH, JP

**Public Officers attending** : **For item II**  
  
Ms Christine LOH, JP  
Under Secretary for the Environment

Mr TANG Kin-fai, JP  
Assistant Director (Environmental Assessment)  
Environmental Protection Department

Mr Maurice YEUNG  
Principal Environmental Protection Officer  
(Assessment and Noise)  
Environmental Protection Department

Mr Louis CHAN  
Principal Environmental Protection Officer  
(Regional Assessment)  
Environmental Protection Department

**For item III**

Ms Christine LOH, JP  
Under Secretary for the Environment

Mr MOK Wai-chuen, JP  
Assistant Director (Air Policy)  
Environmental Protection Department

Mr Dave HO  
Principal Environmental Protection Officer (Air Science)  
Environmental Protection Department

Dr Kenneth LEUNG  
Senior Environmental Protection Officer  
(Strategic Assessment)<sup>5</sup>  
Environmental Protection Department

Dr Christopher FUNG  
Senior Environmental Protection Officer (Air Science)<sup>4</sup>  
Environmental Protection Department

**Attendance by  
invitation**

**: For item III**

City University of Hong Kong

Dr Nicky LAM  
Visiting Assistant Professor  
School of Energy and Environment

The Hong Kong University of Science and Technology

Professor FUNG Chi-hung  
Professor  
Institute for the Environment

**Clerk in attendance :** Ms Miranda HON  
Chief Council Secretary (1)1

**Staff in attendance :** Miss Lilian MOK  
Council Secretary (1)1

Miss Mandy POON  
Legislative Assistant (1)1

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**I. Confirmation of minutes**

(LC Paper No. CB(1)1365/12-13 — Minutes of the meeting held on  
25 February 2013)

The minutes of the meeting held on 25 February 2013 were confirmed.

**II. Current legislation and administrative measures on the control of  
noise pollution and the associated public expenditure, as well as cases  
of noise pollution and mitigation measures**

(LC Paper No. CB(1)982/12-13(01) — Administration's paper on  
"Current Legislation and  
Administrative Measures on the  
Control of Noise Pollution and  
the Associated Public  
Expenditure"

LC Paper No. CB(1)1167/12-13(01) — Submission from Professor LAM  
Kin-che, Department of  
Geography and Resource  
Management, The Chinese  
University of Hong Kong  
(English version only)

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LC Paper No. CB(1)1183/12-13(01) — Submission from Civic Exchange

LC Paper No. CB(1)1366/12-13(01) — List of follow-up action arising from the discussion at the meeting on 31 May 2013

LC Paper No. CB(1)1366/12-13(02) — Administration's response to CB(1)1366/12-13(01)

LC Paper No. CB(1)1366/12-13(03) — Submission from Mr Chris KNOP (English version only)

2. The Subcommittee continued discussion on the item which was carried over from the last meeting held on 31 May 2013.

3. The Assistant Director of Environmental Protection (Environmental Assessment) ("ADEP(EA)") briefly presented the current legislation and administrative measures on environmental noise control and the associated public expenditure. The Under Secretary for the Environment ("USEN") welcomed members to put forth their views on the Government's overall policy objectives for environmental noise control. The Chairman remarked that members' views, concerns and recommendations would be incorporated into the report of the Subcommittee to assist the Administration in addressing the inadequacies of the existing legislation in dealing with different kinds of pollution. The Subcommittee would hold one to two meetings to discuss its report.

Noise from construction sites

4. The Chairman expressed concern about the impact of noise from construction activities on nearby residential accommodations or other noise sensitive receivers ("NSRs"), in particular the noise generated by percussive piling. ADEP(EA) advised that noise from construction sites was controlled under the Noise Control Ordinance (Cap. 400) ("the NCO") by means of construction noise permits ("CNP") and noise emission labels.

5. As regards percussive piling, the Principal Environmental Protection Officer (Regional Assessment) ("PEPO(RA)") explained that the conduct of percussive piling was restricted to day time during weekdays and the operating hours might be limited to 12, 5 or 3 hours depending on the proximity of the nearby NSRs, such as schools and residential accommodations. A CNP would be required for percussive piling. A ban on percussive piling would not be practicable because of the technical limitations posed by the small size of some sites and particular geological conditions where percussive piling would be the only feasible piling option. Nevertheless, the phasing out of particularly noisy

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percussive piling methods such as diesel hammer had helped to minimize the noise and vibration disturbance caused by percussive piling to the surrounding NSRs.

6. Dr Helena WONG said that she had received repeated complaints from residents of Whampao Garden about the noise nuisance from the construction works of new railway projects which were located very close to residential blocks. ADEP(EA) responded that to reduce the impact on nearby residents, most of the major works of railway projects were conducted underground. Construction on ground level mainly involved works on stations and their entrances and exits. The MTR Corporation Limited had adopted a number of noise mitigation measures, including the use of noise insulating fabric (which was a proprietary product effective in noise reduction), acoustic enclosures and quieter construction equipment when carrying out construction works of railway projects. The Administration would continue to closely monitor the effectiveness of the current noise mitigation measures and make further improvements wherever practicable.

7. In addition to implementing various noise mitigation measures, the Chairman suggested that project proponents should strengthen their communication with local residents through District Councils with a view to enhancing residents' understanding of the construction works concerned and facilitating exchange of views amongst relevant parties.

Noise of road maintenance works

8. In response to the Chairman's enquiry about the noise problems of road maintenance works, PEPO(RA) explained that some maintenance works on particularly heavy trafficked roads might have to be conducted within restricted hours (i.e. from 7 pm to 7 am or on public holidays) to minimize the impact of the works on the public and traffic. There are special provisions under the Technical Memorandum issued under the NCO to allow for CNP to be issued for essential road maintenance works during restricted hours, even if the noise level might exceed the noise criteria when carrying out such work during restricted hours would cause less public annoyance or inconvenience than during non-restricted hours.

9. PEPO(RA) further advised that normally the proponent would be required to obtain documentary support from the Police that the road maintenance work had to be conducted at the time period applied for to cater for traffic conditions before the CNP would be granted. Stringent noise mitigation measures would also be specified as conditions in the CNP to minimize the construction noise from such work. The Environmental Protection Department ("EPD") would carry out surveillance checks to ensure that noise mitigation measures were implemented. In case non-compliance with the conditions was revealed,

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prosecution would be considered.

Resource allocation for noise pollution control

10. Mr Tony TSE pointed out that noise pollution was a multi-faceted issue spanning across different policy areas under various government bureaux/departments ("B/Ds"). He considered that prevention was the best cure as far as noise was concerned. Better urban design and planning could help reduce noise at its source and pre-empt noise problems. With the advancement of technology, innovative designs and measures should be the latest trend in noise mitigation. As the community aspired to a better living environment and had become more concerned about the problem of noise, Mr TSE proposed that the Administration should set out the financial resources required for implementing noise abatement measures (such as the cost of using low noise materials and changing the alignment of roads) in different public works and infrastructural projects when submitting funding proposals to the Legislative Council for approval. This could enable Members and the public to have a full picture of the total cost incurred in implementing the projects and hence Members could make informed choices in considering the funding proposals.

11. The Chairman shared Mr TSE's views. She said that it would be desirable to include in the town planning procedure and the planning process of infrastructural projects the requirement to assess the noise impact of a development or project, such as by mandating the conduct of a noise impact study during the planning process, so that noise problems could be prevented during the design stage.

12. USEN agreed that noise pollution was an issue in Hong Kong and people from all walks of life were inevitably exposed to different levels of noise nuisance. To meet the public's growing aspiration for a quieter environment and better quality of life, a multi-pronged approach which included preventing noise problems through land use planning and project design, imposing statutory control on different forms of environmental noise, improving traffic and aircraft noise through abatement programmes, and adopting innovative noise mitigation designs and measures should be taken. The Administration would welcome input from the public and stakeholders in the formulation of major policies such as future transport plans and the overall future development of Hong Kong as this could help prevent noise.

Noise from commercial premises

13. Dr Helena WONG expressed concern about the noise nuisance from restaurants and bars. Despite repeated complaints lodged with the Police, the situation had not improved. She asked whether the Administration would

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consider restricting the business hours of restaurants and alcohol-related business located in residential areas to before a preset time, say, 11 pm or 12 midnight.

14. ADEP(EA) responded that a noise nuisance complaint was normally handled by more than one B/D. As noise nuisance was created in the neighbourhood, it required more than law enforcement actions to resolve the problem effectively. While EPD was responsible for dealing with the problem of noise generated within a restaurant or bar, it could not handle complaints involving patrons of such premises who made excessive noise at outdoor locations causing nuisance to nearby residents. Nevertheless, EPD would continue to work with relevant B/Ds to improve the situation. The Police would also follow up on noise complaints and take appropriate enforcement actions according to individual circumstances.

Road traffic noise

15. Noting that the existing traffic noise limit was 70 dB(A)  $L_{10}$ (1 hour), Mr WU Chi-wai proposed that the Administration should consider lowering the noise limit of 70 dB(A) to further enhance control on noise emission. He also asked whether the installation of "acoustic windows" in residential buildings next to busy roads would be a viable option to protect residents from excessive traffic noise where it was not technically feasible to retrofit noise barriers due to inadequate space.

16. ADEP(EA) explained that the noise limit of 70 dB(A) for residential premises was formulated after reviewing similar standards in some overseas countries and the normal and realistic situations in Hong Kong. PEPO(AN) supplemented that the limit was prescribed in the Hong Kong Planning Standards and Guidelines ("HKPSG") and the index of  $L_{10}$ (1 hour) was widely adopted by different authorities around the world (e.g. the United Kingdom and the United States of America) for assessing and measuring road noise. Given the high-density living environment of Hong Kong, there might be limited scope for tightening the existing traffic noise limit. Nevertheless, the Administration had been resurfacing roads and flyovers with low noise materials to reduce road-tire passing noise and would carefully examine the alignment of new roads during the planning stage to minimize the population that would be exposed to traffic noise. In addition, EPD was closely working with the Housing Department to study the viability of the installation of "acoustic windows" to protect residents of building blocks close to busy road sections where space was inadequate for retrofitting barriers from excessive traffic noise.

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17. In response to members' requests, USEN undertook to provide the following information for members' reference –

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- (a) the factors that had been taken into consideration in deciding not to tighten the existing statutory road traffic noise limit of 70dB(A) L10(1 hour) for residential premises as stipulated in HKPSG; and
- (b) the latest progress and details of the trial scheme to test the fitting of "acoustic windows" in residential buildings situated next to busy roads to protect residents from excessive traffic noise (e.g. the timeframe for completing the scheme and the way forward), as well as the latest developments of other innovative noise mitigation designs and measures against traffic noise.

*(Post-meeting note: The Administration's response was circulated to members on 9 September 2013 vide LC Paper No. CB(1)1768/12-13(02).)*

### **III. Air quality modelling in Hong Kong**

(LC Paper No. CB(1)1366/12-13(04) — Administration's paper on "Air quality modelling in Hong Kong")

#### Meeting with the Administration and academics

##### *Academics attending the meeting*

Dr Nicky LAM, School of Energy and Environment, City University of Hong Kong

LC Paper No. CB(1)1393/12-13(01) (English version only)

Professor FUNG Chi-hung, Institute for the Environment, The Hong Kong University of Science and Technology

LC Paper No. CB(1)1393/12-13(02) (English version only)

18. USEN said that the Administration had been monitoring the latest developments in air quality modelling and would upgrade its modelling tools and methods as necessary. The Assistant Director of Environmental Protection (Air Policy) ("ADEP(AP)") gave an overview of the air quality modelling practices used in Hong Kong in general and one of the most commonly used air quality models, i.e. "Pollutants in the Atmosphere and their Transport over Hong Kong" ("PATH").

19. Dr Nicky LAM presented his views as set out in his written submission. While expressing support to the Administration for adopting a three-tier approach in air quality impact assessment, Dr LAM urged the Administration to enhance



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the transparency of its air quality modelling system to allow the community to know more about the work of EPD in safeguarding public health and to gain public trust. The Administration should also make accessible the emission inventory of Hong Kong and update it regularly so as to enable the public and academics to monitor the effectiveness of different emission control measures that were being implemented.

20. Professor FUNG Chi-hung briefly presented his submission and pointed out that air quality modelling played an important role in policy formulation and environmental impact assessment ("EIA"). He shared Dr Nicky LAM's views that the Administration should improve the transparency of the air quality modelling system and its applications in the EIA process so that any one interested in air quality modelling could have easy access to relevant documents and data. He pointed out that if the public had better understanding and appreciation of the air quality modelling system, the credibility of EIA studies would be enhanced.

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21. In response to the Chairman's request, the Administration undertook to provide written response to the submissions by Professor FUNG and Dr Nicky LAM.

*(Post-meeting note: The Administration's response was circulated to members on 9 September 2013 vide LC Paper No. CB(1)1768/12-13(03).)*

Transparency of the air quality modelling system

22. Mr Dennis KWOK agreed with Dr Nicky LAM and Professor FUNG Chi-hung that the transparency of the air quality modelling system was essential. He pointed out that as EIA reports contained very limited information on the air quality data or assumptions used in the PATH model to simulate the background air quality of a project over the whole Pearl River Delta ("PRD") region including Hong Kong, some green groups and academics had reservations on the conclusions of EIA studies.

23. ADEP(AP) responded that when vetting an EIA report, EPD attached great importance to the methodologies and assumptions adopted in evaluating the air quality impacts of a proposed project. EPD also required project proponents to include in their EIA reports the methodologies and assumptions used for public viewing. However, as there was a large amount of information and data included in an EIA report, the public might find it difficult to identify certain pieces of information. EPD was considering requiring project proponents to set out the adopted methodologies and assumptions in the executive summaries of their EIA reports for easy reference of the public.

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24. The Senior Environmental Protection Officer (Strategic Assessment)5 ("SEPO(SA)5") explained that EPD would set out the specific issues that a project proponent was required to address in an EIA study. In evaluating the total air quality impacts of a proposed project, contributions from all the three tiers of emission sources would be considered. The three tiers were: Tier 1 – emissions from a proposed project under assessment; Tier 2 – emission sources in an area within a 500 meters radius of a proposed project site; and Tier 3 – background air quality of a proposed project. The three tiers of emission sources called for different air quality models to estimate their air quality impacts. In line with international practices, the Lagrangian models, which simulated dispersion of air pollutants based on the observation of the trajectory of a particular air parcel moving along with the wind, were adopted to assess the impacts of Tier 1 and Tier 2 emission sources. PATH would be used to quantify the background air quality (i.e. Tier 3) of a proposed project. The emission sources including those in PRD, roads, marine, airport, power plants and industries within Hong Kong were all considered in the PATH model. The air quality impacts of the emission sources of all the three tiers would be added up to give the overall air quality impacts.

25. The Principal Environmental Protection Officer (Air Science) ("PEPO(AS)") added that some academics who had met with the Administration earlier considered the PATH model scientifically robust and suitable for use in Hong Kong for air quality assessment. Since PATH was a sophisticated model and might not be easily comprehensible, its output data was not made publicly available. Notwithstanding this, EPD would provide PATH output data to academics, relevant experts and major consultancies to facilitate them in conducting air quality modelling and assessing the air quality impacts of different development projects upon request.

26. Professor FUNG Chi-hung opined that apart from PATH output data, the Administration should also make public the assumptions on air quality control policies and improvement measures that it had adopted for estimating future air pollutant emissions in the PATH modelling system to enhance understanding of how the projection of future air quality was made. Dr Nicky LAM said that whether the assumptions adopted were realistic or too generous in emission reduction was an important factor that the Administration should take into account in the air quality modelling process. Mr Dennis KWOK proposed that the Administration should make available the emission inventory data used by project proponents in evaluating the air quality impacts of their proposed projects for public viewing.

27. USEN acknowledged the views and concerns that had been raised regarding the transparency of the air quality modelling system. She advised that at present, the Administration was upgrading the PATH model and would engage

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air modeling experts in the validation of the new model. ADEP(AP) added that the Administration would consider setting up a working group comprising academics and experts in the field to review and refine the air quality modelling systems of Hong Kong in due course. The working group could discuss the type of data that should be made public for the sake of enhanced transparency.

Approaches for estimating different emission sources

28. Mr Dennis KWOK referred to section 4.3.1(b)(v) of the Technical Memorandum issued under the Environmental Impact Assessment Ordinance (Cap. 499) ("TM-EIAO"), which required that the assessment methodologies adopted in an EIA study should be capable of describing and predicting the reasonable case scenario and/or the worst case scenario, or such scenarios as required in an EIA study brief. He pointed out that some academics were in favour of the approach of collecting data from one or more air quality monitoring stations in different locations (i.e. the observation-based approach) in estimating the total air quality impacts of a proposed project and simulating worst-case scenarios for testing purpose, rather than using the PATH model for air quality assessment.

29. ADEP(AP) explained that using PATH to estimate the background air quality level (i.e. Tier 3) of a proposed project had advantage over other estimation approaches since PATH was capable of accounting for the changes to future air quality due to technology changes or government policies to improve air quality and as such, could achieve a higher degree of certainty on the projections to be made. Dr Nicky LAM also held the view that the air quality impacts of a proposed project predicted by the observation-based approach (which was based upon worst-case assumptions) would not occur to the extent predicted on all occasions, in particular in some developing or developed countries where the emission trends of different air pollutants were gradually decreasing.

30. PEPO(AS) supplemented that the PATH model had included and adequately represented different emission sources in the general environment in the calculation of the total air quality impacts of a proposed project. PATH had also taken into account the various measures being implemented by the Administration to reduce local air pollutant emissions to meet the new Air Quality Objectives ("AQOs") by 2020, such as requiring ocean-going vessels to switch to cleaner fuels while at berth in Hong Kong waters, and enacting legislation to further tighten the emission caps for power plants. The Administration had adopted a conservative approach which assumed that the implementation of the above control measures would only be able to help Hong Kong achieve the lower bounds of the new emission reduction targets/ranges by 2020.

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31. SEPO(SA)5 advised that in most cases, the project-induced emissions (i.e. Tier 1) and the pollutant emitting activities within the immediate neighbourhood of a proposed project (i.e. Tier 2) were quite often the major contributor to local air quality impacts. As such, project proponents, when evaluating the overall air quality impact of their proposed projects, were required to carry out an assessment to estimate the emission contributions from Tier 1 and Tier 2 based on an assumed reasonably worst-case scenario. They were also required to predict the air quality level with and without the construction and operation of their proposed projects. In so doing, the requirement in TM-EIAO for predicting the reasonable case scenario and/or the worst-case scenario of a proposed project could be met.

32. PEPO(AS) further explained that the assumptions for estimating emissions used in PATH for prediction of future background pollutant concentrations varied with the year of simulation and were case-specific. In the EIA study of any designated project, the emission assumptions were worked out by the project proponent to suit the year of assessment. A set of standard PATH output data for two future years (2015 and 2020) could be requested from EPD. Should a year other than those provided by EPD be required for assessment, the method and assumptions used for estimating emissions for the assessment year should be agreed between the project proponent and EPD.

33. USEN said that the Administration welcomed the opportunity to exchange views with members and academics on the conduct of air quality modelling exercises. She agreed that the Administration would –

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- (a) provide information on the latest progress in enhancing the PATH model and details of the enhancement to be made; and
- (b) advise how the transparency of the air quality modelling system and its applications in the environmental impact assessment process would be enhanced through closer communication with interested parties, the academic sector and other stakeholders.

*(Post-meeting note: The Administration's response was circulated to members on 9 September 2013 vide LC Paper No. CB(1)1768/12-13(03).)*

**IV. Date of next meeting and item(s) for discussion**

(LC Paper No. CB(1)1366/12-13(05) — List of outstanding items for discussion)

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34. The Chairman proposed and members agreed that the next meeting be held on Friday, 12 July 2013, at 10:45 am to discuss the "Current legislation and administrative measures on the control of light pollution and associated public expenditure".

**V. Any other business**

35. There being no other business, the meeting ended at 6:14 pm.

Council Business Division 1  
Legislative Council Secretariat  
24 October 2013