

Message from the Editor

YN AU YEUNG

This issue of Sounding Board is dedicated specifically to

Delegation Visit to Tokyo (16 – 23 May 2007)

Narita International Airport Corp - Environmental Monitoring Office

Daniel CHAN

The HKIOA delegates were welcomed by 10 members of the Narita International Airport Corporation (NAA) including the Director of Environment Management, Community and Environmental Affairs Department on the first day of the delegation visit (16 May 2007).



Following the introduction video of NAA, Mr. Fumio Gunji and Ms Chihiro Oshima gave a presentation of "Aircraft Noise Countermeasure at Narita Airport". The new Noise Prevention Law at Narita in Class 1 Zone is WEC PNL over 75 (Noise insulation to houses, school and public facilities to be

implemented by a Regional Community called Symbiosis Foundation, comprises of NAA, Chiba pref. and related local government in 1997.) They would provide subsidy to sound proof the noise affected community in the area.

Special Noise Prevention Law Zone WEC PNL > 80. A Noise Reduction Hangar Facility for engine testing was also introduced. Later on, the monitoring office showed us a "Real time" Flight Noise Level Monitoring system. Other environmental data was also recorded/shown in

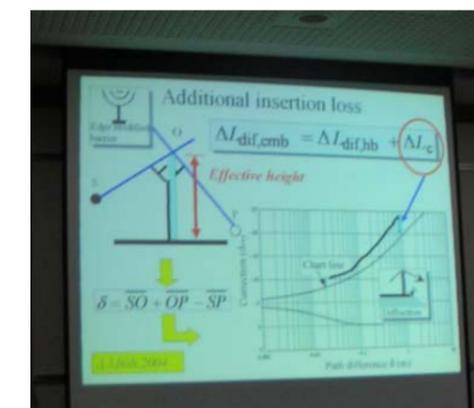


real time together with aircraft details. We thank NAA for the very informative talk, the tour and the very delicious Japanese lunch boxes.

Visit to Kobayashi Institute of Acoustics, Tokyo

Dr Marc BURET

The visit to Kobayashi Institute of Acoustics, Tokyo took place in the afternoon of May 17th, 2007. The delegation met Dr. YAMAMOTO Kohei, Executive Director of the Kobayashi Institute of Physical Research, Vice President of the Acoustical Society of Japan (ASJ), Inspector of INCE/Japan, Dr. TAKINAMI Hiroaki, Senior Manager for Measuring Instrument Engineering at RION Co. Ltd, Director in charge of finance of the ASJ (future Vice-president) and Dr. OKUBO Tomonao, researcher at the Kobayashi Institute of Physical Research (a former student of Pr. Fujiwara).



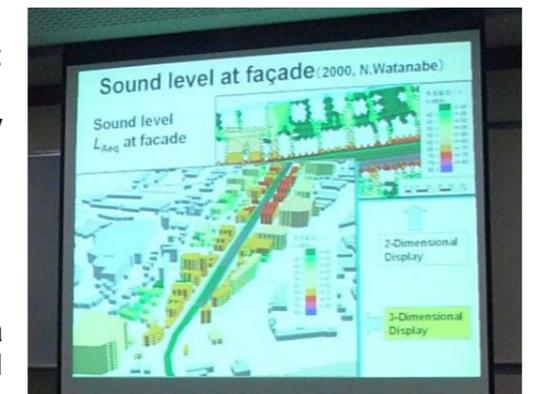
A non-profit organization founded in 1940, the Kobayashi Institute of Physical Research is located in the outskirts of Tokyo, next to the facilities of RION. RION is strongly links to the Kobayashi Institute of Physical research as the company has been developing and commercializing the fruits of research carried at the Institute since 1944.

This visit was obviously the chance for some formal exchange between the HKIOA and the ASJ during which the wish for further collaboration in the future has been shared.

Presentations from the HKIOA were as follows:

- HKIOA activities by C.L. Wong,
- Traffic noise situation in Hong Kong by K.L. Yeung
- 3D noise modeling by W.L. Chung,
- Consultancy activities by P.C. Chan,
- QRD Noise reducers by M. Buret.

On the Japanese side, Dr. Tomonao gave a presentation on noise barriers in Japan and research on edge-modified barriers at the Kobayashi Institute of Physical Research. Current projects presented focus on the characterization of modified edges efficiency and on prediction of noise behind barriers.

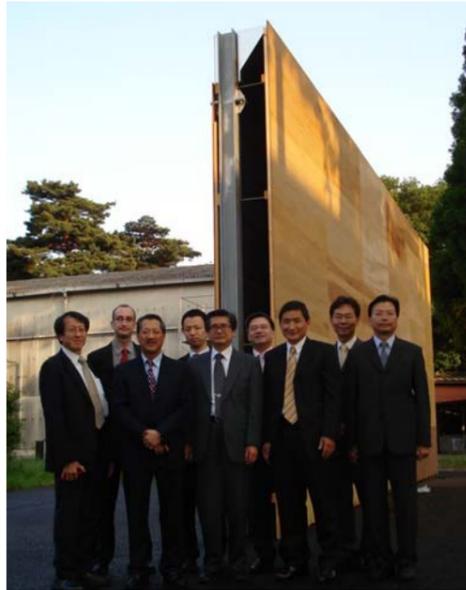


Dr. Yamamoto subsequently gave a presentation of the ASJ-RTN (Road Traffic Noise) prediction model 2003, together with its role in Noise policy and for Noise mapping. The meeting was followed by a visit of the experimental facilities of the Kobayashi

Institute of Physical Research. The testing facilities include a series of reverberation chambers with the largest being a pair of 530 m³ chambers used for Transmission Loss measurements.

More experimental facilities were shown to the delegation including an outdoor scale modeling facility and the associated equipment for studying surface transportation characteristics.

A test-rig for sound diffraction testing it follows a measurement method for the diffracted sound by means of an array of microphones located on a circle section revolving around the barrier edge, allowing assessment for the performance of barrier tops and straightforward use of the results in noise predictions.



Eventually, an experimental low frequency generator installed in a reverberation chamber was shown to the delegation. By means of a plate excitation system, high power low frequency noise (0.5 – 20 Hz) can be generated.

ASJ is a very dynamic society and stronger links with HKIOA can only be beneficial to both societies. Similarly, the Kobayashi Institute of Physical research is a strong

academic research centre that carries innovative research. There is obviously some interest for academic parties of the HKIOA in collaborating with this institute.

Visit to Ministry of Environment

Andy CHUNG

In the morning of 18 May 2007, the HKIOA delegates met with the Director of the Sensory Pollution Control Office of the Ministry of Environment (MoE) of Japan, Mr Katsuhiko Naito, and his team and exchanged views on current noise issues in both Hong Kong and Japan.

Mr Naito's team includes key members of the Office of Odor, Noise and Vibration Division of their Environment Management Bureau – Ms Rika Tanaka, Mr Yuji Yamashita and Mr Takehiko Tsuda. The HKIOA delegation members include MY, CL, KK, MB, AC, KM, TH and DC.



The MoE's deputy director chaired the meeting and opened the discussions by briefing us the latest development of their noise related regulations. We were briefed that their Basic Environmental Law (BEL, 1967) was revised in 1993. The BEL stipulates the Environmental Quality Standards for Noise, Aircraft Noise, and Shinkansen Super-express Railway Noise. Under BEL, there are also Noise Regulation Law (amended in 1999) and Environmental Impact Assessment Law (1997).



A wide range of topics were covered during the discussions. These include:

- the current noise issues in Japan, as well as the promulgation of Environmental noise regulations;
- policy on dealing with road traffic, aircraft and rail noise;
- environmental noise standards;
- the mechanism in monitoring progress of noise abatement programme; and
- "Spatial Assessment of Road Traffic Noise" established by the MoE, Japan

After learning the interesting situation in Japan, the HKIOA delegates then made a presentation on the situations in Hong Kong. CL, on behalf of HKIOA and the delegates, gave an introduction on HKIOA – its history, membership profile, recent activities and a refreshment of previous delegation visits to Japan. Maurice then followed to present the key traffic noise policies and current situations. Special attention was given to the Draft Comprehensive Plan to Tackle Road Traffic Noise in HK. Andy then gave a brief introduction on the development of Spatial Noise Distribution Mapping, its latest updates and the application of 3D photorealistic models in public consultation in HK.



While Japan also has their own noise maps updated every 5 years, they also publish noise data on their website. Since HK EPD has developed a lot of advanced tools on noise mapping and 3D visualization, we may invite the Japan counterpart to come to HK for a technical visit and facilitate further view exchange.

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Noise Barrier Tour

KK IU

In the afternoon of 18 May, tour around Tokyo to see noise barrier installation was organized by Mr. S. Narikawa of Sekisui Jushi Corp. and Mr. K. Miyuki of Takiron Co., manufacturers of Noise barriers.

There were many tall barriers of height above 6m installed along highways. While there

were restrictions on installing tall barriers, noise reducers were installed to improve the insertion loss.

The delegates were pleased to see that noise barriers were adopted as one of the major measures to abate the traffic noise problem in Japan. To conclude this part of the visits, the delegates would like to thank both Mr Narikawa and Mr. Miyuki for arranging such a fruitful tour.



Edge Modified Barriers

Cylindrical



T-shape



Tall Barriers

Curve-shaped Absorptive & Transparent PC Panels



Other Types of Barriers

Partial Enclosure



Barrier with Green Plant

Visit to Giken Seisakusho Co Ltd

Following two days' rest, the delegation team, consisting of Dr. Marc Burell, Dr. K.M. Li, Mr. Maurice Yeung and Mr. C.L. Wong, continued its itinerary to visit Giken Seisakusho Co. Ltd. on Monday, 21 May. We were greeted by Mr. Daisuke HIROSE, Chief of Overseas Div., Mr. Toshifumi SHIOMI, Assistant Manager of Overseas Div., and others.

We started with a visit of a construction site in Minami Azabu (南麻布), where silent type hydraulic bore-piling machine was being used. The site was along an open channel where retaining walls were being constructed with steel pipes driven by the new piler that combined the "press-in" action with augering to overcome difficult



soil conditions. The piler was impressive in the way that it was not only quiet but also suitable for operation in confined areas. The construction site visited was indeed



underneath an existing elevated highway with limited headroom and working space and close to residential flats.

After seeing the site demonstration, a meeting was arranged at Giken's head office where technical discussions were made. We learnt that



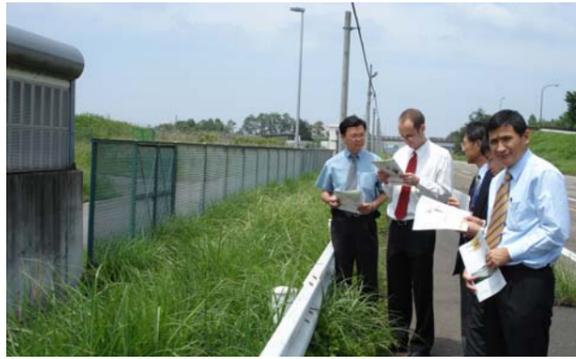
some common features exist in Giken's various designs of silent pilers including for example a non-percussive type driving mechanism by hydraulic means based on reaction force derived from installed piles and a self-moving main body supported on the installed piles.

Visit to NILIM and NEXCO

This was the second last day of the delegation visit (25 May) and it was a very busy day as we scheduled to meet National Institute for Land and Infrastructure Management (NILIM) and Nippon Expressway Research Institute Co. Ltd. (NEXCO) at the same time. Four of us (KM, Marc, CL and I) got up very early as we needed to travel to Tsukuba which was about 1.5 hours from Tokyo by train. Tsukuba was at one time hosting the world Expo and the cityscape seemed to specially cater for exposition. We were received by Mr Yoshiharu Namikawa (Head of Road Environment Research Dept,

Maurice YEUNG

Environment and Landscape Division of NILIM) and Mr Hiroshi Yoshinaga (Senior Researcher). After brief introduction of NILIM, we had the opportunity to tour around the field testing track and facilities of NILIM. These facilities included the one for field evaluation of active soft-edge barrier, the testing track for various designs of low noise road



surfacing and the one for sound source analysis of tire/road noise. In the afternoon, we had a meeting session with NILIM and



NEXCO to discuss issues of mutual interest. Dr Osamu Funahashi (Acting Div Chief of Traffic and Environment Research Dept, NEXCO) joined the discussion.

To facilitate discussion, all parties conducted the following presentations:

- Expressway Environment in Japan by Dr Funahashi;
- Consideration for developing road traffic noise prediction methods for Intersections and special parts by Mr Yoshinaga;
- Study on acoustic performance evaluation of edge-modified noise barriers by Mr Namikawa;
- Sound source analysis of tire/road noise by Mr Namikawa;
- Noise barrier with Quadratic Diffuser by Dr Marc Buret &
- Brief introduction of HKIOA by Mr CL WONG.



The discussion session was very useful in particular for us in understanding the practice of controlling road traffic noise in Japan. We also considered this a good opportunity to know the trend of research and development of road side barriers in Japan.



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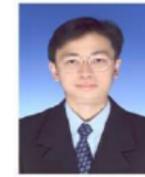
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