



Japan Society of Civil Engineers International Activities Committee Newsletter

No. 26, September 2008

June 2008- May 2009

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Doors of engineers' interaction and windows of information always open to our colleagues overseas!



KANAI Makoto

Director on International Affairs, JSCE
Managing Director, Obayashi Corporation

As is often the case in so many industrial fields, Japanese standards or Japanese common practices in heavy construction fields are quite peculiar or native from global point of view. Some are baseless or complete nonsense, but others are related to Japanese natural features such as steep terrain in rather small country, frequent earthquakes due to jarring plate tectonics, highly developed and populated cities on very soft alluvial soils, high groundwater level, and etc.

To those baseless practices we have to learn through international interactive activities and to re-fix our engineering and construction practice so that our limited budget for the infrastructural investment should be effectively and appropriately allocated. On the other hand, Japanese engineering and technologies developed from its natural and national needs could be well and reasonably applicable to many other nations under similar natural features as well as national environments.

Some examples of the latter case in Japanese state-of-the-art shield tunneling for railway and road construction are shown in figure 1 to 5. These examples have some keywords in common, which are “soft soils”, “high groundwater pressure”, “underground development in busy urban area”, “tunnel solution without cut-and-cover procedure”, “large bore”, “long bore”, “deep bore”.

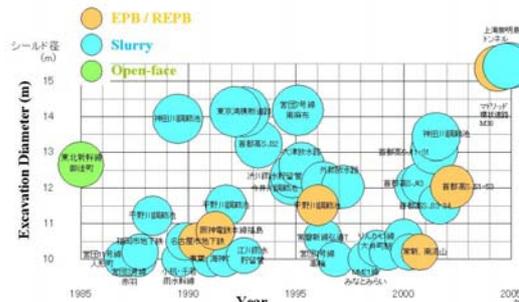


Figure 1-1 Large circular shield with excavation diameter of 10m or over (continue page2)

Because engineering and technologies in heavy construction are developed through experiences and thus belong to engineers, therefore, it is fundamental that human relations and interaction should be activated beyond national borders, and that proper liaison engineers should act among the affiliated societies of civil engineers.

My duty and intension as JSCE Director on international affairs is, therefore, to be an access window through which those Japan-originated technological information including design criteria and specifications applicable overseas would be transferred to our colleagues by the affiliated engineers' interaction, and vice versa.

I am delighted to act as the liaison engineer so that both Japanese and overseas engineers

could learn mutually enhancing their engineering capabilities for an ecologically and economically effective development of their country's infrastructure. As my experience related to the duty, the following overseas activities could be mentioned:

- 1) Animator of WG 14(Mechanized Excavation) of International Tunneling Association from 2000 to 2004
- 2) Technical Advisor to the Government-owned Westerschelde Tunnel Corporation of Holland from 2000 to 2002
- 3) Technical Advisor to the Yangtze River Crossing Road Plan Evaluation Committee of Shanghai Government in 2003

I am always at your disposal and do hope you would feel free to make contact with me through JSCE. Thank you!

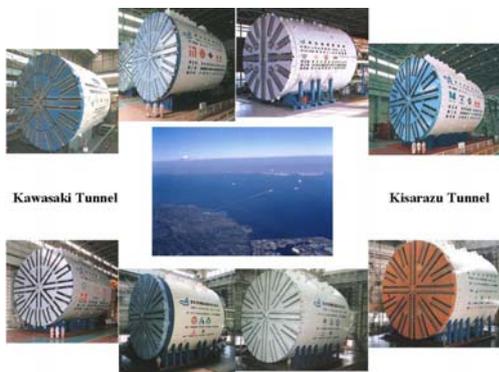


Fig.1-2 Large Bore in Trans-Tokyo Bay Highway

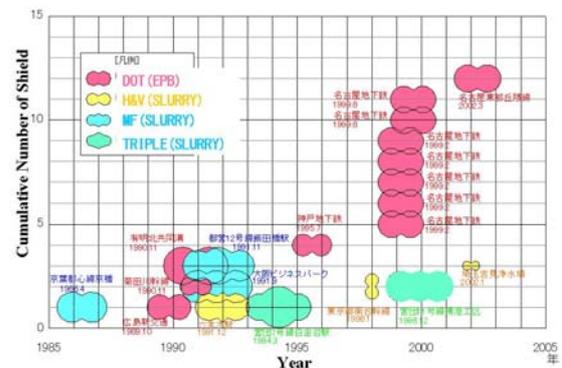


Fig.2-1 Non-Circular Shield Application History

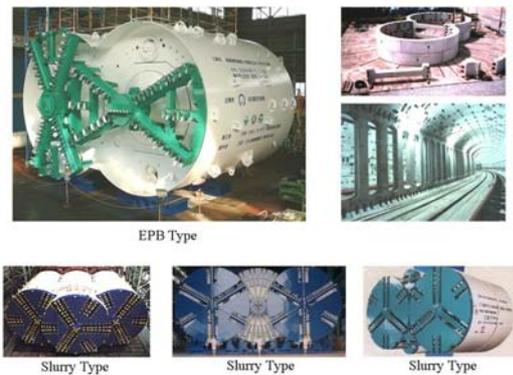


Fig.2-2 Non-Circular Shield

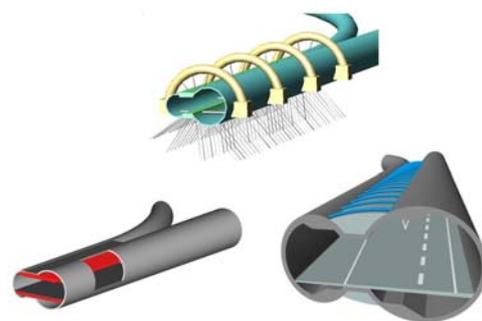


Figure 3 Tunnel Solution for Subsurface Connection and Junction in Roadway and Railway Structures



Figure 4 RC Lining Segment with Rigidity Controllable One-Pass Joints

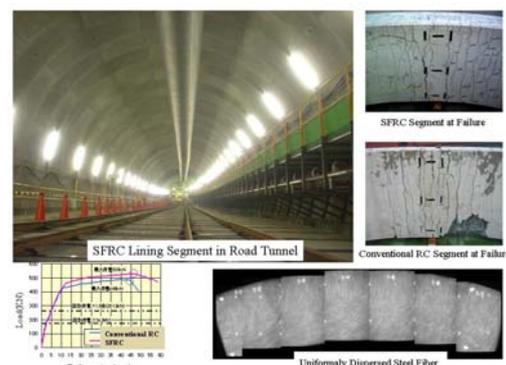


Fig.5 Lining Segment of Steel Fiber Reinforced Plastic Concrete

Inaugural Meeting of the Philippines Section Immediate Past President of JSCE Visited the Philippines

Dr. Yumio Ishii, the immediate past president of JSCE, visited the Philippines together with Professor Osamu Kusakabe, the vice-president of JSCE and the chairperson of International Activity Committee of JSCE, and Dr. Sasaki, a member of the Task Force of Contribution to Asia in the Special Presidential Committee JSCE, to celebrate the establishment of the Philippines Section of JSCE from 27th to 29th June.

The inaugural meeting of the Philippines Section was held on 28th June at the lobby of the department of civil engineering, University of the Philippines, Quezon City, with 23 participants. PICE president Mr. Willy Go kindly provided the ceremony with a big floral decoration. The ceremony began with the opening remark of Dr. Sigua, Vice president of the section. Dr. Benito Pacheco, the president of the section, declared the establishment of the section. In the speech, he said that JSCE Philippines would operate as the nursery for young civil engineers. Dr. Ishii, immediate past president, gave a congratulatory speech, saying that he hoped that the Philippines Section would play an important liaison among the civil engineers in both countries. Prof. Kusakabe and Mr. Yoshino, the Second Secretary of Japanese Embassy, also delivered congratulatory speeches. Dr. Kusakabe underlined the role and importance of the overseas sections for JSCE. Mr. Yoshino expressed his wish that the section to be an important bridge of the Philippines and Japan.



Dr. Ishii and participants in the Inaugural Meeting

Dr. Ishii presented the flag of the Philippines Section, and the appointment letters to the president, the vice president, the secretary general and the treasurer. Further, Dr. Ishii handed gifts from JSCE to all the

members of Philippines section. The meeting was wrapped up by the cocktail reception. The future direction and activities of JSCE Philippines were discussed during the reception.

After the meeting, adding about twenty Japanese civil engineers, Mr. Willy Go, the president of PICE, and Mr. Julius Maquiling, the executive board member of PICE, an inauguration party of JSCE Philippines was held at Sulo Hotel near University of the Philippines hosted by Dr. Ishii. Dr. Ishii gave a speech on the purpose of establishing the section, in which he said he expected the collaborative relationship between the civil engineers from both countries. Dr. Pacheco also expressed his wish to see the collaboration with Japanese civil engineers in the Philippines in his celebration speech. Mr. Go addressed that he also hope to establish the JSCE section to promote the relationship between PICE and JSCE. Mr. Shirai, the First Secretary of Japanese Embassy, gave a celebrating speech and said that the section and this party would provide important opportunities for the civil engineers to interchange each other.



The Speech of Dr. Ishii at the Inauguration Party

The party continued until night, promoting the exchange of the participants. It was ended by the "Kanto- Ippon- Jime" with the Philippines



Dr. Ishii and Mr. Go

members, on the cheerful statement of Mr. Hamada, JICA expert at DPWH.

This successful inauguration ceremony indicated the future of this section as promising.

*by SASAKI Kuniaki, Dr. Eng.
Member, Task Force of Contribution to Asia,
Special Presidential Committee, JSCE
(Associate Professor, University of
Yamanashi)*

First Collaborative Symposium of Turk-Japan Civil Engineers

The First Collaborative Symposium of Turk-Japan Civil Engineers was held in Turkey on June 5, 2008 with the more than 100 participants from Japan Society of Civil Engineers and Turkish Branch of JSCE, Civil and Mining Faculties of Istanbul Technical University and the members of Istanbul Branch of Turkish Civil Engineers Chamber. Following the opening speeches by Prof. Dr. Zeki Hasgür, the chairman of Turkish Branch of JSCE and Prof. Dr. Faruk Karadogan, the president of Istanbul Technical University and Cemal Gökçek, the chairman of Istanbul Branch of Turkish Civil Engineers Chamber, the morning session was dedicated to the contributions of Japanese late Professors T. Hagiwara, S. Omote, H. Umemura, T. Rikitake, K. Okubo by Emeritus Professors S. Büyükaşikoğlu and Muzaffer İpek, Prof. Zeki Hasgür and Prof. Haluk Eyidoğan and of Japanese Engineers involved in Hasan Uğurlu Dam Project in Black Sea Region by Erdoğan Özoral and Continental Bosphorus Bridge Projects in Istanbul by Yakup Dost. In the afternoon section, Prof. Hamada of Waseda University, Prof. Tano of Nihon University Prof. Kiyono of Kyoto University, Prof. Ömer Aydan of Tokai University and Prof. Halil Kumsar of Pamukkale University and Prof. Reşat Ulusay presented their talks on earthquake disaster management, applications of early warning systems to expressways as well as joint projects carried out at Denizli Province and Cappadocia Region of Turkey on Babadağ landslide, earthquake prediction in Denizli province, in-situ stress measurements in Turkey and preservation of antique Derinkuyu underground city and the Bosphorus Subsea immersed tunnel project as a part of Marmaray Project.

A technical excursion was arranged to a retrofitting project site on the European side pier of the 1st Continental Bosphorus Bridge and Golden Horn Bridge against Magnitude 8 class earthquakes on June 6. The Ishikawajima-Harima Company has implemented the retrofitting project with Turkish sub-contractors for the Turkish Roadway Authority.



Photo 1: Speakers with their trophies



Photo 2. Technical excursion to the European side pier of the 1st Continental Bosphorus Bridge on June 6, 2008

By Aydan Omer, Member,
JSCE International Activities Committee
(Professor, Tokai University)

International Cooperation with Mongolian Association of Civil Engineers

Under the Cooperation Agreement between JSCE and MACE, they have been continuing to send delegations to the conferences and exchange their information each other. On June 19, 2008, Dr. Ishii, Immediate-Past President of JSCE attended International Round Table in the MACE Annual Meeting held in the Mongolian Capital, Ulaanbaatar and the meeting of Mongolian section of JSCE.

1) Round Table Meeting

a) Theme for this year:

Transparency on Civil Engineering

b) Participant Countries (Attendees):

Mongolia(15), Taiwan CICHE(5), Japan(1)

c) Presenter:

Mongolia:

Dr.Ganzorig Erdone(President of MACE)

Mr.Tsend-Ayush(Anti-Corruption Agency of Mongolia),

Mr.Byambajav(Director General of National Center for Construction, Urban Development and Public Utilities of Mongolia)

Taiwan:

Prof.Yeong-Bin Yang (President of CICHE)

Japan:

Dr.Yumio Ishii (Immediate Past President of JSCE)

Presenters stated that the corruption money is estimated as \$390 billion ~ \$500 billion ~ \$1 trillion, of Infrastructure investment and has been becoming a serious problem. Under this situation, international financing institutions and associations of civil engineers in each country have started to work on this problem seriously.

Dr. Ishii said “Japan is highly ranked at 18th in the transparency surveillance conducted by Transparency International, but we are still unsatisfied with this rank. Public Clients have been working on this problem by thorough reinforcement of Anti-Corruption by newly enforced Public Procurement by Quality Act, and JSCE has been focusing on this problem by establishing Ethics · Social Regulation Committee.”

2) Discussion with Mongolian section of JSCE

After International Round Table, Dr.Ishii and the members of the Mongolian section had

a meeting. Dr. Ishii explained about such activities of JSCE headquarters as the new leaderships, support to devastated country by cyclones and earthquakes, infrastructure census, the global warming countermeasures etc.

Discussing the support of JSCE for establishment of the Mongolian National Structure Code which had been proposed by Mongolian members, they agreed a joint workshop about the state-of art of design code of Japan, in parallel with activities through diplomatic channels for legislative and technical cooperation on the code systems at the national level.

Participant: Mongolia section

Ganzorig E., President of MACE

D. Zorig, Mongolia section member

(Managing Director of SENZO Construction)

Mrs. Zorig, Staff of SENZO Construction

Onon R. Mongolia section member

(Officer, Ministry of Road, Transport and Tourism)

Two meetings were proactively held in a ‘Ger’ (Mongolian traditional awning house) in Chinggis Khaan Tourist Camp located in the steppe about 20 km away from Ulaanbaatar.



Participants of International Round Table
Front row from right: Dr.Ganzorig(President of MACE),
Second row from left: Prof.Yang(President of CICHE),
Dr.Ishii(Immediate President of JSCE)

by ISHII Yumio, Dr. Eng.
(Immediate Past President of JSCE)

SVR - JSCE Joint Seminar on Concrete Engineering

The SVR(Swedish Society of Civil and Structural Engineers) - JSCE Joint Seminar was held on 10th June, 2008 at Bålsta, Sweden. The seminar took place as an event in the XXth Symposium on Nordic Concrete Research & Development, which is research symposia between the five countries in the northern Europe, i.e., Denmark, Finland, Iceland, Norway and Sweden. More than 130 people had registered for their participation.

The JSCE concrete committee has held the joint seminars with several Civil Engineers' Societies of foreign country, with which JSCE has an agreement for collaboration, including CICHE (Taiwan), MACE (Mongolia), VIFCEA (Vietnam) and KSCE (Korea). The theme of this seminar was "Future Perspectives towards the Development of Concrete Technologies". Based on the theme, 6 recent research topics (each 3 from JSCE and SVR) were presented. The topics from JSCE were "Standardization for environmental management" (K. Sakai), "High performance fiber reinforced cement composites with multiple fine cracks (HPFRCC)" (K. Rokugo) and "Time-dependent structural analysis" (H. Nakamura). The topics from SVR were "assessment of structural concrete" (L. Elfgren), "use of cementitious materials in rock and soil engineering" (H. Stille), and "innovative strengthening systems" (B. Täljsten). The main keywords of these presentations were sustainability and durability that are the hot topics nowadays. There were many discussions in each presentation, which means that the joint seminar was successful.



Key members in the seminar

by NAKAMURA Hikaru, Secretary
Concrete Committee, JSCE
(Professor, Nagoya University)

Preliminary Announcement “International Symposium on Preservation and Development of the Great Mekong Sub-region and International Support” 4-5 December, 2008

In the Mekong Sub-region, international assistances have been continued for developing infrastructures of the region and the potential economic growth has promoted increased overseas investments. On the other hand, the region possesses significant biodiversity and cultural heritage. Sustainable development harmonious with those precious resources is grouped.

This symposium aims at providing an opportunity to enhance our understanding of how the international assistances ought to be for better development and management of the region. Lectures and panel discussion by specialists from the sub-regional countries as well as Japan will be provided regarding the topics including preservation of environment and culture, capacity building and natural disaster prevention.

1. Date:
4 – 5 December, 2008
2. Venue:
Chuo University “Surugadai Memorial Hall”,
Chiyoda-ku, Tokyo
3. Fee:
Free
4. Themes of the Symposium
 - Water resources and international support
 - World heritage and international support
 - Capacity building and international support
 - Basin development and international support
 - Disaster prevention and international support
5. Pre-Registration
Send your name, affiliation and email address to the symposium secretary via fax or Email, if you wish to participate in the symposium or receive further information.

Symposium Secretary:

Mr. YANAGAWA Hiroyuki
International Affairs Section, JSCE
Tel: 03-3355-3452 Fax: 03-5379-2769
Email: yanagawa@jsce.or.jp

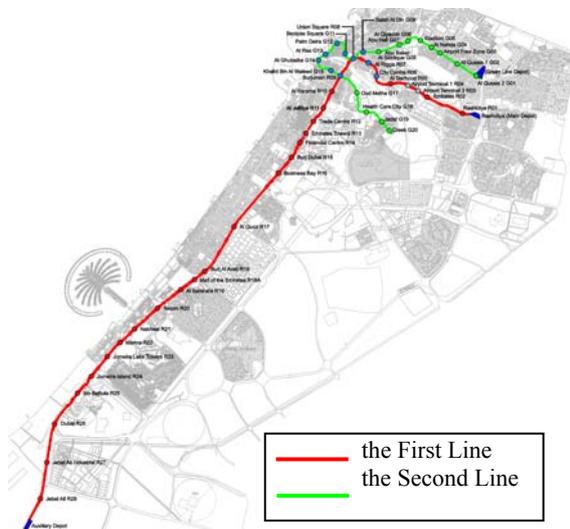
**This symposium is partly supported by the River Fund in charge of the Foundation of River and Watershed Environment Management (FOREM), Japan.*

First Mass-Transit System in Middle East, Dubai Metro Project

Dubai is located in the middle of the coast line of the United Arab Emirates. It has had astonishing continuous development for more than 10 years. As a part of the infrastructure development for this growing city, a mass-transit system, the Dubai Metro, is currently under construction. The approx. 76 km long metro consists of the First Line and Second Line. (In an innovative move the rights to naming the lines is on open tender.) Commencement of the revenue phase of the 53 km long First Line and 24 km long Second Line is expected in September 2009 and early 2010 respectively. The metro system will have 44 sets of 5 car trains in the first batch that can be operated with a maximum operation speed of 90 km/h under a fully automatic control system.

The Dubai Metro was awarded as a single full turnkey contract by the Road and Transport Authority to the Dubai Rapid Link Consortium (DURL) comprising Mitsubishi Heavy Industries and Mitsubishi Corporation responsible for Rail Systems and Obayashi Corporation, Kajima Corporation and Yapi Merkezi responsible for Civil Works.

The underground section in the Dubai Metro is 13.5 km long in total and has 10 underground stations. The underground tunnels have been constructed by three earth-pressure-balanced tunnel boring machines (TBMs). The TBMs have a 9.3 meter outer diameter and the tunnel lining is made of pre-cast segments with a 0.4 meter thickness.



Dubai Metro, the First and Second lines

Approximately 80 % of Dubai Metro has been built above ground with U-shaped viaducts and 37 overground stations. For the sake of reducing the construction period, most piers have mono pile. In addition, pier heads and viaduct spans have been built with prefabricated segments. The viaduct segments have been erected with Launching Gantries.

The first Dubai Metro trains arrived in March 2008 and a series of tests have started. Also, erection of all First Line viaduct spans was completed August 2008. The construction of the First Line is now in its final stage.

by YOSHIDA Yoichi(Obayashi Corporation)



Tunnel Boring Machine (TBM)



Viaduct Segments erected by a Launching Gantry



Dubai Metro Train

Information

Event Calendar

International Symposium on Preservation and Development of the Great Mekong Sub-region and International Support

Date: December 4-5, 2008

Place: Chuo University "Surugadai Memorial
Hall", Chiyoda-ku, Tokyo, Japan

*For more information: <http://www.jsce-int.org/>.

October 2008

12-17 14th World Conference on Earthquake Engineering

Venue: Beijing Jihua International Conference
and Exhibition Center, Beijing, China

URL: <http://www.14wcee.org/>

27-29 8th International Symposium on Utilization of High-Strength and High-Performance Concrete

Venue: Toshi Center Hotel, Tokyo, Japan

URL: <http://www.jci-web.jp/8HSC-HPC/index.html>

November

5-7 ICSE-4 Tokyo 2008(Fourth International Conference on Scour and Erosion)

Venue: Surugadai Memorial Hall ,
Chuo University, Tokyo, Japan

URL: <http://icse-4.kz.tsukuba.ac.jp/index-e.html>

23-25 International Workshop on Frontier Technologies for Infrastructures Engineering (IWFTIE2008)

Venue: National Taiwan Univ. of Science and
Technology, Taipei, Taiwan

URL: <http://www.iwftie2008.com/>

19-21 EASEC – 11 (East Asia-Pacific Conference on Structural Engineering and Construction)

Venue: National Taiwan Univ., Taipei, Taiwan

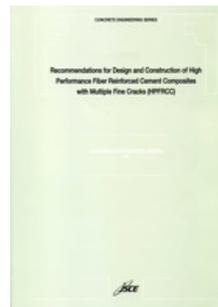
URL: <http://easec11.easec.org/index.html>

Publications

(From July to September 2008)

Concrete Engineering Series 82 Recommendations for Design and Construction of High Performance Fiber Reinforced Cement Composites with Multiple Fine Cracks (HPFRCC)

July 2008, Pages 191, Price: JPY1,890, ISBN 978-4-
8106-0640-9



Journal of Hydrosience and Hydraulic Engineering Vol.26-1:

No.1 August 2008, Pages 104, Price: JPY3,150, ISSN
0912-2508

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development goals and to work with engineers all
over the world.

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