SUBMISSION TO THE HKIE EXECUTIVE

REPORT OF

27TH CONFERENCE OF THE ASEAN FEDERATION OF ENGINEERING ORGANISATION AND

16TH YOUNG ENGINEERS OF ASEAN FEDERATION OF ENGINEERING ORGANISATION CONFERENCE

30 NOVEMBER- 2 DECEMBER 2009

SINGAPORE

TABLE OF CONTENT

APPENDICES

1 INTRODUCTION

1.1 Background

The 27th Conference of ASEAN (Association of Southeast Asian Nations) Federation of Engineering Organisation (CAFEO 27) in conjunction with the 16th Meeting of Young Engineers of ASEAN Federation of Engineering Organisation (YEAFEO 16) is the highlighted event of the ASEAN Federation of Engineering Organisation (AFEO).

AFEO was commenced in 1973, from the engineering convention held between The Institution of Engineers Malaysia (IEM) and The Institution of Engineers Singapore (IES). The IEM/IES Engineering Convention was held primarily for the purpose of promoting interaction and relationship for their members in view of their common historical background and geographical similarities. IEM and IES took turn to host the convention. In 1976, while preparing for the 3rd IEM/IES Convention it was decided that all other ASEAN countries would be invited. In 1980, an agreement was signed for the formation of the ASEAN Federation of Engineering Organisation (AFEO). The formal date for the establishment of AFEO was 8th August 1982. AFEO is a non-governmental body affiliated with the ASEAN Secretariat. Its members are the national Institutions/Organisations of engineers of the ASEAN countries. AFEO is an organisation of the national engineering/technological institutions of the ten ASEAN member countries including Brunei Darussalam, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam.

CAFEO has been held annually at the different member institutions in a rotating alphabetical order since 1982. CAFEO historically attracts more than 200 foreign and 300 local engineering professionals from various industries, fields and sectors. CAFEO 27, jointly hosted by the Institution of Engineers, Singapore (IES), was held in Singapore in November 2009.

Besides organising the annual conference known as CAFEO hosted in rotation by member Institution also held the yearly AFEO government board meeting. The idea that AFEO should also look into the interest of young engineers was first introduced at the 11th AFEO government board meeting in Philippines in 1992. In 1993 the committee of young engineers was set up and in 1994, the Bylaws of the formation of a young engineer group were approved and the definition of the Young Engineer was agreed. The group name was Young Engineers of ASEAN Federation of Engineering Organisations (YEAFEO). Its mission is to be a dynamic and progressive organisation that leads to the development of

young engineers in the ASEAN region. YEAFEO represent the young engineers of the national engineering organizations under AFEO, comprising members engaged in the common professional interest of engineering, aware of the important role of engineering to the advancement of the social, economic and industrial development of the ASEAN region; concerted in the effort to elevate and improve the quality of life of the ASEAN people's dynamic actions and productivity to increase employment opportunities and equitable distribution of wealth among the masses of the ASEAN nations, to participate actively in any industrial and technological programs of ASEAN, desirous of exchanging and sharing engineering technology; concerned in basic professional right, cognizant of the need to establish harmony and relationship among the members. This year is the 16th Meeting of Young Engineers of ASEAN Federation of Engineering Organisation (YEAFEO 16).

Our environment is at the threshold of survival due to the continuous destruction of all humankind. As such, an appropriate and timely theme has been chosen for CAFEO 27, "Engineering for Sustainable Environment", which aims to identifying the engineering solutions for building a sustainable environment and enhancing communication and cooperation amongst ASEAN countries.

This year, five delegates namely Mr. Chan Hei Yim, Leo (Chairman), Ms Lo Wai Ling, Arlene (Deputy Chairman), Mr. Chee Lap Gee, Regis (Committee), Ms Ling Lok Man, Carman (Event Coordinator) and Mr. Lee Kwok Shing, Victor (Helper) represented the Young Members Committee of the Hong Kong Institution of Engineers (HKIE-YMC) to attend the CAFEO 27 and YEAFEO 16.

1.2 Objective

The purpose and objective of the conference are:

- To promote understanding, goodwill and co-operation among engineers in the member national engineering organizations
- To promote and exchange ideas, experiences and to discuss problems of common interest among national engineering organisations and their members
- To support and assist the purposes and objectives of the AFEO as stated in its Constitution and By-laws

2 CAFEO 27 & YEAFEO 16

CAFEO27 was held from 30 November to December 2009 at Suntec Singapore International Convention & Exhibition Centre, Singapore. Detail of the program is given in Appendix A.

2.1 30th November 2009

YEAFEO Country Report

On the first day, the five YMC delegates registered at 8:30am. The first program attended was the YEAFEO Country Report presentation. In this program, young engineers from ASEAN and guest countries were given the opportunity to present their respective engineering organizations, past activities that they organized and upcoming events they will be holding. Following past practices, the sequence of the presentation was in accordance to the alphabetical order of each country, with the host country, Singapore, being the last.

Group Photos of HKIE-YMC Representatives

For Hong Kong, YMC Chairman Mr. Leo Chan gave an introduction of the HKIE in terms of its history and roles. Then, he turned to introduced YMC as being the committee serving over 4,000 engineers aged 35 or below in Hong Kong. Furthermore, Mr. Chan let his ASEAN counterparts knew that it is YMC twenty-fifth anniversary this year. To celebrate, YMC formulated the phase "Build Our Green Future" as its slogan. In carrying the green spirit, YMC is committed to organize events that would arouse the awareness of members in building a sustainable world throughout the session. For example, a seminar on climate change was held and a site visit to a local building with green roof was conducted. Furthermore, YMC organized a green community service event, the clean up of local beaches, to put the green spirit in action. A highlighted event for the year would be the overseas delegation to Denmark to be held in March 2010. With "climate change" as its theme, delegates would study the latest green technologies, practices and policies in Denmark. After the trip, they would bring back what they learned and share them with

other young engineers in Hong Kong.

In addition, from the country reports of other countries, the five YMC delegates were pleased to learn more of the engineering organizations in the ASEAN regions. For example, the Graduate and Student (G&S) Section of the Institution of Engineers, Malaysia (IEM) was established in 1970. With its forty-year history, the IEM-G&S has a strong presence throughout the country. Similar to YMC, IEM-G&S also organizes different events, such as seminars and visits to nurture young Malaysian engineers to become professionals of tomorrow. They also organized a community service event where young engineers would utilize their engineering knowledge to assist villagers in rural areas to improve their living standards. Moreover, to keep members in close contact, IEM-G&S maintains a mailing list and a Yahoo Group. They use these channels to send out updates to members regularly.

YEAFEO Board Meeting

After the Country Report, the next function was the YEAFEO Board Meeting. As Hong Kong is not an official member of ASEAN , the YMC delegates attended the Board Meeting as observers.

The meeting was chaired by the host country Singapore. Topics raised at the last Board Meeting (the 2008 YEAFEO Board Meeting in Thailand) were first discussed; they include the entrance fee for student members, closer linkage between member countries and the potential to organize a yearly technical tour. In terms of closer linkage, IEM-G&S suggested to maintain a mailing list of delegates (with pictures) who had attended YEAFEO meetings. They proposed to use Yahoo Group as the channel as they had experience in using it and found it convenient. The meeting agreed with its proposal.

As for the yearly technical tour, members raised that in addition to the annual meeting, CAFEO has a mid-term meeting every year in the summer. There is no young engineer attending the mid-term meeting currently. It was suggested that the technical tour be organized in the same country as the mid-term meeting so that young engineers could attend both functions at the same time. The meeting supported this initiative.

Last but not least, as an AOB item, Mr. Leo Chan remarked that ASEAN young engineers are more than welcome to visit Hong Kong. The HKIE-YMC would be pleased to host them.

After the Board Meeting, there was a souvenir exchange session. Each attending country

prepared souvenirs that could best represent them for exchange. In the case of Hong Kong, as the East Asian Games were to open in Hong Kong in the week following the Board Meeting, YMC brought post cards from the Games as souvenirs. YMC also prepared crystals and souvenir flags for exchange. Mr. Leo Chan represented HKIE-YMC to present the souvenirs to the other countries. A group picture was taken at the end to mark the successful completion of the meeting.

Mr. Leo Chan represented HKIE-YMC to exchange souvenirs with Japan delegate

Group Picture of YEAFEO Delegates

2.2 1st December 2009

CAFEO Welcoming Speech

The 3-day conference of CAFEO 27 was officiated in the morning of 30th November 2009 with the Entry March of Flag Bearers and Heads of Delegations followed by the welcoming speech by the AFEO Chairman, Er. Lee Bee Wah, President of the Institution of Engineers, Singapore (IES). Er. Lee dedicated her more sincere thanks to all delegates for attending the conference and looked forward to the closer tie among ASEAN countries to establish the sustainable environment through enthusiastic and innovative engineering approaches.

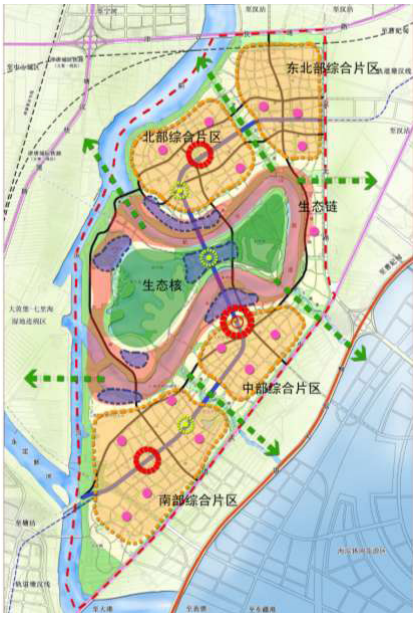
Technical Seminars

Keynote Presentation 1 –
Environmental Sustainability – Challenges & Opportunities
Mr. Andrew Tan, Chief Executive Officer of National Environment Agency

In this opening keynote presentation, the speaker remarked that engineers were the one holding the key towards the future during age of challenges and disasters. According to the speaker, the current world was facing challenges on rapid urbanization. At an estimated population growth in the world village of over 60% by 2030, keen competition on food, energy and transportation was expected. Therefore, engineers were taking up the role in ensuring sustainable development of the world through advancement in green technologies, implementation of new transportation design and concept, integrating of green spaces into the living environment and construction of energy efficient buildings. It was of the speaker's vision that "Collaboration is Everything" and there shouldn't be any unsolvable problems in the region with the transboundary cooperation among ASEAN engineers.

Keynote Presentation 2 –
Sino-Singapore Tianjin Eco-City: A Sustainable City
Mr. Lim Chin Chong, Chief Operations Officer of Sino-Singapore Tianjin ECO-City Investment & Development Co. Ltd.

In this presentation, the speaker stated the urgency of the need of sustainable cities, particularly in China in respect of the rapid population growth and urban development. Through the example of the Sino-Singapore Tianjin Eco-City, the speaker introduced the seven Key Performance Indicator (KPI) for qualifying a successful Eco-City: Clean Water, Ecology, Clean Environment, Green Transport, Clean Energy, Green Building and City Management. It was in the believe of the speaker that a vibrant Eco-City which attracted real residents as well as maintained commercial viability could create an integrated platform for the sustainable development throughout the world.



Keynote Presentation 3 –
Planning a Sustainable Urban Mass Transportation System in Singapore
Mr. Sim Wee Meng, Group Director of Circle and Down Town Lines, LTA, Singapore

The third keynote speaker illustrated the effort of Singapore in sustainable development step through the planning and construction of vast underground railway system. The speaker presented the Land Transport Master Plan 2008 of which the length of Rail Transit System (RTS) in Singapore should climb from the current 147.5km to 278km by 2020. The integrated network of RTS would encourage the use of public transport by the citizens and reduce air pollution. Nevertheless, all of the new RTS in Singapore would be built underground to spare out free land for the sustainable development of the city above ground.

After the Welcoming Speech and the keynote presentations, there were four streams of technical sessions relating to the main themes of the conference, they include Environment & Water Resources, Civil & Structural, Mechanical, Electrical & Clean Energy and Health & Safety & Other Topics. The five YMC delegates attended different sessions and some major seminars for each session are highlighted below.

Stream 1: Environment & Water Resources

Punggol-Serangoon Reservoir Scheme – Towards Water Sustainability
Koh, B.A, Best Sourcing Department, Public Utilities Board, Singapore

Singapore is a small city-state with minimal natural resources. Its rapid growth in population and economy demands an increase in the continuous and reliable water supply for domestic as well as commercial uses. To meet these challenges, Singapore's national water agency Public Utilities Board (PUB), embarked on a longer-term solution – the Punggol-Serangoon Reservoir Scheme (PSRS).

PSRS is initiated by PUB to optimize existing resources in collecting water from local catchments. It involves the development of two new reservoirs to tap storm runoff from the northeastern part of Singapore. Punggol and Serangoon Rivers are converted to reservoirs

by damming up their river mouths, to form Punggol and Serangoon Reservoirs respectively. These two latest reservoirs in Singapore with a catchment area of more than 5,000 ha will increase the total local catchment area to two-thirds of Singapore land area. This method is widely used in Singapore in forming reservoirs. In addition to water supply, the reservoir could be used for flood control.

Deep Tunnel Sewerage System - a sustainable approach to water management

Young, J.C. , Public Utilities Board Singapore

Singapore island is a highly urbanized city, packed with 5 million people in a land area just over 700 sq km and as the economy continues riding on the fast track, Singapore is gearing up for the population to surge towards 6.5 million in the next few decades. These future developments will bring along with it a number of challenges due to the increasing volume of used water created by the ever expanding domestic and industrial sectors, and the physical limitations and risk of maintaining an expanding network of used water infrastructure in a small island with limited land. Moreover, as awareness and concern over the health of the environment grows, there is a need for better pollution control to minimize the negative impact of our activities on the environment. Confronted with these challenges, Singapore's national water agency PUB, embarked on a revolutionary and longer term solution for its used water needs - the Deep Tunnel Sewerage Sys-tem (DTSS). The DTSS consist of two cross-island deep tunnels – the North and South Tunnels - to intercept flows from the existing sewer reticulation network. The tunnels will then channel the flows by gravity to two new large Water Reclamation Plants to be located at the eastern and western ends of the island. This is a vital part of Singapore's water management strategy as the DTSS allows every drop of used water to be collected and treated to international standards before it is discharged into the sea or further purified to become new water supply NEWater, Singapore's own brand of reclaimed water. With the opening of the Changi WRP and completion of the first phase of the DTSS in 2008, Singapore is now a step closer to self-sustainability in water.

Stream 2: Civil and Structural Engineering

Sustainable Construction Using Prefabrication for Public Housing
Er. Kwong Sin Keong, Housing and Development Board

In this seminar, the speaker shared the history and development of prefabrication construction in Singapore since 1980s. The application of prefabrication in public housing projects took a rise after 1990s when Singapore had developed her own in-house prefabrication technologies. According to the speaker, items ranging from core wall to columns, facades and water tanks were easily found in nowadays public housings in Singapore.

As commented by the speaker, the wide adoption of prefabrication construction in Singapore had brought the city a big step forward in sustainable development. The prefabricated units not only implied the good repetitive use of steel moulds during production, but also enhanced the building quality and reduced the volume of construction waste created during the manufacturing process.

By 2010, Singapore would be celebrating her 50th Year of Public Housing, while the speaker shared his engineering passion with the audience that Singapore would look forward to furthering the advancement of prefabrication application in Public Housings – not only for better constructability, but also for better sustainability.

313@Somerset - The Engineers Challenge
Er. Wong Pui Fun, Joanne, Meinhardt Infrastructure Pte Ltd

In this seminar, the speaker introduced the various design and construction challenges for the 313@Somerset, which was an iconic retail project located at the heart of Orchard Road

in Singapore and set a role model for sustainable engineering design. The major challenges faced by the project included:

- Poor ground condition;
- Stringent clearance between site boundary and existing MRT Tunnel;
- Diversion of the Stamford Canal which was in live service and to be incorporated into the basement of the proposed retail block; and
- Maintaining the existing pedestrian walkway across the site which carried a daily flow at over 50,000 pedestrians/day.

The entire design and construction of the project was brought into completion in 3 years and this achievement was described by the speaker as an unforgettable engineering memory in her life. It was believed by the speaker that engineers nowadays bore the responsibility in enabling the sustainable design and construction of projects, particularly those rehabilitation and reconstruction projects in developed city cores.

Stream 3: Mechanical & Electrical Engineering

Singapore's Second Green Building Masterplan
Jeffery Neng Deputy Director (Green Mark Department), Building and Construction Authority

The Singapore's Inter-Ministerial Committee on Sustainable Development (IMCSD) set a target for Singapore that by 2030, at least 80% of the buildings in the city state have to achieve the Building and Construction Authority (BCA) Green Mark Certified rating. In this seminar, the speaker introduced the Second Green Building Masterplan, which is a roadmap to achieve the IMCSD target.

The BCA Green Mark Scheme was launched in January 2005 (i.e. the first Green Building Masterplan). It aims to promote the adoption of green building design and technologies that improve energy efficiency and reduce the impact of buildings on the environment. It has since been evolved to include other areas besides buildings, such as parks, infrastructures and office interior. Today, there are over 300 certified green buildings.

Riding on this success, new initiatives were introduced in the Second Green Building Masterplan. For example, the Singapore Government will take the lead in requiring Government buildings (or building undergoing major retrofitting) with air-conditioned space of 5,000m^2 or more to attain Green Mark Platinum rating in lieu of being only certified. In terms of Government Land Sales, the Singapore Government has introduced since April 2009 tougher Green Mark standards when selling lands in four key growth areas in the city, which combined will have over 100 new buildings in the next decade. To tackle the problems of "greening" existing buildings, BCA is exploring the feasibility of requiring mandatory energy consumption disclosure by building owners. It is hoped that the disclosure can help to benchmark energy consumptions of different buildings. Furthermore, to ensure the industry has an adequate supply of qualified professionals to implement the green initiatives, the BCA Academy has in 2009 worked with the University of Nottingham to launch a Master level program in Sustainable Building Design. Specialist Diploma courses on energy and facilities management have also been introduced.

It is BCA's goal that by introducing these initiatives, the best possible sustainable built environment can be attained in Singapore.

Stream 4: Health and Safety

Workplace Safety in ASEAN, and Singapore's Initiatives
Pro. N. Krishnamurthy, Safety Consultant and Trainer

The workplace safety in ASEAN included the good agricultural practice and safety in construction sites and manufacturing factories. Both employers and workers have responsibilities to maintain the safety in workplace.

Risk management is an important measure to ensure the workplace safety in ASEAN which include hazards identification, risk assessment, hazards control, monitoring and review of hazards. Several common hazards are physical, mechanical, chemical, biological, electrical, environmental, psychological and welfare. Risk assessment can be carried out by using the risk matrix to compare the severity (major, moderate, minor) and likelihood (remote, occasional, frequent) of events. There are five ways to control the hazards which are shown as follow:

1. Eliminate the hazard – remove the hazard from the workplace.
2. Substitute for a hazard of lower risk – substitute for something that will do the same job, but is a lower risk.

3. Isolate the hazard from workers – design for safety and guarding.
4. Design safer work procedures and practices and provide training and instructions.
5. Use personal protective equipment where workers cannot be protected from a hazard by other control measures.

To monitor and review hazards, a self assessment checklist shall be used to check that good practices are being done correctly and are working. Furthermore, one should identify hazards that result from changes in work practices or when new machinery, equipment or vehicles are used. Also, continual effort should be made to look for new hazards, assess them as soon as they are noticed and implement control measures accordingly.

After summarizing the latest official position in ASEAN on workplace safety, the principles and implementation of the Workplace Safety and Health Act of Singapore were discussed. In March 2006, Singapore came out with the Workplace Safety and Health (WSH) Act, a comprehensive legal upgrading of its decades old Factories Act. The Act emphasizes the importance of managing workplace safety and health pro-actively by requiring every person in the workplace to take reasonably practicable measures to ensure the safety and health of himself/herself and others who are affected by the work being carried out.

The speaker then discussed the special problems of Immigrant Workers. It is observed that Immigrant Workers will typically not complain about long hours or hard work, nor do they turn over broken tools for repair or replacement, report teasing, ragging, cheating, underpayment, non-payment or bad living conditions, etc. Furthermore, they tend not to show ignorance, fear or hesitation about an unfamiliar or obviously hazardous job. As a result, Immigrant Workers are often more likely to get injured.

In conclusion, there is much work to be done by ASEAN countries in addressing the many complex issues regarding Immigrant Workers. Most ASEAN countries are admittedly working on tackling the issue, but more coordination, mutual support and sharing of information are still needed.

Design for safety in buildings and structures – the Singapore experience
Mr. Chan Yew Kwong, OSH Specialist Department, OSH Ministry of Manpower

According to the Singapore's Workplace Safety and Health (WSH) Act and framework, reducing risk at source is one of the components to improving construction safety. To

address risk at source for a construction project, there is a need to look at who creates the risk and address the issue from there. The risks inherent in the design of a building or structure need to be addressed and mitigated in the design stage. Many developed countries, such as Australia, UK and USA have adopted or are starting to adopt design for safety concept to further improve safety and health performance in their construction industry.

In 2008, to assist the stakeholders in the construction industry to address risks at source, the Workplace Safety & Health Council developed the Guidelines on Design for Safety in Buildings and Structures. The Guidelines provide the framework and process to address risks at the design and planning stages of a construction project. The Guidelines serve to assist the key stakeholders on the process of design safety and the transfer of vital safety and health information along the construction process chain. To facilitate this, the duties of the various stakeholders are specified, and a Design Reviews mechanism is set up, creating a framework which allows every stakeholder to participate in making vital safety and health decisions. To ensure that the design is safe, a systematic design review approach is introduced in the project flow. A safety & health review committee is convened for the project and should consist of the main key stakeholders, such as the developer, design engineer, architect, Project Safety & Health Coordinator and main contractor.

At the WSH Council 2008 Construction CEO Summit held on 18 November 2008, the Singapore's Minister for Manpower strongly encouraged the construction CEOs to embrace the "Design for Safety" initiative as "with the new guidelines, the construction industry will be better able to fulfill one of the key principles of the WSH framework – eliminating risks at source." Many research studies have shown that "Design for Safety" has positively influenced construction safety and contributed to the reduction in the number of injuries and illnesses at work. Key stakeholders in the construction industry are beginning to recognize "Design for Safety" as a viable intervention for improving construction safety and health. Many are now looking at incorporating "Design for Safety" Guidelines to further improve WSH standards and outcomes for the construction industry.

2.3 2nd December 2009

Country Report

On 2 December 2009, 10 AFEO Institution Members presented their Country Reports. Each of the members firstly presented their current population, GDP and recent developments. They then shared on their future plans on Engineering for Sustainability and gave suggestion to the CAFEO board on how to strengthen the cooperation among AFEO

countries. They also developed initiatives to establish common standards for the Engineering Profession in the region while facilitating the mobility of Engineers within ASEAN states.

CAFEO Country Reports presented by the 10 AFEO Institution Members

Recently, many ASEAN countries had suffered from natural disasters which adversely affected the development of the region. The participating AFEO Institutions agreed that speedier and closer cooperation and collaboration in disaster mitigation and preparedness should be an urgent commitment of the CAFEO in the coming years.

Technical Visit to Marina Barrage

In the afternoon of 2 December 2009, a site visit was arranged to the Marina Barrage and a technical presentation was delivered by PUB explaining the design concept and operation mechanism of the Barrage.

Being built across the mouth of the Marina Channel, the Marina Barrage creates Singapore's 15th reservoir, and the first in the heart of the city. With a catchment area of 10,000 hectares, the Marina catchment is the island's largest and most urbanized. The concept behind the Marina Barrage is to create a diversified and sustainable supply of water for Singapore, hence the phase "Water for All". In addition to water supply, the Marina Barrage also acted as a flood control measure and as a lifestyle attraction.

Flood Control

The Marina Barrage is part of the comprehensive flood control scheme to alleviate flooding in the low-lying areas in the city. In heavy rain, the series of nine crest gates at the dam will be activated to release excess storm water into the sea when the tide is low. In the case of high tide, giant pumps which are capable of pumping an Olympics-size swimming pool per minute will drain excess storm water into the sea.

Water Supply

The Marina Barrage is a dam built across the 350-metre wide Marina Channel to keep out seawater. With the barrage in place, the Marina Basin will turn into a body of freshwater through natural flushing in one to two years. The freshwater will then be treated using advanced membrane technology before consumption.

Lifestyle Attraction

As the water in the Marina Basin is unaffected by the tides, its water level will be kept constant all year round. This is ideal for all kinds of recreational activities such as boating, windsurfing, kayaking and dragon boating etc.

The sustainable concept was introduced in the design of the elements of the Barrage. A green roof was introduced at the top of the Barrage which is open for public for recreational use, also one of the largest solar panel in Singapore was installed at the roof and the solar energy collected will be used to power the lighting and daily electrical power.

The Marina Barrage sets a good example on integrating the public facilities with citizens' life. There are cafes inside the Barrage and an exhibition centre to introduce the engineering design for the general public.

In the evening, we attended a closing ceremony at which the AER Certificates, ASEAN Engineering Awards and Best Poster Presentation Award were presented followed by a farewell dinner. One of the programmes at the dinner was the performance by each ASEAN country and guest country, serving as a cultural exchange. We, Hong Kong delegates, gave a singing performance. We have sung a meaningful song to represent Hong Kong - "We are the Legend" which was the theme song for the East Asian Games 2009 to be held in Hong Kong, China in December 2009. Through this singing performance, we introduced Hong Kong and China to the other delegates in ASEAN countries and that was really meaningful.

3 HKIE-YMC's PARTICIPATION IN YEAFEO 16

In the past few years, delegates from the HKIE-YMC have attended the conference as guests and observers. Other invited guests and observers include engineering organisations of young engineers from Japan, Australia and Canada. Over the past years, by attending the conference, young engineers from HKIE-YMC gained valuable exposure to international conference as well as experience sharing opportunities with young engineers from the ASEAN countries and the other countries of the world.

In YEAFEO 16, the YMC delegates attended the YEAFEO board meeting as observers and several issues (such as holding technical site visit amongst ASEAN countries) were discussed. The YEAFEO Country Report Session was held after the board meeting. Representatives from all countries (including Hong Kong) took turn to give a brief introduction on their organizations. Our Chairman, Mr. Leo Chan grasped the opportunity to introduce HKIE and HKIE-YMC to the audience. Besides, Leo also presented the structure of HKIE-YMC, the past HKIE-YMC activities and upcoming events to all other countries and invited them to visit Hong Kong and HKIE in the future. We received cordial welcome from other delegates. Some countries such as Myanmar and Singapore had even shown immediate interest to visit Hong Kong.

The delegates have also attended the technical seminar and technical visit of the conference. Different famous speakers were invited to present the topics related to Environment & Water Resources, Civil & Structural, Mechanical, Electrical & Clean Energy and Health & Safety & Other Topics. The five young engineers have learned new technical knowledge/ideas in sustainable development in these areas.

There was a closing ceremony on the night of 2 December. After the ceremony, each country needed to conduct a performance in the farewell dinner. The Hong Kong delegates have sung a meaningful song to represent Hong Kong - "We are the Legend" which was the theme song for the East Asian Games 2009.

In all, the YEAFEO 16 is really a splendid occasion for young engineers to expose more, to learn more and to contribute more.

4 BEHIND THE CONFERENCE

BBQ with YEAFEO members

Before the official activities of the conference on 29 November, the YMC delegates were invited by other YEAFEO delegates to join a BBQ gathering. It was a good chance for delegates from different countries to meet each other before the conference. The delegates could then be more involved in the discussion, social gathering and culture exchange during the conference.

Social Gathering with YEAFEO members

The official activities on 1 December 2009 were finished after the technical seminars. In accordance to the conference program, there was free time in the evening. The Hong Kong young engineers took the chance to join other YEAFEO delegates to have dinner in a food court at Singapore's Marina Area.

During the dinner, the Hong Kong engineers had a social gathering with delegates of different countries in a relaxed situation. After the dinner, there was a leisure walk along the Marina Area and a visit to some of the famous tourist points in the area, such as the Merlion. It was a memorable experience indeed.

5 CONCLUSION

Delegates from HKIE-YMC have fulfilled the following objectives when participating in the CAFEO 27 and the YEAFEO 16:

- To gain exposure to large scale international conference;
- To nurture the leadership and communication tactics of our younger generations;
- To gain knowledge on sustainable development and the current practice of other countries;
- To broaden knowledge through sharing with young engineers from other countries;
- To have technical knowledge /ideas / cultural exchanges with engineers worldwide;
- To extend the network of our young engineers with delegates from other countries;
- To increase the horizon of young engineers through the participation;
- To promote the Hong Kong Institution of Engineers (HKIE) to other countries; and
- To promote the Young Members Committee of HKIE to other countries.

The initiative of the participation of CAFEO 27 and YEAFEO 16 of HKIE-YMC was in line with the President in his HKIE Presidential Address 2009/2010, "to encourage our young members to participate in overseas visits and international conference".

In the past few years, delegates from the HKIE-YMC have attended the conference as guests and observers. The CAFEO 27 and YEAFEO 16 this year is a valuable experience for professional engineers, especially young engineers. The five YMC delegates have gained exposure to attending large scale international conference, increased their engineering knowledge, improved communication skills and developed inter-personal qualities to work with engineers of different countries. Next year, CAFEO 28 and YEAFEO 17 will be held in Vietnam in November 2010. The HKIE-YMC will continue to encourage more young engineers to attend this meaningful event.

6 ACKNOWLEDGEMENT

We would like to express our sincere gratitude to HKIE by sponsoring our delegates to attend the CAFEO 27 and YEAFEO 16 held in Singapore.

We would also like to give thanks to the Institution of Engineers, Singapore for their excellent arrangement of the conference. They have planned a itinerary rich in content for all the delegates to enjoy a wonderful, memorable and educational conference.

7 FEEDBACK

Leo Chan's Feedback

This is the first time I participated in the YEAFEO conference. The technical seminars and visit were of course the highlights. Nevertheless, to me, the exchange with engineers, especially young engineers, in our neighboring countries was just as valuable. It is because although we are all in the engineering profession, but working in different countries means that we are faced with different challenges. For example, I was once discussing the use of precast blocks in building construction with a young Malaysia civil engineer. In Hong Kong, the use of precast is common but we have issue with the lost of jobs of the workers as the blocks are mostly fabricated in Mainland China. In Malaysia, they do not have this issue as the blocks are also manufacture locally. Another example is that while engineers in Hong Kong are talking about building a "green environment", a young engineer from Cambodia I talked to, due to the current development stage of his country, is more concern of infrastructure development. This stark contrast in engineering emphasis is not what young engineers in Hong Kong can normally experience if they just confined their scope to the territory.

It is by talking and sharing such as these that would stimulate our thoughts and broaden our horizons. I hope more young engineers will have the chance to join YEAFEO in the coming years.

Arlene Lo's Feedback

It has been the second time I have joined the CAFEO and YEAFEO and the first time that I can enjoy the whole process of the conference. I enjoyed a lot on the programme including the seminars and the cultural exchange with young engineers from different countries. The exchange of souvenirs which represented each country impressed me a lot. I found all of them loved their country a lot and it was glad to send our HK souvenirs to them as well.

Another memorable experience was the time with the YEAFEO delegates. I felt strong passion and hospitality from these delegates. Since we were of similar ages, we exchanged

much of our work and life experiences and there were many happy moments during the cultural exchange.

I hope that in the future, more young engineers could have more chances to join such international conferences to enrich themselves and prepare for the continuously changing world.

Regis' Feedback

As my second year in joining the CAFEO and YEAFEO delegation, I had not only witnessed the increasing bond among the ASEAN countries in transboundary engineering cooperation, but also experienced the peer hospitality and support among the delegates from different member countries and the region's dedication to the sustainable development of the planet.

From the YEAFEO Board Meeting, I had learned about the achievements by different young engineering institutions in the ASEAN region and got the opportunity to have both technical and cultural exchange with the multi-national delegates. While in the technical seminars of CAFEO, the effort by various ASEAN countries in adopting innovative and advanced engineering approaches for sustainable design and construction had also widened my insight toward the encyclopedia of sustainability. The technical visit to the Marina Barrage had further enlightened my mindset in practical application of engineering approaches towards a sustainable future of the earth village.

There is no doubt that YEAFEO and CAFEO has provided the invaluable platform for young engineers within the ASEAN region to share this experiences and insights. It is definitely of my enthusiasm to encourage Hong Kong young engineers in joining these international conferences.

Last but not least, may I take the opportunity to send my most sincere thanks to Arlene, Carmen, Leo and Victor for the unforgettable memories within the delegation team.

Victor LEE's Feedback

I have attended the YEAFEO conference since 2006. There are ten ASEAN countries participated the conference like previous year. Also, several guest regions included Hong Kong have sent delegates to attend this annual event. I am pleased to attend the conference again with other four YMC committees of HKIE. The conference can be divided into several parts generally which include the board meetings/country report sessions, technical seminar/talks and technical visits.

During the meetings and country report sessions, I learned more about the development of different ASEAN countries as well as their engineering institutions. Also, I have chance for networking with different engineers in ASEAN countries. We have discussed different engineering practices between Hong Kong and ASEAN countries. The theme of the conference is 'Engineering for Sustainable Environment' which is a hot topic in recent year. Several engineering topics related to the sustainability have been discussed in the seminars/talks. I have learned some interesting and useful ways to maintain a sustainable environment. I hope it can help my works in the future. The technical visit of the conference was the construction of Marina Barrage. It was the latest downtown icon of Singapore. It was one of the big water engineering projects in Singapore which has increase the catchment area of Singapore. It was one of a good example to demonstrate the use of engineering knowledge for building a sustainable environment.

The YEAFEO is a good platform for young engineers of different countries to exchange ideas and learn valuable experience from each others. I learn a lot from the conference and hope more young engineers can attend the overseas conferences in the coming future.

Carman's Feedback

I am so delighted to participate in the YEAFEO conference. During my participation in the conference, I was impressed by the warm hospitality that we had received from the host and other ASEAN countries. This trip to Singapore has not only broadened my horizon, but also my social network. Given the opportunities to meet the young engineers form the 10 ASEAN countries, I learnt about the background and current achievements of engineering discipline in each country.

Some of the biggest challenges of the 21st century are rapid urbanization in many parts of the world, growing concerns over environmental sustainability, and the impact of climate change. These challenges are not only inter-related but also highly complex. The nexus between cities, sustainable development and climate change will be one of the key defining themes of this century. To deal with increasingly complex systems, it is important that we rethink our current engineering approaches by promoting greater systems thinking and collaboration with other professions and CAFEO provides a platform for engineers to exchange their ideas.

Above all, there is no doubt that YEAFEO and CAFEO are the invaluable platforms for us to participate in international engineering conferences and benefit greatly from the high level of interaction, knowledge exchange and networking during the conference. It is of my utmost pleasure to encourage more and more young engineers to continue to participate in this kind of conferences.

Appendix A - Programs

30 November 2009, Monday	
Meetings at Suntec City Rooms 202, 203 and 309 Welcome Reception/ASEAN Networking Dinner at The Singapore Flyer	
8.00 AM	Registration of Delegates
8.30 AM	AER Board Meeting *(Dress Code: Full Suit)*
8.30 AM	YEAFEO Board Meeting
10.00 AM	*Coffee Break (for AFEO/AER/YEAFEO)*
10.00 AM	Taskforce on Disaster Preparedness Meeting *(Dress Code: Full Suit)*
11.30 AM	AFEO Award Committee Meeting *(Dress Code: Full Suit)*
11.45 AM	Energy and Environmental Working Group Meeting *(Dress Code: Full Suit)*
12.30 PM	*Lunch (for AFEO/AER/YEAFEO)*
2.00 PM	AFEO Governing Board Meeting *(Dress Code: Full Suit)*
3.30 PM	*Coffee Break (for AFEO/YEAFEO)*
5.30 PM	End of Meeting
6.15 PM	Depart from Suntec by coach to Singapore Flyer
6.40 PM	Sunset Ride on Singapore Flyer *(Dress Code: Smart Casual)*
7.30 PM	Welcome Reception & Dinner (at Singapore Flyer) - Welcome Speech by Chairman Organising Committee, CAFEO 27 - Dance Performance by Banghra Dance Group - Karaoke singing
10.30 PM	End of Dinner

1 December 2009, Tuesday	
Conference Opening and Conference Sessions *(Dress Code: Full Suit)* *Suntec City Convention Centre Ballroom II*	
7.30 AM	Registration of Conference Delegates and Participants
8.55 AM	Fanfare by Singapore Pipe Band (PA)
9.00 AM	Opening Ceremony - Arrival of Guest-of-Honour Mr Mah Bow Tan Minister for National Development - Entry March of Flag Bearers and Heads of Delegations, led by Singapore Pipe Band - Performance by Singapore Pipe Band - Dance Performance by Spectrum Dance International - Welcome Message by President IES - Opening Speech by Guest-of-Honour
10.15 AM	*Coffee Break*
KEYNOTE SPEECHES	
10.45 AM	Welcome Address by Session Chairman Keynote Paper 1 by Mr Andrew Tan Chief Executive Officer, National Environment Agency *'Environmental Sustainability – Challenges & Opportunities'* Keynote Paper 2 by Mr Lim Chin Chong, Chief Operations Officer, Sino-Singapore Tianjin ECO-City Investment & Development Co Ltd *'Sino-Singapore Tianjin Eco-City: A Sustainable City'* Keynote Paper 3 by Mr Sim Wee Meng Group Director, Circle and DownTown Lines, LTA, Singapore *'Planning a Sustainable Urban Mass Transportation System in Singapore'*
12.00 PM	*Lunch*
1.15 PM	Breakout into 4 parallel Conference Sessions: *1. Environment and Water Resources* *2. Civil and Structural Engineering* *3. Mechanical & Electrical Engineering and Clean energy* *4. Health & Safety and other topics*
3.00 PM	*Coffee Break and Poster Presentations*
4.00 PM	Continuation of Conference Sessions
5.45 PM	End of Conference Sessions

2 December 2009, Wednesday	
Country Reports, Technical Visit, Conference Closing and ASEAN Networking Dinner *Suntec City Convention Centre Ballroom III*	
Country Reports (5x15mins ea) *(Dress Code: Full Suit)*	
9.00 AM	- VUSTA, Vietnam
9.15 AM	- PUJA, Brunei
9.30 AM	- EIC, Cambodia
9.45 AM	- PII, Indonesia
10.00 AM	- LUSEA, Laos
10.15 AM	*Coffee Break*
Country Reports (cont'd) (5x15mins ea)	
10.45 AM	- IEM, Malaysia
11.00 AM	- MES, Myanmar
11.15 AM	- PTC, Philippines
11.30 AM	- EIT, Thailand
11.45 AM	- IES, Singapore
12.00 PM	Lunch
Technical Visit and Talk on Marina Barrage (for Delegates and Conference Participants)	
1.30 PM	**Depart from Suntec by Coach to Marina Barrage**
1.50 PM	**Technical Talk on Construction of Marina Barrage by PUB**
2.30 PM	**Guided Tour of Marina Barrage, including the Sustainable Singapore Gallery**
4.00 PM	*Refreshment*
4.30 PM	**Return by coach to Suntec**

AFEO Awards / Closing Ceremony & ASEAN Networking Dinner *(Dress Code: Full Suit / National Costume)* *Suntec City Ballroom II*	
6.30 PM	Presentation of ASEAN Outstanding Engineering Achievement Awards
6.45 PM	Conferment of AFEO Hon Fellow Awards
7.00 PM	Presentation of AER Certificates and Medals
7.15 PM	- President IES delivers Closing Speech and pronounces closing of CAFEO 27 - Handover of CAFEO Flag from President IES Singapore to President VUSTA Vietnam - Music Performance by Seletar Country Club Band\ - Dance Performance by National Junior College - Acapella Performance - Farewell Dinner commences (Delegates only)
8.30 PM	Farewell Performances by 10 AFEO delegations and invited guests. - Brunei - Cambodia - Indonesia - Laos - Malaysia - Myanmar - Philippines - Thailand - Vietnam - Singapore - Others
10.30 PM	Auld Lang Syne

Appendix B - Financial Report

The actual expense of the programme is summarized as follows:

Items		Description	No. of Unit	Unit Cost (HK$)	Amount (HK$)	Remarks
1	**Travelling Fee**					
	Flights Tickets	HK to Singapore (Round Tickets) by Jet Star Airline (Budget Airline)	5	3,057.00	15,285.00	
	Local Transportation	- Changi Airport to Beach Hotel - Travelling within city	1	SGD$68.50	390.45	HK$ 390.45=SGD$68.5 x 5.7 (exchange rate)
2.	**Registration Fee**					
	CAFEO 27	Non-YEAFEO delegates	5	SGD$270.00	7,695.00	HK$7,695 = 5 x SGD$270 x 5.7(exchange rate)
3.	**Accommodation**					
	4 Nights at Beach Hotel	- Twin room - Triple room	1 room 1 room	SGD$230/ night	5,264.32	HK$5,264.32 =4 x SGD$230 x 5.7 (exchange rate + service charge)
4.	**Souvenirs**					
	YMC's souvenir	2009 East Asian Game Post Card	100	2.5	250	
5.	**Miscellaneous**		-	-		
	Total:				**28, 884.77**	

Thus, the actual expense for FIVE delegates attending the CAFEO 27 and YEAFEO 16 was **HK$28,884.77.**