

# Seminar on Environmental Pollution Control Held in Malaysia

From February 25 to March 4, 2007, a JCCP team visited Malaysia to hold a seminar under the Expert Service (ES) scheme. The seminar (ES-40-06) was held in response to a formal request from Petronas, Malaysia's state-owned oil company, submitted after contemplating JCCP's proposal to conduct an ES program. In addition to regular courses, JCCP implements programs specially tailored to meet the needs of individual countries, one example of which is this seminar.

The seminar was held under the theme of "Environmental Pollution Control," with the JCCP team comprised of Messrs. Shigeyoshi Takahashi and Yoshiaki Ueno, lecturers from JCCP's Training Department, Mr. Hiroaki Igarashi from JGC Corporation, and Mr. Keisuke Matsukawa from Chiyoda Corporation.

## 1. Visit to the Petronas Head Office

Prior to the seminar, the JCCP team visited the Petronas Head Office in Kuala Lumpur, located in the world famous Petronas Twin Towers, which rise 88 stories to a height of 452 meters. Here, a meeting was held with six members of Petronas, including Ms. Nafisah Ali, Senior Manager of Human Resource Management, Ms. Lee Zee Wan, in charge of environmental pollution control, and Mr. Ratasha Hamid and Ms. Khamliza Ismaili, who are JCCP graduates. The JCCP side presented details of the seminar, introduced FY2007 training programs and other JCCP activities, and requested Petronas' systematic participation in FY2007 regular courses. The Petronas side expressed its wish to study Japan's latest refinery technologies, because



Participants of the seminar

"Japanese refineries have excellent command of such technologies." It also explained its desire to provide education to its employees with an emphasis on research and technology, as a Research & Technology Division had been recently established as a result of the major organizational reform that the company instituted last year.

## 2. Structure of the Seminar

The seminar was held over a period of 4 days in a conference room at the Equatorial Hotel in Melaka. Its content was designed foremost to allow participants to acquire technologies for environmental pollution control at refineries, but also aimed to enhance participants' understanding of energy conservation and heavy oil upgrading technologies.

### (Day 1)

- Topic 1: Overview of oil industry in Japan
- Topic 2: Recent improvement of Japanese refineries

### (Day 2)

- Topic 3: Outline of environmental pollution control in Japan
- Topic 4: Air pollution control in refineries

### (Day 3)

- Topic 4: Air pollution control in refineries (cont.)
- Topic 5: Soil and groundwater remediation

### (Day 4)

- Topic 5: Soil and groundwater remediation (cont.)
- Topic 6: Overview of future environmental management
- Overall discussion, Q&A

The seminar was considered as part of the education of Petronas' younger employees, and was attended by 18 members. Of this number, 8 were managers in charge of health, safety & environment (HSE), process engineers, and education instructors from the Melaka Refinery. The rest were HSE managers and project engineers from the Head Office and subsidiaries of Petronas. Genderwise, about half the

participants were women.

Ms. Sharifah Zarina and Ms. Norhafiza Kamarudin from Human Resource Management at the Petronas Head Office escorted the JCCP team from Kuala Lumpur to Melaka, and attended to the team throughout the duration of the seminar. The team also received assistance from Ms. Aishah Rohana, Manager of Human Resource Management at the Melaka Refinery, and her assistant, Ms. Nora, in carrying out the seminar.



*Seminar in session*

### 3. Overview of the Seminar

On the first day of the seminar, representatives from Petronas and JCCP gave opening speeches, and Mr. Takahashi introduced JCCP in conjunction with DVD and Powerpoint presentations. Following this, Mr. Ueno discussed the current situation of the oil industry in Japan, and gave a lecture on the latest developments and improvements in Japan's refineries. Specifically, the lecture focused on topics that are closely related to environmental pollution control, such as energy conservation, clean fuel, and heavy oil upgrading technologies. Acknowledging the importance for environmental pollution control engineers to have an understanding of these technologies, Petronas regarded the lecture highly, as presenting content appropriate to the education of young engineers.

On the second day, Mr. Ueno continued the lecture he began the previous day, and Mr. Takahashi lectured on environmental pollution control in Japan, with a focus on the history of pollution control in Japan, the air and water pollution management situation in Japan, and air and water pollution countermeasures at refineries. As Mr. Takahashi's lecture was the first in the series of lectures on the main theme of the seminar, many questions were raised, and active discussions ensued. Following the lecture by Mr. Takahashi, Mr. Igarashi from JGC Corporation gave a lecture on air pollution countermeasures at refineries. He discussed in detail various countermeasure technologies, including an explanation of the principles of devices that are used to control and

prevent the dispersion of SO<sub>x</sub>, NO<sub>x</sub>, and other particulates. Only gas, and no oil, is used as fuel at the Melaka Refinery, so the refinery has no particulate problems at present. Nevertheless, some of the participants asked, "What are the principles of ultra-low NO<sub>x</sub> burners?" and "Which countries manufacture such equipment?" These questions indicated the participants' strong interest in SO<sub>x</sub> and NO<sub>x</sub> countermeasures.

The third day began with Mr. Igarashi continuing his previous day's lecture, which was followed by a lecture on soil and groundwater improvement by Mr. Matsukawa from Chiyoda Corporation. The issue of soil and groundwater pollution at refineries is a relatively new topic, and one that must be addressed from a future perspective. Therefore, the lecture was appreciated as highly appropriate to training related to the environment of refineries and developing countries. Many questions were asked both during and after the lecture.

On the fourth day, after Mr. Matsukawa wrapped up the lecture he began the previous day, Mr. Takahashi and Mr. Ueno took turns lecturing on future issues in environmental pollution management, including such large issues as the global warming problem, and a comprehensive discussion session was held based on the lecture. Finally, the seminar closed with the presentation



*Seminar in session*

of completion certificates to each participant and closing speeches by Petronas and JCCP.

#### 4. Visit to the Melaka Refinery

Late afternoon on the first day of the seminar, the JCCP team had the opportunity to visit the Melaka Refinery. The refinery is Petronas' second refinery, and occupies a vast, 3.75 million square meters of land.

Mr. Amirrudin Baba, HSE Trainer, who was a participant in the environmental pollution management course (TR-17-05) given by Mr. Takahashi in 2005, also participated in this particular seminar, and devoted his time and effort in arranging the visit to the Melaka Refinery as well. Thanks to Mr. Baba, the JCCP team was able to meet with Mr. Hanafi Dewa, General Manager of the Production Sector, though the meeting was not included in the original plan. Additionally, the JCCP team held an exchange of views with Mr. Mohd Azhar, Head of Environment, HSES Department, Mr. Raja Azman, Senior Manager of Production Department, and Mr. Mohd Jamal Bin Haron, Senior Manager of Storage & Distribution, and renewed old friendships with Mr. Hairul Anuar and Mr. Satur Bayudi, who were participants of JCCP regular courses in 2006.

#### 5. Impressions of the Seminar

Positioned as part of the education for Petronas' younger employees, the seminar was attended by a group of employees who gave the lectures their studious attention. The energetic atmosphere was one of the most impressive aspects of the seminar. Most, if not all, of the participants attended all four days of the seminar, displaying extremely positive and determined attitudes throughout the lectures. This is



*Lecture session*

largely because the materials presented in the seminar attracted the strong interest of the participants. However, it also helped that the Petronas secretariat required all participants to receive the JCCP completion certificate at the end of the course, and imposed a rule requiring a minimum attendance of 80% to receive the certificate. Unlike some seminars in which the large attendance at the beginning of the seminar dwindles down to about half by the final day, there was a steady turnout throughout the duration of the seminar.

The seminar was an intensive affair, beginning at 8:30 am and ending at 5:00 pm everyday, with only a lunch break and coffee breaks once each in the morning and afternoon. However, everyone attended on time, and maintained focused attention on the lectures. To the lecturers, giving lectures on their feet all day was at times a source of fatigue and dry throats, but the positive response from the participants was so rewarding that they were able to forget any such feelings throughout the seminar.

The seminar appears to have been beneficial as part of the education of young personnel, in terms of its theme and content. In the evaluation forms filled out by the participants, there were many comments saying that the course

in general was highly meaningful, as they were able to obtain a wealth of new information and knowledge.

Since the last JCCP-initiative ES program to be held in Malaysia was in 1990, this seminar was the first ES program in 17 years. Fortunately, JCCP's proposal was in accordance with Petronas' circumstances, and the two organizations reached a quick agreement on implementation of the seminar. Although there was limited time from when the formal request from Petronas was received to actual implementation, everything from the preparations to the actual running of the seminar proceeded extremely smoothly.

Malaysia is showing positive signs of further development in the future. Taking the opportunity of this seminar, JCCP wishes to take an active part in strengthening and invigorating the relationship between Malaysia and Japan.

Finally, the JCCP team would like to thank Ms. Nafisah Ali, Senior Manager, for her generous cooperation in the seminar, as well as the executives of the Melaka Refinery and all others who extended their support to the implementation of this seminar.

*<by Shigeyoshi Takahashi,  
Training Dept.>*