Japan Cooperation Center, Petroleum

JCCP NEWS

No. 120 2015 January

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On Retiring from the Post of
CEO & Executive Director

Mr. Masataka Sase

Special Advisor,
Japan Cooperation Center, Petroleum

On the occasion of my retirement from the post of CEO & Executive Director of Japan Cooperation Center, Petroleum (JCCP) as of June 30, I would like to thank everyone inside and outside Japan who has given me their generous support and guidance during my tenure at JCCP.

During my six years as CEO & Executive Director, JCCP celebrated its 30th anniversary, and took a firm first step toward the horizon of a new era. This is certainly a tribute to the support of all governments and national oil companies in countries concerned in the Middle East region and around the world, and all members of Japanese oil distributors and engineering companies.

JCCP activities are centered on training courses and technical cooperation projects, but there has always been an underlying awareness of the importance of promptly sensing the changes of the times and implementing activities that respond to new needs. In this sense, JCCP alumni who now play active roles in their respective countries are a source of encouragement to us, as well as a source of valuable information. Based on this perspective, and also incorporating our deep reflections on the past 30 years, we have organized and held alumni meetings in the GCC countries. What originally began as a plan for a simple get-together of JCCP alumni became a grand affair with many participants.

The past six years also saw a surging wave of expectation dubbed the "Arab Spring," although the movement did not necessarily proceed smoothly, and has left the region facing a large ongoing challenge.

Meanwhile in Japan, we experienced the Great East Japan Earthquake in our office on the 58th floor of the Sunshine Building. It was fortunate that our office did not suffer direct damage; however, we faced more difficulties than expected in getting our training program back on track. In the end, we resumed our regular courses in Osaka, although at the expense of placing a large burden on the Training Department and other JCCP staff. The experience, however, also provided us with an opportunity to renew our awareness of JCCP training in each country. Shortly thereafter, we were able to implement the regular courses in Tokyo as a natural course of events.

JCCP activities are constantly exposed to new requests, but it is our mission to absorb them and incorporate them in our activities. I therefore ask for your continued understanding and support of JCCP, as we endeavor to achieve further growth and development under the strong new leadership of Mr. Keizo Morikawa, President, and Mr. Tsuyoshi Nakai, CEO.

* Mr. Sase has assumed the post of JCCP Special Advisor.

Executive Visits to the Middle East by Mr. Tsuyoshi Nakai, CEO

Thoughts on Visiting Major Countries in the Middle East

Mr. Tsuyoshi Nakai
CEO, Japan Cooperation Center, Petroleum

Japan Cooperation Center, Petroleum (JCCP) was founded in 1981 with the mission of deepening friendly relationships between Japan and oil-producing countries as the foundation of stable oil supply to Japan. More than 22,000 participants have attended JCCP's personnel exchange programs to date, many of whom have since risen to become senior executives in national oil companies in their own countries. As I pay my highest respects to the efforts of past JCCP officers for their dedication in steadily continuing the activity of building personal networks through personnel exchanges and technical cooperation, I am also made keenly aware of my heavy responsibility for new initiatives.

The Great East Japan Earthquake of March 2011 prompted us to reconfirm the importance of petroleum and gas as core sources of energy in Japan, and securing them has become essential to Japan's stability. At the same time, the world's energy situation is poised to undergo a major change owing to the shale gas and oil revolution and other factors, and the international situation is increasing in severity. For example, in the Middle East region and many other parts of the world, geopolitical risks concerning energy are increasing. In emerging countries, enormous effort is spent on securing oil resources to support economic growth. Economic growth in oil-producing countries is giving rapid rise to an increasing number of refineries, and recent fall in crude oil prices is having a major impact on international movements in the oil industry.

Under these conditions, JCCP is expected more than ever before to accurately assess diverse changing needs in oil-producing countries and to provide training and technical cooperation in response to those needs. Recently, I had the opportunity to make official visits to major Middle East countries for the first time, to exchange frank views regarding the priority of human resource development and technical development with the leaders of oil companies in those countries and their needs regarding JCCP, as described in detail in the following article. I found that each country has a strong interest in learning about the experiences of Japanese oil companies, and expects conventional cooperation concerning refining technologies and cooperation in addressing issues such as those related to the environment, energy conservation and high added value. In order to respond to these expectations, it is necessary to maximize the experience and expertise of a wide range of players, including oil companies, engineering companies and the public sector in Japan, through mutual collaboration. As I have personally worked for a private company (Fuji Heavy Industries Ltd.) following my experience in the public sector, I wish to leverage my experience to strengthen such collaborations and promote business expansion that fully brings out Japan's strengths and is even more highly evaluated by oil-producing countries.

I thus ask for your continued support and guidance of JCCP's future activities, and invite you to provide any feedback or opinions you may have about our organization.

Executive Visits to Four Middle East Countries
—Kuwait, Saudi Arabia, UAE, Qatar—

Mr. Tsuyoshi Nakai took the occasion of his appointment as CEO of JCCP on July 1, 2014 to visit countries in the Middle East region and meet with and pay his respects to the CEOs of national oil companies in those countries. He also used the opportunity to do the following, further described in detail below.

(1) Confirm the reputation of JCCP activities among oil-producing countries and the continuity of personal networks
(2) Review JCCP training programs and technical cooperation projects with the heads of national oil companies in oil-producing countries, to confirm and establish a consensus regarding the prioritization of future projects
(3) Confirm the framework of mutual cooperation toward the steady implementation of the "Abe project," etc.
(4) Collect information relating to petroleum, etc.

* Abe project:
Project for implementing a personnel exchange program for 500 members from ADNOC, as mentioned in the "Joint Statement on the Strengthening of the Comprehensive Partnership between Japan and the United Arab Emirates towards Stability and Prosperity," announced during Japanese Prime Minister Shinzo Abe's visit to UAE in May 2013.

I. Kuwait

1. Meeting with Mr. Nizar M. Al-Adsani, CEO of KPC

(1) Date & time:
August 31, 2014; 9:00 – 9:45 (KPC Head Office)
(2) Attendees:
Mr. Nizar M. Al-Adsani, Chief Executive Officer
Mr. Mohammad A. Al-Farhoud, Managing Director, Planning & Finance
Ms. Wafa'a Y. Al-Zaabi, Deputy Managing Director, Planning
(3) Meeting content:

The JCCP delegation explained the purpose of their visit, and in response, Mr. Al-Adsani expressed his appreciation of JCCP's contribution and his approval of JCCP's efforts to further enhance the future quality of its training programs. Additionally, Mr. Al-Adsani explained that KPC is planning to host an international environment seminar in February 2015, and requested JCCP's cooperation. It was thus decided that Mr. Nakai would attend the seminar. The two leaders also agreed to verify in writing their intent to engage in comprehensive cooperation between KPC and JCCP, and to conduct regular reviews in top-level conferences. Furthermore, Mr. Al-Adsani noted that as KPC is placing importance on developing Kuwaiti personnel to undertake new projects, he wishes to send employees with leadership potential to JCCP training to acquire efficient work practices, with the aim of developing personnel of international standards. He also expressed high praise of JCCP's initiatives to introduce the latest technologies and provide hands-on training.

Mr. Nizar M. Al-Adsani, CEO (third from left)

2. Meeting with Dr. Naji M. Al-Mutairi, Director General of KISR

(1) Date & time:
August 31, 2014; 15:10 – 15:45 (KISR Head Office)
(2) Attendees:
Dr. Naji M. Al-Mutairi, Director General
Dr. Nadar M. Al Awadhi, Deputy Director General
(3) Meeting content:

Dr. Al-Mutairi expressed his appreciation for JCCP's cooperation, and agreed to the proposal to regularly hold top-level conferences for reviewing and promoting JCCP activities. He also spoke about issues relating to the oil environment and marine pollution countermeasures, saying there has been a spate of adverse impacts on marine organisms in Kuwait, and

environmental issues are becoming increasingly serious. As this is not an issue that concerns Kuwait alone, Dr. Al-Mutairi said he is considering organizing an international symposium on marine environment issues. In regard to training in Japan, he noted that participants who travel to Japan always return with something new, and that the Japanese people provide inspiring role models with their strong commitment to work.

II. Saudi Arabia

1. Meeting with Mr. Ali Hussain Al-Twairqi, Director General, Office of the Minister, Ministry of Petroleum and Mineral Resources

(1) Date & time:
September 2, 2014; 9:00 – 9:30 (Ministry of Petroleum and Mineral Resources)

(2) Attendees:
Mr. Ali Hussain Al-Twairqi, Director General, Office of the Minister

(3) Meeting content:

Mr. Al-Twairqi has a close relationship with JCCP, as he has been the counterpart for JCCP activities in Saudi Aramco's HRD department, and has participated in the JCCP International Symposium as a panelist. Mentioning the continuous growth of the Saudi-Japan relationship, Mr. Al-Twairqi expressed his appreciation for JCCP's expert dispatch program and training in Japan provided by a team of outstanding instructors, and their contribution to developing the bilateral relationship. He also noted with approval that cooperative business relationships with Japan are also deepening through the PetroRabigh venture with Sumitomo Chemical Co., Ltd. and the solar power generation project with Showa Shell Sekiyu K.K.'s Solar Frontier K.K. Furthermore, referring to Japan as an "old friend," Mr. Al-Twairqi expressed his high regard and said he is planning to visit Japan next year.

2. Meeting with Dr. Mohammed S. A. Al-Madi, OPEC Governor, Ministry of Petroleum and Mineral Resources

(1) Date & time:
September 2, 2014; 9:30 – 10:15 (Ministry of Petroleum and Mineral Resources)

(2) Attendees:
Dr. Mohammed S. A. Al-Madi, OPEC Governor
Eng. Sammy F. Al-Mehaid, Senior Oil Market Analyst, OPEC Governor Office

(3) Meeting content:

Dr. Al-Madi spoke in regard to crude oil prices, and said that as prices are dependent on market mechanisms, there are no plans to reduce crude oil production.

He also stated that research and development and project management are what are especially appealing about Japan. When asked what he thinks of Japan, as Mr. Al-Twairqi was also asked above, Dr. Al-Madi said, "Japan is special."

3. Meeting with Ms. Huda M. Al-Ghoson, Executive Director, Human Resources, Saudi Aramco

(1) Date & time:
September 3, 2014; 8:00 – 8:35 (Saudi Aramco Head Office)

(2) Attendees:
Ms. Huda M. Al-Ghoson, Executive Director, Human Resources

(3) Meeting content:

Ms. Al-Ghoson previously was in charge of human resource development, and is an understanding supporter of JCCP activities. She emphasized the importance of the leaders of both organizations becoming involved in regular reviews of JCCP activities and project promotion.

4. Meeting with Mr. Nasser A. Al-Nafisee, Executive Director, Corporate Affairs, Saudi Aramco

(1) Date & time:
September 3, 2014; 9:30 – 10:15 (Saudi Aramco Head Office)

(2) Attendees:
Mr. Nasser A. Al-Nafisee, Executive Director, Corporate Affairs

(3) Meeting content:

Mr. Al-Nafisee greeted Mr. Nakai with words of appreciation for JCCP's cooperation through its activities. He said he holds Japan in high regard, particularly for maintaining high quality in diverse areas and for its advanced society. He also said Saudi Aramco is gradually shifting toward not only Japan, but Asia as a whole. With an emphasis on human resource development in Japan, the company has sent its employees to receive training in Japan from almost 17 years ago, in recognition of JCCP training's catalytic function in developing human resources. After the meeting, the JCCP delegation toured the OSPAS (Oil Supply Planning and Scheduling) facility under the arrangement of Mr. Al-Nafisee.

5. Tour of Saudi Aramco's OSPAS (Oil Supply Planning and Scheduling)

(1) Date & time:
September 3, 2014; 10:45 – 11:25 (Saudi Aramco Head Office)

(2) Saudi Aramco attendant:
Mr. Mohammed O. Al-Subaii, General Supervisor, Terminal Division, OSPAS
Another officer

(3) Overview of OSPAS:

OSPAS is Saudi Aramco's command center that monitors the status of all operations, from the production of crude oil and gas and oil products to the operation of pipelines, the load status of the shipping terminal, tank inventory, the amount of electric power generated by Saudi Aramco, and the external supply of that electric power.

The JCCP delegation toured the central control room of this facility, where a number of 220-inch digital screens covered one entire wall of the room, with an operator monitoring each area. When the delegation asked what would happen to crude oil shipment if the Strait of Hormuz were to be closed, OSPAS staff replied that proper response would be taken automatically.

III. UAE

1. Meeting with Mr. Mohammed S. K. Al Qubaisi, Director, Human Resources, ADNOC

(1) Date & time:
September 4, 2014; 9:00 – 9:45 (4th floor conference room of the Human Resources Directorate at ADNOC)

(2) Attendees:
Mr. Mohammed S. K. Al Qubaisi (Director, Human Resources)
Mr. Mohamed Sanad Al Qubaisi (Deputy Director, Human Resources)
Mr. Jumaa Rashed Al Ali (Manager, Training & Development Division HR)

(3) Meeting content:

On the occasion of Japanese Prime Minister Shinzo Abe's visit to UAE last year, a number of joint statements were issued, including an agreement regarding special cooperation in human resource development. As part of this agreement, JCCP visited ADNOC this past May and June to make a proposal for ADNOC's participation in JCCP training programs, and in this meeting received word that ADNOC will make an effort to contribute to the smooth implementation of the programs. When asked about the differences between HRD training in Western countries and Japan, and about the advantages of training in Japan, the ADNOC members said that unlike Western training based on case studies, Japanese training is interesting, as it provides best practices in reference to situations that differ from those in Western countries.

2. Meeting with Mr. Abdulla Nasser Al Suwaidi, Director General, ADNOC

(1) Date & time:
September 4, 2014; 10:00 – 10:40 (conference room of the Director General at ADNOC)

(2) Attendees:
Mr. Abdulla Nasser Al Suwaidi (Director General)
Mr. Ali Khalifa Al Shamsi (Director, Strategy & Coordination)
Dr. Saif Sultan Al Nasseri (Director, Gas Processing)
Mr. Mohammed S. K. Al Qubaisi (Director, Human Resources)

(3) Meeting content:

Under the joint statement issued during Prime Minister Abe's visit to UAE last year proposing to accept 500 students from the UAE over the next five years to study in Japan, JCCP agreed to receive 50 participants from ADNOC every year over the five-year period. The JCCP delegation requested ADNOC's cooperation in the smooth implementation of this plan, and received a positive reply from Mr. Al Suwaidi, saying he will do his best, as education and human resource development is a symbol of UAE's relationship with Japan. However, although UAE is strongly interested in Japan, the interest level is slightly weaker compared to that of Western countries, due to the language problem and others. Yet in terms of governmental relationships, UAE enjoys a close relationship with Japan, as demonstrated by visits made by Prime Minister Abe and METI Minister

Meeting with Mr. Abdulla Nasser Al Suwaidi, Director General, ADNOC (fourth from right)

Toshimitsu Motegi. Mr. Al Suwaidi noted that human resource development is an issue requiring urgent attention, particularly given the capacity increase of the Ruwais Refinery (+400,000 b/d; additional construction of an RFCC).

The JCCP delegation discussed JCCP training programs, mentioning that large numbers of participants from the ADNOC Group and closely related institutions such as the Petroleum Institute (PI) and the Higher Colleges of Technology (HCT) have participated in the programs to date. A management-level course will be launched in October, and in the area of technical cooperation, the TAKREER Research Center (TRC) project has been implemented, and a kick-off meeting has been held on a marine environment study to commence in response to a request from ADNOC. In response, Mr. Al Suwaidi said that marine environment issues are extremely important. As many oil development companies are addressing such issues, he hopes they will use Abu Dhabi Oil Co., Ltd.'s mangrove plantation project on Mubarras Island as a reference.

3. Meeting with Mr. Ahmed O. Abdulla, COO, and Mr. Ismail M. Al-Mulla, Senior Vice President, TAKREER

(1) Date & time:
September 4, 2014; 12:00 – 12:30 (conference room of the COO on the 25th floor of the TAKREER Head Office)

(2) Attendees:
Mr. Ahmed O. Abdulla (Chief Operating Officer)
Mr. Ismail M. Al-Mulla (SVP: Senior Vice President (Administration))

(3) Meeting content:

Mr. Abdulla explained that TAKREER will have high needs hereafter in such areas as alkylation (high-octane gasoline base synthesizing plant), RFCC (residue fluid catalytic cracking unit), lube oil base material production, and cokes production. In the environment area, TAKREER is planning further initiatives for wastewater treatment, hazardous waste treatment, solar power generation and zero flaring.

4. Meeting with Dr. Maitha Salem Al Shamsi, UAE Minister of State

(1) Date & time:
September 4, 2014; 14:00 – 14:30 (Minister Maitha's office in Al Ain (shared office with the Marriage Fund))

Meeting with Dr. Maitha Salem Al Shamsi, UAE Minister of State

(2) Attendees:
Dr. Maitha Salem Al Shamsi (UAE Minister of State)

(3) Meeting content:

At the beginning of the meeting, Dr. Al Shamsi thanked JCCP for inviting her to Japan in 2008 in relation to a technical cooperation project. She then said she feels she is like a sister to JCCP activities, and expressed her intention to provide further cooperation.

The JCCP delegation asked Dr. Al Shamsi for her views on the possibility of cooperation between JCCP and ADNOC, including universities in which she has an interest, and of overseas study in Japan, as measures for further enhancing JCCP training programs. Dr. Al Shamsi said she strongly recommends collaboration between JCCP and universities such as Khalifa University of Science, Technology and Research, Petroleum Institute, UAE University, Abu Dhabi University and Zayed University. She especially recommends collaboration with Khalifa University, as its College of Engineering provides an exhaustive program, and said it would be best if students could include JCCP training in their resume or acquire college credits by participating in a JCCP training program. Dr. Al Shamsi stressed that JCCP collaboration with universities would be effective, and reiterated her view that it would be ideal if Khalifa University would offer credits for JCCP training. Dr. Al Shamsi also explained that she has strong interest in women's development.

IV. Qatar

1. Meeting with Mr. Saad Shrida Al-Kaabi, Managing Director, Qatar Petroleum (QP)

(1) Date & time:
October 27, 2014; 11:00 – 11:30 (office of the Managing Director in the QP Head Office)

Mr. Saad Shrida Al-Kaabi, Managing Director, QP

(2) Attendees:
Mr. Saad Shrida Al-Kaabi, Managing Director
Mr. Abdulaziz Mohammed Al-Mannai, Director Administration
Mr. Abdulla Ahmed Al-Tamimi, Corporate Training Manager

(3) Meeting content:

As Mr. Al-Kaabi had just assumed the position of Managing Director this past September (Dr. Mohamed bin Saleh Al Sada, his predecessor, has assumed the full-time duties of the Minister of Energy and Industry), the JCCP delegation gave an introduction of the JCCP organization. After hearing that Qatar is among the top three Middle East countries that have sent the largest numbers of participants to JCCP training, and receiving a rundown of JCCP's past records and present and future plans for human resource development and technical cooperation for QP, Mr. Al-Kaabi thanked JCCP for its extensive cooperation.

During the meeting, the two leaders agreed to continue holding top-level meetings for a comprehensive evaluation and prioritization of JCCP activities, and to consider and implement individual JCCP projects by assigning a JCCP counterpart representing QP as a whole and holding consultations with relevant JCCP officers.

Mr. Al-Kaabi, who has cultivated a strong interest in Japan through judo and aikido, is of the opinion that Japan's strengths lie in the automobile and oil downstream sectors.

The course that JCCP recently implemented, intended specifically for female employees from the Middle East, and the new course to be offered to management candidates seemed to capture Mr. Al-Kaabi's particular interest.

In regard to the environment, Mr. Al-Kaabi expressed keen interest in JCCP's environment-related cooperation schemes in UAE and Kuwait, and instructed his subordinates to examine how QP should approach the issue.

2. Meeting with Mr. Saad A. Al Kuwari, CEO, Qatar International Petroleum Marketing Company

(1) Date & time:
October 27, 2014; 12:30 – 13:00 (executive reception room in the TASWEEQ Head Office)

(2) Attendees:
Mr. Saad A. Al Kuwari, Chief Executive Officer (CEO)
Mr. Abdulla Al-Abdulmalek, Executive Director-Administration (participated in the FY2013 JCCP International Symposium)
Mr. Abdulaziz Al-Meer, Planning and Performance Director (participated in the FY2014 JCCP International Symposium)

(3) Meeting content:

Mr. Al Kuwari is a JCCP alumni (participated in two regular courses) who signed an MOU for a technical cooperation project between TASWEEQ and JCCP in the past, and is deeply familiar with JCCP's organization and activities. He thanked JCCP for its cooperation in human resource development and technical cooperation, and expressed strong approval of JCCP's future activity plans.

The two leaders also agreed to engage in a comprehensive evaluation and prioritization of JCCP activities at the top level on an ongoing basis.

Lastly, Mr. Al Kuwari strongly endorsed the

Mr. Saad A. Al Kuwari, CEO (center), and Mr. Abdulla Al-Abdulmalek, Executive Director-Administration (right)

young personnel exchange program and the Middle East women's course that are slated to be implemented this fiscal year, also expressing his strong expectations for seeing them implemented on a greater scope in the future.

3. Tour of the Laffan Refinery

On October 27, 2014, the JCCP delegation toured the Laffan Refinery, a joint venture undertaken by a consortium that includes Idemitsu Kosan Co., Ltd. and Cosmo Oil Co., Ltd. By observing conditions in the refinery, the JCCP delegation gained first-hand understanding of the urgent need to develop Qatari employees under the country's Qatarization initiative. I wish to extend my deep appreciation for the local Japanese staff's hard work.

<by Akio Yamanaka, Planning & Public Relationship Group, Administration Dept.>

Fiscal 2014 Regular Courses

Introducing selected courses with photos of scenes from previous offerings

[Nov. 4] TR-14, 15, 16 (Nov. 4 – 21)
Three-course joint opening ceremony
(with total attendance of 42 participants)

[Sept. 12] TR-8, 9, 10
Presentation of completion certificates in the three-course joint closing ceremony
(with total attendance of 47 participants)

[April 22] TR-1 "Future Technologies in the Oil Industry" (April 7 – 24)
Practical training in the CAI Room at JCCP Headquarters

[June 4] TR-5 "Latest Field Instrumentation Devices and Control" (May 27 – June 13)
Hands-on training in process control using the simulators at JCCP Headquarters

[Oct. 21 TR-12 "Practical Training for Young Instrumentation and Control Engineers" (Sept. 30 – Oct. 31)
Long-term course on instrumentation designed for young engineers (training utilizing simulators at JCCP Headquarters)

[Oct. 3] TR-11 "Maintenance Management and Reliability Improvement of Rotary Equipment" (Sept. 30 – Oct. 17)
Offsite training at Woods Corporation

[June 6] CPJ-21 "Seminar on Human Resource Development for KPC" (June 2 – 13)
Offsite training at Idemitsu Kosan's Tokuyama Refinery

[Sept. 12] CPJ-42 "Seminar on the Effective Utilization of Refinery Surplus Gas for Power Generation for Pertamina (Indonesia)" (Sept. 8 – 12)
Discussion with Mr. Tsuyoshi Nakai, CEO of JCCP

[Oct. 24] CPJ-24 "Women's Seminar on CSR" (Oct. 21 – 31)
Visit to the head office of JX Nippon Oil & Energy Corporation

[Oct. 9] TR-13 "Strategic Management for Senior Managers" (Oct. 7 – 17)
Visit to the Kitakyushu Next-generation Energy Park as part of the new training course for management-level employees

[May 17] TR-3 "Petroleum Marketing" (May 13 – 30)
Exposure to Japanese history and culture in Hiroshima

[Sept. 6] TR-8 "Environmental Management for Sustainability" (Aug. 26 – Sept. 12)
Exposure to Japanese history and culture in Hiroshima

Commencement of a New Training Program for Management

Strategic Management for Petroleum Industry —Management Training—

JCCP has established a new program for management in oil-producing countries titled "Strategic Management in the Oil Industry," as part of its effort to build personal connections with management executives in oil-producing countries through its training program. The program was implemented for the first time over the 11-day period from October 7 to 17, 2014, with the participation of 13 management officers, including directors, from oil-producing countries. The selected members were exposed to Japan's energy and environmental policies and the business strategies of private companies. In the final stage, they also had the opportunity to meet with Mr. Takayuki Sumita, Director-General of Natural Resources and Fuel in the Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI), to discuss cooperation with Japan.

Dialogue with Mr. Tsuyoshi Nakai, Executive Director of JCCP

1. Background to the Establishment of the New Course

For more than 30 years since its founding, JCCP has offered training programs that aim to transfer Japan's advanced technologies and knowledge in the oil downstream sector to oil-producing countries in response to their needs. In recent years, the diversification of needs for human resource development in oil-producing countries has prompted JCCP to embark on a renewal of its training programs. Particularly given the ongoing expansion of operations in oil-producing countries, including increases in crude oil production, establishment of new refineries, and extension of the petrochemical business, the development of competent management staff has become an important issue to the top management in oil-producing countries.

JCCP has also received many comments from oil-producing countries voicing their needs for training management, and thus began making preparations for a new program two years ago, as a first attempt of its kind.

Oil-producing countries have heretofore sent management personnel in the oil industry to Europe and the United States to attend executive courses offered by famous universities and research institutes, in addition to programs offered by international oil companies. However, in recent years they have increasingly approached JCCP with requests for a program that highlights Japanese management characteristics. JCCP thus confirmed their needs in detail, and organized and implemented a new program for management that features the accumulation of manufacturing industries in Japan and Japan's advanced environmental technologies.

2. Basic Concept of the Program

In designing the management candidate program, consideration was given to providing training that is on par with programs in Europe and the United States, highlights Japanese characteristics, and is beneficial to oil-producing countries.

Through JCCP's conventional training courses, oil-producing countries have made known their high recognition of the fact that Japan has accumulated a broad range of industries related to the oil industry and possesses advanced environmental technologies as an energy-consuming country. Moreover, as economic growth centered on oil development in oil-producing countries has given rise to important policy issues regarding the development of basic industries, domestic environmental countermeasures and energy

conservation, the management program was designed with particular focus on the accumulation of related industries and advanced environmental technologies.

More specifically, a program was designed that incorporates the following three priority areas.

1. Policy: Energy and environmental policies and advanced initiatives of national and regional governments
2. Strategies of oil companies: Oil industry policies and energy and environmental strategies of oil companies
3. Technology and the environment: Technologies and strategies of manufacturing and engineering companies

In terms of methodology, the program placed importance on providing opportunities for direct discussion with corporate management and expert engineers in the field. Although this placed a constraint on time, it was a necessary part of the program to allow the participants to gain first-hand knowledge of Japanese management practices in manufacturing industries in contrast with the case method employed in the Western countries. It was thought that primary focus should be placed on offering training with practical meaning, as the participants are members who have acquired an MBA in Europe or the United States or are already engaged in actual management activities.

The program thus incorporated visits to companies and operation fields to mutually discuss future plans and present issues. As many people at these destinations who offered their generous cooperation were actively involved in establishing relationships and cultivating business opportunities with oil-producing countries, they were also instrumental in helping the participants build personal connections.

3. Participants

A new approach was also taken in the nomination of participants. To the greatest extent possible in regard to certain oil-producing countries, JCCP corresponded directly with the top management of national oil companies in each country in requesting them to nominate participants. This approach was taken with the intention of promoting consideration of JCCP training programs by the top management in oil-producing countries and deepening ties with the management. In terms of capacity, the program was initially set at eight participants to mainly offer interactive, small-group lectures. However, many applications streamed in from oil-producing countries, indicating their strong need for management candidate training, so the capacity was expanded to allow as many participants as possible to attend. Through a screening process, 13 participants from eight oil-producing countries were ultimately selected. (Participating countries: UAE, Kuwait, Oman, Kazakhstan, Indonesia, Vietnam, Myanmar, Cambodia)

The program received the participation of high-level management officers from oil-producing countries, including six directors (and a vice president) from the oil ministry and national oil companies in oil-producing countries.

4. Program Overview

Based on the above basic concept, the program covered the following areas and was implemented with the cooperation of related organizations and lecturers.

(1) Site visits

1) Energy policy

Agency for Natural Resources & and Energy, Ministry of Economy, Trade and Industry (METI): Discussion with Mr. Takayuki Sumita, Director-General of Natural Resources and Fuel

Interview with Mr. Takayuki Sumita, Director-General of Natural Resources and Fuel

2) Advanced initiatives of local public bodies and private-public partnerships

- Kitakyushu City: Advanced environmental and energy initiatives; hydrogen, wind and solar power generation
- Smart Community: Utilization of renewable energy sources in local communities

3) Strategies of the oil industry

Idemitsu Kosan Co., Ltd.: New oil refining businesses in Japan and international cooperation

Idemitsu Kosan Co., Ltd. (Head Office)

4) Strategies of engineering and manufacturing companies

JGC Corporation: An engineering company's strategies for new energy businesses
Nissan Motor Co., Ltd.: New fuel strategies in the automobile industry
Mitsubishi Hitachi Power Systems, Ltd.: Development of advanced energy technologies
Hitachi, Ltd.: Advanced renewable energy and environmental technologies

Nissan Motor Co., Ltd. Oppama Plant

(2) Lectures and workshop

1) Economic development

"History of Japan's economic development":
Prof. Toshikazu Hamada, Sophia University

2) Industrial policies

"History and policies of Japan's oil industry":
Prof. Takeo Kikkawa, Hitotsubashi University
"Japan's energy and environmental policies":
Mr. Yuji Morita, Research Director, The Institute of Energy Economics, Japan
"Corporate management in Japan":
Prof. Akira Kawamoto, Keio University
"Business strategies and global strategies (with a focus on the automobile industry)":
Mr. Tsuyoshi Nakai, CEO, JCCP

3) Strategies of the oil industry

"Business strategies and advanced technologies of oil upstream companies":
Mr. Yoshiyuki Kagawa, Adviser, Mitsui Oil Exploration Co., Ltd.
"Energy and environmental strategies in the oil industry" (lecture and workshop):
Tetsuo Arii, Master Lecturer, JCCP

5. Program Content

(1) Policy:

Energy and environmental policies and advanced initiatives of national and regional governments

As case studies of advanced initiatives in Kitakyushu City, training was provided in regard to the effective utilization of hydrogen and wind and solar power generation businesses. Additionally, the participants visited Kitakyushu Smart Community, where initiatives are being taken to introduce renewable energy sources in cooperation between the local government, private companies and local residents, and learned about the city's history in overcoming energy-related issues in reference to case examples of advanced initiatives. Particular focus was placed on the city's history of addressing and resolving the environmental pollution issue up to the introduction of advanced initiatives. Toward the end of the program, a visit was also made to the Ministry of Economy, Trade and Industry to meet with Mr. Sumita, Director-General of Natural Resources and Fuel. The exchange of views on the Japanese government's international cooperation in the energy sector deepened the participants' understanding of Japan's energy policy.

Kitakyushu Smart Community

(2) Strategies of oil companies:
Oil industry policies and energy and environmental strategies of oil companies

Mr. Kagawa, Adviser at Mitsui Oil Exploration Co., Ltd., and other lecturers discussed and exchanged views with the participants on the initiatives of the Japanese oil exploration company, recent trends in shale gas development, and related technologies. An information exchange also took place at Idemitsu Kosan Co., Ltd., in regard to the company's business strategies in Japan and overseas. As a whole, the participants gained deeper insight into the possibility of international cooperation with Japanese companies in both the upstream and downstream sectors.

(3) Energy technologies and the environment:
Technologies and strategies of manufacturing and engineering companies

At Mitsubishi Hitachi Power Systems, Ltd., a lecture was given on the development history of the shipbuilding industry and power generator business, and on the latest energy-related technologies. A discussion was also held regarding the possibility of applying the technologies to oil-producing countries, and the latest offshore wind-power generating technology was introduced to deepen the participants' understanding in this area. At JGC Corporation, an introduction of the company's regional business strategies and new businesses for the oil and gas industries demonstrated the possibility of diverse cooperation schemes with oil-producing countries in the future. At Nissan Motor Co., Ltd., the participants toured the assembly plant and learned about the efficient production system in the manufacturing industry. They then learned about new fuel strategies in the automobile industry, discussed the future of transportation fuel, and gained insight into the future of the fuel market. At Hitachi, Ltd., lectures were given on the company's international business strategies, its businesses in the oil industry, and the latest energy and environmental technologies, and information was exchanged regarding the possibility of future business cooperation in oil-producing countries.

At Mitsubishi Hitachi Power Systems, Ltd.

Lecture at Hitachi, Ltd.

(4) Lectures and workshop

Professor Toshikazu Hamada of Sophia University lectured on the history of economic development in Japan, and discussed the background to the development of Japan's economy. Mr. Yuji Morita, Research Director of The Institute of Energy Economics, Japan, lectured on Japan's energy and environmental policies in reference to trends in the oil and energy markets. Prof. Takeo Kikkawa of Hitotsubashi University gave a lecture on the history and policies of Japan's oil industry, and engaged the participants in a discussion on the future direction of the oil industry to further their understanding. Prof. Akira Kawamoto of Keio University introduced the characteristics of corporate management in Japan with reference to case examples. Mr. Tsuyoshi Nakai, CEO of JCCP, lectured on the business strategies and global strategies of Japanese companies in reference to the automobile industry as an example. Lastly, Tetsuo Arii, JCCP lecturer, introduced the theoretical framework related to strategies in the oil industry in oil-producing countries, followed by an introduction of an analytical framework of cooperation between Japanese companies and the petrochemical industry and their initiatives toward the realization of hydrogen fuel cells. As a final wrap-up of the program, a workshop was held on potential business projects that participants might newly develop after they return to their country. Impressed by Japan's R&D efforts and its environmental initiatives and initiatives for renewable energy sources, the participants expressed strong desires to launch projects in these fields.

JCCP lecture on the strategies of oil companies (T. Arii)

(5) Hands-on experience

The following new activities and initiatives were included in this program as an addition to the conventional training course program.

1) Visit to Dazaifu

In a visit to Dazaifu, the participants appreciated the opportunity to talk with Mr. Nishitakatsuji, the chief priest of the Dazaifu Tenmangu Shrine, and learn about Dazaifu's historical significance and efforts to maintain tradition.

Dialogue with the chief priest of the Dazaifu Tenmangu Shrine

2) Pottery experience

In Arita, the participants engaged in a hands-on workshop in making Arita ware, and experienced the traditional Japanese art of pottery making and learned about the issues potters face in carrying on the skill.

3) Stay at a Japanese inn

As part of the initiative to provide exposure to Japanese hospitality, accommodations were booked at a Japanese inn for the first time in this program. The experience was highly appreciated by the participants, as it gave them first-hand experience in the services and hospitality of a Japanese inn, which distinctly differ from those at a standard hotel.

6. Summary

(1) Significance of providing training for management candidates

Oil-producing countries have strong needs for management training, and have high expectations of Japan. Thus, the recent training program for management candidates attracted the participation of director-level personnel as well, as a testament to the significance of the program to oil-producing countries. It also garnered extremely high evaluations and satisfaction from the participants, and high marks from departments in charge of personnel training in oil-producing countries. Furthermore, with inquiries already arriving in regard to the implementation schedule for the next fiscal year, it can be said that the new initiative has achieved a fair level of success.

(2) Personal networks with oil-producing countries

The program is designed for management candidates who engage in key business operations in oil-producing countries. It is thought that having such participants deepen their understanding of manufacturing industries and management systems in Japan through JCCP training is effective in further strengthening future relations between oil-producing countries and Japan. In this regard, it is important to hereafter maintain and make full use of the personal network with the participants. As there have been requests for further interaction with the staff of companies that have provided their cooperation in the program, the program is also expected to play a part in creating new business opportunities.

(3) Future issues

This training program has received high marks, but to further enhance the program content, JCCP will be considering schemes of cooperation with universities and corporate universities in Japan and oil-producing countries. In fact, information exchanges have already begun with education and research institutions in oil-producing countries toward this end. Furthermore, as the program is intended mainly for management candidates and other such participants who seek management-level training, measures will also be explored to offer greater exposure to Japanese hospitality and services in addition to practical training content, to further raise awareness of the program's distinct value in oil-producing countries.

<by Tetsuo Arii, Training Dept.>

Practical Training for Instrument and Control Engineers

1. Background

This course mainly provides coherent, hands-on practical training in a wide range of fields, from basic technologies to applied engineering. It is intended for engineers in the instrumentation and control fields, which are two fields that differ from each other but have a strong mutual relationship.

To provide knowledge that would allow participants from varying fields to have a wide perspective and benefit them in the future, the participants were restricted to relatively young engineers in their early 30s and below, and the length of the course was extended to 32 days.

At Yokogawa Electric, a field instrument manufacturer

2. Program Overview

2.1 Basics of instrumentation and control

(1) Overview of refinery information systems

A lecture was given on the configuration of the PIS (Plant Information System) and PCS (Process Control Systems) in refineries, and their relevant systems and application to the management of operations. (Lecture at JCCP)

Additionally, a visit was made to a refinery to witness examples of the application of such information systems. (Offsite training at JX Nippon Oil & Energy's Marifu Refinery)

(2) Comprehensive lecture on DCS (Distributed Control System) and related devices

Comprehensive knowledge was provided on the latest DCS functions and devices, including the fieldbus, which is the latest in instrumentation technologies, in reference to actual devices. (Offsite training at the headquarters of Yokogawa Electric Corporation)

(3) Process control theory

Through hands-on training using CAI (Computer-Assisted Instruction) facilities, knowledge was provided on an overview of PID (Proportional-Integral-Derivative) control, which forms the foundation of control theories, and tuning methods. The participants also engaged in practical training on deriving parameters from simulator responses. (Lecture and practical training at JCCP)

(4) Management of instrumentation devices

A lecture was given on an overview of the principles and structure of control valves, flow meters, online analyzers and vibration sensors, and their inspection and management. Following the lecture, the participants learned about the structure and safe inspection of instrumentation devices through hands-on training in the disassembly, inspection and reassembly of actual devices and instruments. (Offsite training at Azbil Corporation, Shonan Factory; Oval Corporation, Yokohama Office; DKK-Toa Corporation, Tokyo Engineering Center; and Shinkawa Sensor Technology, Inc., Hiroshima Works)

Practical training in the disassembly and inspection of a control valve

Practical training in the disassembly and inspection of a flow meter

DCS engineering practice

(5) Wireless instrumentation systems

Comprehensive knowledge was provided on the basic technology, application and general design of wireless instrumentation devices, which are being increasingly introduced in recent years, through lectures accompanied by hands-on training. Visits were also made to sites that have actually introduced wireless instrumentation systems, where active Q&A took place on matters that were taken into consideration when deciding to introduce a system, and on the operation and management of such systems. (Offsite training at Yokogawa Electric Corporation, Hiroshima Branch Office and Tokuyama Corporation)

Practical training at a wireless instrument manufacturer

2.2 Instrumentation and control applications

(1) DCS engineering

A lecture on the overview and specific design method of the DCS shutdown logic design was followed by a hands-on workshop, in which each participant drew a logic flow, entered it into a DCS and verified whether the sequence they had designed operated as intended. (Offsite training at Azbil Corporation, Fujisawa Techno Center)

(2) Safety instrumentation system

Following a lecture on the general description of safety instrumentation systems, which are currently being introduced on a global scale, practical training was provided on the analysis of accidents using the SIL (Safety Integrity Level) basic calculation method and HAZOP (Hazard and Operability Study) method through group discussions in reference to actual examples. (Lecture and practical training at JCCP)

(3) Model-based predictive control

Following a lecture on the general description of MPC (Model-based Predictive Control), which represents the latest in DCS technologies, hands-on training was provided in using MPC to control the flow rate of steam in a PC simulator. Furthermore, the DCS was connected to a miniature plant that actually runs water, to provide hands-on training that allows participants to actually experience MPC operation. (Lecture and practical training at JCCP)

Practical training in MPC

(4) Operation support systems

Operation support systems minimize operator burden by automating DCS operations. Following an overview of such systems and an introduction of best practices, the participants gained first-hand experience in designing an automated flow by operating an actual PC program. An operation support system was then connected to a DCS that is used to operate a miniature plant, to provide direct experience in the automation of control processes.

3. Participants

The participants comprised a group of 13 engineers from 10 countries, ranging in age from 25 to 32. At an average age of 29, the group was composed of relatively young engineers, as originally designed. However, most of the participants were engaged in operations related to instrumentation, and only few were adept at control processes.

All through the month-long training program, the participants displayed a serious, enterprising attitude, and applied themselves to their training without losing concentration. The appearance of them actively exchanging views, always standing ready with pen and paper and jotting down what they see and hear, was representative of the attitude they exhibited up to the last day. They were also frequently seen displaying thoughtful, exemplary conduct as a team, such as by teaching each other as they engaged in practical training. They were wholly hardworking, outstanding participants with a high level of professionalism.

4. Course Review

This course, which runs over a longer period than usual, as it is designed to provide a large amount of wide-ranging knowledge to instrumentation and control engineers, was implemented for the third time since beginning to be offered as a regular course.

During this time, there have been differences in opinion regarding the length of the course, and repeated trial and error has ensued, but satisfactory feedback was finally obtained from all participants of this recent course.

The course content also received high marks, but improvements will continue to be made hereafter to offer an even more effective course, by incorporating detailed opinions for improvement.

Because changes were partly made to the travel schedule due to poor weather conditions, the practical simulator training scheduled at JCCP was regrettably canceled. Nevertheless, it can probably be said that, on the whole, a satisfying course has been planned and implemented.

<by Kunio Kawashima, Training Dept.>

Regular Course on Finance and Accounting Management (IT-2-14)

1. Introduction

The regular course on "Finance and Accounting Management" was implemented for the third time this year, from September 16 to 26, with the attendance of 18 selected participants from among corporate officers in charge of finance and accounting and personnel with equivalent qualification. The group included a female participant who wore the black *hijab* at all times that shrouded her entire body. Even within the devout, conservative culture that she represents, there is growing recognition of the importance of women's participation in society. JCCP will continue to make thorough preparations to promote and receive women's active participation in its programs.

JX Nippon Oil & Energy Staging Terminal Corporation, Kiire Terminal

2. Content

(1) Lecture and Workshops at JCCP

1) Japan's oil industry

With the exclusion of pipeline imports that are low in substitutability, Japan, as a commercial market for oil, surpasses the United States, which is reducing its crude oil imports due to the shale revolution, and is a large market on par with China and the EU. This fact seemed to come as a novel revelation to the participants.

2) Workshop on "negotiation" and "financial accounting"

This workshop was designed to allow participants to arrive at the objective of their study by themselves, by engaging in hands-on activities in consultation with each other, and was accompanied by much fun and excitement.

3) Workshop on "procurement"

Marketing competitiveness among outlets is based on the buildup of costs, and is indispensable to management executives who must maintain business competitiveness.

4) Workshop on "risk management"

Today, oil marketing and trading cannot stand alone apart from derivative transactions. To those who are not specialists, this is rather difficult to understand, but all of the participants made serious efforts at understanding this difficult concept.

(2) Site Visits

1) Taiyo Oil Co., Ltd., Shikoku Office

Amid a trend in which many companies are downsizing their crude distillation facilities or closing their refineries in order to conform to the Sophisticated Methods of Energy Supply Structures regulation, Taiyo Oil has gone against the trend and installed a new RFCC (residue fluid catalytic cracking) unit. At the Shikoku Office, lectures were provided on the realities of the oil industry in Japan, including the above-mentioned regulation, as well on oil refining processes, product shipment and physical distribution.

2) JX Nippon Oil & Energy Staging Terminal Corporation, Kiire Terminal

As the world's largest crude-oil transshipment terminal, Kiire Terminal provided an overview of the transshipment of crude oil, from the unloading of crude oil from an ocean-going tanker and placing it in storage, to transporting it to refineries via coastal shipping. The opportunity to inspect the crude-oil handling facilities from an offshore ferry and witness the loading/unloading of crude oil from a large tanker seemed to leave a deep impression on the participants.

3. Summary Review

Background and Objective of the Course / Reflecting on the Course's Intent

"The meaning of coming to Japan, as opposed to a Western country, to exchange information"

This course was newly established as a result of the Course Renewal Committee's review of the 2011 course program in response to the requests and views of participating oil-producing countries. Taking the occasion of successfully implementing the course for the third time, below we review the intent and implementation status of the course.

Japan's status as seen from oil-producing countries

(1) In oil-producing countries, various sectors are still necessarily dependent on Western companies in many ways. To these countries, Japan and other non-Western countries are, regrettably, second string to the Western countries, or a card that is played to gain leverage in negotiations with those countries.

Needs in Japan and JCCP's mission

(2) As Japan is dependent on crude oil imports and especially on those from the Middle East, it must establish and strengthen personal and emotional ties as an essentially important measure for ensuring a stable supply of crude oil. This, precisely, is the goal of JCCP's activities.

Development needs in oil-producing countries

(3) On the other hand, from the standpoint of major oil-producing countries, the largest challenge they face today is in preventing instability in their monarchy by securing employment for the increasing ratio of youths in the population of their countries. To this end, they are pursuing a policy of placing nationals in positions formerly filled by foreign employees.

Development needs (1)

(4) One of the goals of employing nationals is to have them eventually assume executive positions, which require specialized knowledge such as of finance, trading and oil derivatives, and some of which are still filled by Westerners. The transfer of such specialized technologies and positions would become possible only after raising the awareness that such transfers should and could be achieved in Japan. This is a value that cannot be demanded of the Western countries, and can only be provided by Japan.

Development needs (2)

The other goal of employing nationals is to replace migrant employees. However, any failure in achieving this goal could create a large disparity among nationals, and is accompanied by the risk of generating social dissatisfaction. Europe and the United States cannot serve as a model, since Europe harbors potential conflicts between the social classes, and the United States is a nation of immigrants with a wide wealth gap among its people. Japan's industries are almost completely composed of Japanese nationals, and the country itself similarly maintains an affluent and competitive constitutional monarchy. This is the precise model that the GCC oil-producing countries can only seek from Japan.

In response to the above needs, the course program has been established under the following policies.

To provide highly specialized and difficult knowledge among various knowledge and skills required of executives of state-run oil companies

To provide exposure to examples of organizations and social operations that are composed solely of national citizens, from top to bottom, through visits to sites of oil businesses, such as refineries and terminals, and various locations in Japan

The program level is set at post-MBA-level, and the program itself is centered on an examination of case studies in the form of a hands-on workshop. The study material is a collection of original case examples that are all based on actual business experience, and are almost wholly discussed in relation to the Japanese people and Japan.

During these past three years, the course has been implemented in line with its original objectives through repeated improvements, owing to the earnest cooperation of all participants. Ongoing efforts will be made to offer an even more fulfilling course in the future.

<by Masayuki Jimbo, Training Dept.>

CPJ on TPM Activities for Refinery Maintenance Management for Iraq

From June 10 to 20, 2014, JCCP implemented a course on refinery maintenance management based on TPM (Total Productive Management), a practice which originated in Japan, in response to a request from the Ministry of Oil-Iraq.

1. Overview

The course was designed to enhance refinery engineers' awareness of refinery operations and maintenance to the same degree as their understanding of refinery equipment, by providing knowledge of autonomous maintenance activities and the latest maintenance technologies. With the cooperation of Idemitsu Kosan Co., Ltd., it also included a hands-on workshop on discovering problems and devising countermeasures to those problems while actually examining onsite equipment in a refinery.

The participants were a group of 20 selected engineers from oil companies affiliated with the Ministry of Oil-Iraq, and included four each from North Refinery Company, Mid Land Refinery Company, South Refinery Company, North Gas Company and South Gas Company.

2. Training at JCCP

The program began with a lecture on "Japan's Oil Industry," to provide an understanding of the oil situation in Japan. The lecture covered Japan's geographical features, the background to the development of the oil industry in Japan, and trends in the ratio of oil in Japan's primary energy mix, and discussed the present state and issues regarding oil distributors in Japan, their market share, and the locations and sizes of refineries they operate. It also discussed Japan's energy security policies, including the stockpiling of crude oil, and examined recent trends in the oil industry.

Group discussion

Next, a lecture titled "Maintenance Management and Safety Management by TPM Activities in the Refinery" was given to define and provide a general description of TPM and to outline maintenance management methods that are adopted by oil companies in Japan.

Additionally, a group discussion session was held under the title, "Problems and Countermeasures in My Section." To come up with a discussion theme, the participants shared problems they face and how they should be resolved, categorized them by genre, and selected an issue of high priority. They then analyzed the causes of the issue using the 5-why, 4M and fishbone analysis methods, and prepared an action plan for solving the issue. As the themes discussed in each group were practical issues that pertained to all organizations, the discussions yielded ideas that could be applied horizontally within each organization.

3. Offsite Training

3.1 Mitsubishi Hitachi Power Systems, Ltd. (MHPS), Yokohama Works

Under the theme, "The latest boiler and turbine technologies and methods for their maintenance and inspection," MHPS Yokohama Works provided training that focused on the scope of applicability, structure and characteristics of steam turbines, and explained the key points of preventive maintenance in an easy-to-understand manner in reference to specific case examples. In regard to boilers, a summary was given of past cases of malfunction, and a detailed explanation was given on the status of malfunctions and countermeasures for parts that are susceptible to problems. The participants were also given a tour of the production floor, where they witnessed the boiler tube bending and forming process.

3.2 JGC Corporation, Yokohama Head Office

The participants received a lecture titled "The latest maintenance technologies and efficient maintenance management," which discussed the significance of OSHA and PSM in reference to case examples of serious accidents that have occurred in the past. The lecture also provided a summary of reliability-centered maintenance (RCM) in Q&A format for easy understanding, and discussed risk-based inspection (RBI) through an introduction of case examples.

3.3 Sankyu Inc., Maintenance Center

A lecture titled "The role of contractors, implementation frameworks and technologies" gave a detailed description of the company's engineer training programs that are respectively designed for university, technical college and industrial high school graduates, and its initiatives for enhancing the technical capabilities of maintenance engineers. Additionally, in a hands-on session, the participants were exposed to heavy machinery that is used in actual maintenance activities and the latest technologies.

3.4 Idemitsu Kosan Co., Ltd., Chiba Refinery

On the first day of the two-day training session at Chiba Refinery, a lecture was given on "TPM activities for refinery management: Case examples of Kaizen activities," which covered the purpose and effects of TPM activities. Particular focus was placed on autonomous maintenance activities, including the processes of initial cleaning and visualization activities, and a description was given of a professional maintenance activity that helped to reduce malfunctions, with reference to a case example involving mechanical seals. The participants then received an explanation of a TPM activity board in the instrument room of the refinery, and gained first-hand experience in various examples of Kaizen and visualization activities within the refinery.

On the second day, an onsite workshop was held under the title, "Visualization training: Simulation exercise." Divided into three groups, the participants identified mechanical flaws and areas for improvement (visualization) using a compressor unit and two pumps in an idle plant. Around 15 discoveries were made by each group under the supervision of an Idemitsu engineer from an operations division who was assigned to each group to respond to questions and to ensure safety. They analyzed the problems that were identified, discussed countermeasures, and summarized their findings in a presentation. The presentations touched on the important points of visualization training, and seemed to provide a strong motivation for future activities.

Problem-finding in a refinery (compressor)

Problem-finding in a refinery (pumps)

Discussion of countermeasures

4. Summary

This was the second time that a course on TPM activities for refinery maintenance management had been offered. To distinguish it from the first offering, an onsite workshop was planned with the cooperation of Idemitsu Kosan, where sufficient preparation was made to pick out relevant equipment in an idle plant. The opportunity to personally engage in discussions with an instructor to seek countermeasures to problems through direct access to actual onsite equipment is expected to benefit the participants when they return to their countries and play a part in rebuilding refinery plants.

<by Fumihiro Tone, Training Dept.>

CPJ on Petroleum Marketing and Distribution for Petrolimex

1. Background and Objective

JCCP exchanged a basic cooperation agreement with Petrovietnam in August 2010 and with Petrolimex in December 2010. Thereafter, a customized program-Japan (CPJ) on petroleum marketing and distribution was held in 2011 for a joint group of members from both companies and in 2012 for a group of members from Petrolimex alone. Petrolimex has a 50% share in Vietnam's oil products market, acquiring 30% of its petroleum from domestic refineries and 70% from imports. Currently, it is planning the construction of its own refinery.

2. Content

2.1 Training at JCCP

(1) Japan's Oil Industry

Prior to providing offsite training, ample time was spent on providing knowledge of Japan's oil industry as a whole, from the import of crude oil from oceangoing tankers, to price competitions between service stations. As Vietnam has a long coastline, physical distribution in Japan, which consists of importing crude oil by VLCC, transferring it by coastal tanker and distributing it via lorry, was considered a prime goal for Vietnam.

(2) Oil Markets in Asia

This lecture provided information on the latest oil demand-supply environment and oil market situations in Southeast Asia, where demand is surging due to the growth of the Chinese, Indian and Vietnamese economies.

(3) Marketing Management Systems

Although Vietnam is a socialistic country, there is nevertheless a demand for even more rational management methods for marketing activities accompanying the development of economic activities and the trend toward privatization of state-owned companies. Thus, a lecture was given on the differences between managerial accounting and financial accounting, and a participatory business simulation workshop was implemented with the aim of allowing participants to gain a good sense of financial accounting, which forms the basis of future management systems.

2.2 Offsite Training

(1) Fujitani Oil Inc. (JX dealer in Hiroshima)

As the training at Fujitani Oil provided a valuable opportunity to learn about service station operations and the state of the retail market and marketing industry in Japan directly from the owner himself, the participants had a nonstop stream of questions in relation to the detailed explanations they received at the company, the company's service station, and oil depot. Particularly active Q&A exchanges were held in regard to the method of establishing an agency contract and wholesale prices, and about retail prices that are determined by competition among service stations.

(2) Showa Yokkaichi Sekiyu Co., Ltd., Yokkaichi Refinery

At Yokkaichi Refinery, the participants received a lecture on refinery functions, from the import of crude oil to the production, storage and shipment of oil products, and toured the refinery site. With the construction of Vietnam's second refinery currently underway, the participants examined each refinery operation with keen interest, and deepened their understanding by asking many questions.

Tour of Showa Yokkaichi Sekiyu's Yokkaichi Refinery

(3) Tatsuno Corporation, Yokohama Plant

As a leading manufacturer of service station weighing machines and POS system instruments, Tatsuno Corporation introduced its latest products and their structure and manufacturing process. As the majority of the participants were managerial officers in regional branch companies that operate service stations, detailed questions focused particularly on such perspectives as cost and investment efficiency. The participants also enjoyed a sense of familiarity at seeing weighing machines in the plant bearing Vietnamese labels and destined for Vietnam.

Tour of Tatsuno Corporation's Yokohama Plant

(4) Cosmo Oil Co., Ltd.

As a Japanese oil refiner-distributor, Cosmo Oil gave a lecture on its marketing framework centered on a dealership network, the locations of its refineries and oil depots, and its physical distribution system that incorporates barter transactions. A description of the company's initiatives for launching new environment-related projects that involve wind and solar power generation also captured the participants' attention.

3. Summary

The participants were mainly representatives and executive officers of Petrolimex's regional branch companies. A participant from the Petrolimex Head Office provided simultaneous translation of the lecturers' English presentations in Vietnamese, so there did not seem to be any inconvenience. Presently, 5% of Petrolimex's shares are owned by the private sector, but there are plans to further increase this ratio hereafter. Amid news coverage that says this trend is expected to accelerate on the back of TPP negotiations, there seemed to be a strong motivation among the participants to acquire knowledge about free market systems and companies that are exposed to competition in such a market.

<by Masayuki Jimbo, Training Dept.>

Personnel Exchange

ADNOC Marine Environment Workshop in UAE

The ADNOC-JCCP Marine Environment Workshop (CPO-22-14) was held in Abu Dhabi from May 19 to 21, 2014 at the request of the management of ADNOC's environment departments.

1. Previous Cooperation with ADNOC's Environment Departments

To strengthen relations with Abu Dhabi National Oil Company (ADNOC) in UAE through cooperation in human resource development, JCCP has implemented a seminar for ADNOC every year in Abu Dhabi on an environmental theme in cooperation with the environment departments of the ADNOC Group.

2012: Seminar on Energy Efficiency
2013: Seminar on Water Management

By making careful preparations in regard to the program content, lecturers and participants and gaining the participation of environment department managers in the ADNOC Group, ADNOC and JCCP have deepened their relationship of mutual trust through the joint implementation of these seminars. As a result of this relationship, the top management of ADNOC made a formal request to JCCP for a seminar on marine environment countermeasures, and thus the recent workshop has come to be held. ADNOC also requested JCCP's cooperation in conducting a study on marine environment countermeasures based on the results of

the workshop, so this became the first case in which a JCCP training program has led to the development of a technical cooperation project.

2. Workshop

(1) Participants from the ADNOC Group

Since the ADNOC-JCCP joint seminar was organized at the proposal of the ADNOC top management, the audience included top executives of the environment department in the ADNOC Head Office (Mr. Bakheet Al-Ameli, HSE Division Manager; Mr. Sultan Saif Al Shamsi, Manager) and approximately 50 chosen experts from the ADNOC Group's 20-plus+ companies. The participants came with a full understanding of current issues and new plans related to the marine environment, and provided practical and insightful input into the discussions. The program also included presentations from the ADNOC side regarding the current status of marine environment countermeasures, so that the workshop provided comprehensive knowledge with information provided by both sides.

(2) Overall Organization

The overall organization of the workshop was determined in advance in consultation with ADNOC, as follows.

Day 1

<AM> Introduction of advanced case examples and advanced technologies in Japan by JCCP lecturers

<PM> Introduction of marine environment countermeasures by ADNOC Group companies

Day 2

<AM> Extraction of important issues in marine environment countermeasures at ADNOC

<PM> Setting the priority of issues regarding marine environment countermeasures at ADNOC

Day 3

<AM> Proposal of solutions to ADNOC

(3) Workshop Proceedings and Achievements

1) Session 1: Marine Environment and the Oil Industry <Day 1 AM>

a) Opening statement: Marine environment countermeasures at ADNOC – Mr. Bakheet Al-Ameli, HSE Division Manager

Mr. Bakheet Al-Ameli, HSE Division Manager, ADNOC

b) Marine environment countermeasures in the oil industry: Advanced case examples and technologies – Tetsuo Arii (JCCP)

c) Marine environment protection countermeasures in Japan – Dr. Takashi Owada (JANUS)

d) Trends in global marine environment countermeasures – Mr. Takuma Mori (JANUS)

e) Application of membrane technology to water recycling and reutilization – Mr. Naoto Aoyama (JGC)

f) Hitachi's advanced technologies for marine environment and associated water countermeasures – Dr. Toshihiko Horiuchi, Dr. Takashi Isogami (Hitachi, Ltd.)

In the opening session, Mr. Bakheet Al-Ameli, HSE Division Manager, expressed his appreciation for JCCP's cooperation to date, and emphasized the importance of the workshop. T. Arii, JCCP lecturer, then presented marine environment issues related to the oil industry and introduced advanced case examples in Japan. Ultimately, the following issues were selected as issues of high relevance to the ADNOC Group.

— Total volume control and concentration control in Japan

JCCP lecturer T. Arii giving a lecture

— Management of radioactive substances in the ocean
— Development of marine monitoring systems and management biodiversity
— Advanced seawater desalination technologies
— Marine emission reduction measures and the zero liquid discharge system
— Recycling and effective utilization of water resources, and effective utilization of associated water

Next, JCCP lecturers gave lectures based on their specialized knowledge in their respective fields. First, Mr. Owada (JANUS) gave a general description of marine environment countermeasures in Japan, with particular focus on the principles and details of total volume control, monitoring, and wastewater standards. Dr. Mori (JANUS) lectured on global trends related to the marine environment (biodiversity treaty, ballast water, adhesion of organisms to ship hulls, etc.). As international trends in marine environment countermeasures are a matter of interest to ADNOC experts, an active Q&A followed each lecture. Dr. Horiuchi and Dr. Isogami from Hitachi introduced their company's advanced water treatment technologies and case examples of their application in UAE, as well as their cutting-edge technologies for the effective utilization of associated water. Mr. Aoyama from JGC Corporation introduced the novel water separation process and the zero liquid system as applications of the membrane separation technology.

2) Session 2: ADNOC's Initiatives

Representatives from the following companies of the ADNOC Group introduced their company's advanced initiatives for marine conservation.

a) ADMA-OPCO: Environmental assessment accompanying the construction of a new marine facility
b) TOTAL ABK: Marine environment initiatives related to offshore oil field operations
c) ADOC: Mangrove development, protection of marine mammals and fish
d) BUNDUQ: Development of fishery resources (installation of modified sulfur concrete fish reefs)

The lectures demonstrated that the companies of the ADNOC Group are each making active efforts for conservation of the marine environment.

3) Sessions 3 – 5: Workshops

On the second and third days of the seminar, the participants divided into groups and carried out deep discussions under the moderation of T. Arii, lecturer, while extracting issues and deliberating their priority and solutions, and determined the direction of initiatives by ADNOC as a whole. With the cooperation of an ADNOC Head Office manager who was also in attendance, the discussions proceeded in reference to ADNOC's policies.

Workshop venue

a) Session 3: Extraction and prioritization of issues

Issues were discussed from the perspective of the degree, frequency, and seriousness of their risk to the ADNOC Group, and in the end, each group gave scores to their issues and made a presentation. Ultimately, the following five issues were selected as priority issues to be addressed by ADNOC.

A. Discharge management
B. Monitoring, data management & reporting
C. Marine life, biodiversity
D. Oil spill
E. Drilling activity

b) Session 4: Extraction of specific issues for examination

The groups discussed what kinds of problems exist in regard to each issue and what kinds of improvement measures could be taken, and summarized the main points of each issue as follows.

<Issues and priority of marine environment countermeasures by the ADNOC Group>

A. Discharge management
— From concentration management to total volume management
— Emission minimization
— Effective utilization of water resources (associated water, wastewater generated from seawater desalination)

B. Marine environment monitoring and data management
   — Monitoring of the marine environment
   — Data standardization and time-based changes
   — Reporting to the management
C. Protection of marine life and biodiversity
D. Oil spill countermeasures
E. Pollution caused by drilling offshore oil fields

3. Summary

(1) JCCP environment workshops and involvement of the ADNOC top management

JCCP workshops have been reported to the ADNOC top management after each implementation, a practice which has led to the recent request for implementation of a workshop on the marine environment. The content and results of this marine environment workshop have also been reported to the top management after its implementation, with favorable reviews.

(2) Strengthening of the cooperative relationship between the ADNOC Environment Committee and JCCP

The marine environment workshop was held jointly with ADNOC's environment departments, and was implemented extremely efficiently with indirect support from the ADNOC Environment Committee. The Committee is responsible for promoting environmental considerations in operations across the board through the ADNOC Group under ADNOC's top management. Mr. Al Kamali, Chairman of the Committee, also participated in the JCCP Executive Candidate Training Program that was newly offered this fiscal year.

(3) Cultivation of a new technical cooperation project from a training program

As a result of this workshop, ADNOC expressed its wish for JCCP to continue the study of the workshop theme, and JCCP is thus proceeding with the study as a technical cooperation project. The Japanese companies participating in the project say it also offers them an opportunity to make the necessary preparations for cultivating a new market.

(4) Stronger presence of JCCP training activities owing to the implementation of a local customized seminar

The implementation of a customized program in UAE has allowed JCCP to promote greater awareness of JCCP activities among the top management and various other parties concerned in the oil-producing country, and was effective in strengthening JCCP's presence in UAE.

(5) Future issues

ADNOC is pursuing a personnel development program for its national staff members, and is actively seeking industry-university cooperation with universities and educational institutions inside and outside UAE. JCCP has thus far organized training courses and particularly ADNOC-JCCP joint seminars in Abu Dhabi in cooperation with higher education institutions in UAE, and intends to continue making such efforts to provide training that responds to the needs of oil-producing countries.

<by Tetsuo Arii, Training Dept.>

Workshop instructors and participants

CPO Seminar on Japanese-style HRM/HRD for Saudi Aramco (CPO-23-14)

1. Course Background and Objective

Saudi Aramco has just recently established the HRD Division in the Refining and NGL Fractionation Department to comprehensively take charge of the planning and implementation of human resource development not only at the Ras Tanura Refinery, but also at its four refineries and two NGL fractionation plants. In line with this objective, the division is pushing ahead with reorganization and centralization of HRD plans to standardize the wide variety of HRD plans that had existed under the authority of each refinery director in line with the company's HRD standards.

When JCCP's Training Department last visited the Refining and NGL Fractionation Department, its members had made a request to JCCP, saying they would be extremely grateful if JCCP lecturers used the opportunity of their visit to describe the details and present state of Japanese-style HRM and HRD to HRD managers and specialists in their department and provide hints that could benefit future HRD plans at Saudi Aramco. This customized program-overseas (CPO) originated in response to this request.

2. Seminar Content

The seminar was designed to provide interrelated lectures and hands-on activities by three lecturers over a three-day period, with a focus on the following three points.

Oct. 14: HRD workshop by Prof. Tanaka

(1) Lecture by Taro Shoji on the historical and cultural background and present status of Japanese-style human resource management and human resource development, and the direction of future changes

(2) Lecture by Mr. Kazuyuki Yoshitomi (Title: "HRD in Japanese Refineries and the Secret of Japanese Teamwork"), covering human resource development methods and practice at Idemitsu Kosan, a representative oil company in Japan (mainly in downstream operations and particularly refinery operations)

(3) Workshop by Prof. Hiromasa Tanaka (Title: "Training Program Development: Curriculum Development and Evaluation") on the formulation and evaluation of practical HRD plans following the first and second days' lectures on HRM/HRD theories and case examples. Focus was placed on discussing how companies with differing histories, culture and economic framework can utilize the given examples of Japan and the Western countries to improve their present plans, and on studying how examples in other countries can be applied to optimizing HRD plans in the participants' companies.

3. Summary

The seminar was attended by nine direct managers and officers in departments in charge of human resource development in Saudi Aramco's downstream departments (refineries and NGL departments).

The venue of the seminar, the Ras Tanura Refinery, is Saudi Aramco's oldest refinery that began operations in 1949, as well as the largest, with a capacity of 550,000 b/d when also including the splitter. The department in charge of the training activities of Saudi Aramco's downstream departments is located in this refinery, accompanied by a leadership center that boasts an extremely large training facility.

In these ways, Saudi Aramco has a long history and tradition of successful HRD training, but it also looks to JCCP training as a means for obtaining some clues or for learning methods of Japanese-style training for improvement and modification of their American-style

Oct. 12: CPO-23-14 seminar participants

HRD system.

Saudi Aramco requires a unique education and training system to pursue its initiative of replacing its foreign employees with national employees (already more than 87% complete), and to respond to public demand to employ the increasing numbers of national high school, technical college and university graduates. Furthermore, for all practical means the company has a social responsibility to offer lifetime employment once it employs a worker, but at the same time, it is struggling to respond to new employment and HRD needs that are emerging from changes in history and new social developments. This situation is possibly turning Saudi Aramco's interest to Japanese-style HRD.

The recent seminar was intended for HRM/HRD managers and officers, but line managers of engineering and technical departments also have the same responsibility for human resource utilization and development within the organization and company. If there were more opportunities to also hold similar seminars for such people, JCCP expects that there would be greater needs for the implementation of customized seminars in oil and gas-producing countries facing similar problems.

Finally, JCCP wishes to thank all individuals and parties concerned for their support and cooperation in bringing the seminar to a successful completion.

<by Taro Shoji, Training Dept.>

JCCP Regular Courses Completed

TR-8-14 Environmental Management for Sustainability
August 26 – September 12, 2014 **Lecturer: Bunsuke Kariya**

Content: Japanese Oil Company's New Business Strategy; Environmental Management in Japanese Refinery; CSR Strategy of Japanese Refinery; Advanced Environmental Project Planning (countermeasures for air pollution); Carbon Capture and Storage; International Efforts for Climate Change; Air Pollution Monitoring and Simulation; Class Discussion (case study and group discussion for the problems and countermeasure in your environmental management)

<12 countries / 16 participants>

Site visits: Idemitsu Kosan Co., Ltd. (Aichi Refinery); Shimadzu Corporation; Kawasaki Heavy Industries (Kobe Works); Chugai Technos Corporation; Swing Corporation; Sanyu Plant Services Co., Ltd.

Countries: Colombia, Indonesia, Iraq, Kazakhstan, Kuwait, Pakistan, Papua New Guinea, Qatar, Saudi Arabia, Thailand, UAE, Vietnam

TR-9-14 Project Management for High-Value-Added Petroleum Industry
August 26 – September 12, 2014 **Lecturer: Fumihiro Tone**

Content: To promote understanding of project management from the point of view of the owner side, and to improve project management and leadership abilities to create a high-value-added petroleum industry in the future.
Main topics are as follows:

1. Project management activities as project owner in refineries
2. Project cost management & schedule management
3. Project risk management and project contracts
   Case study: "Problems in project management of your project and countermeasures"
4. Visits to:
   A refinery—to study project planning/management in a refinery for high-value-added petroleum industry
   An engineering company—to study engineering of EPC project by IT utilization and EPC project management
   A high pressure vessel manufacturer—to understand recent technologies for high pressure vessel manufacturing
   A turbine manufacturer—to study recent turbine and boiler technologies
   An inspection company—to study the latest NDT inspection technologies


<9 countries / 16 participants>

Site visits: Idemitsu Kosan Co., Ltd. (Chiba Refinery); Hokkaido Joint Oil Stockpiling Co., Ltd. (Hokkaido Office); JGC Corporation (Yokohama World Operation Center); Chiyoda Corporation (Global Headquarters); The Japan Steel Works, Ltd. (Muroran Plant); Non-Destructive Inspection Co., Ltd. (Headquarters); Mitsubishi Heavy Industries, Ltd. (Takasago Works)

Countries: Brazil, Colombia, India, Kazakhstan, Kuwait, Myanmar, Saudi Arabia, Thailand, Vietnam

TR-10-14 Advanced Technology and Control System of Power Generation Facilities
August 26 – September 12, 2014 **Lecturer: Teruhiko Sasaki**

Content: Overview and Practice of Latest Power Generation Facilities; Power Generation Facility-related Technologies (vibration sensor and governor maintenance technologies); Latest DCS-related Technologies and APC System; Control System for Actual Power Plants; Other Related Technologies (basic process control theories with practice using computer simulator); Optimization System and Dynamic Simulator Technology; Application for Safety Instrument System

<13 countries / 15 participants>

Site visits: Yokogawa Electric Corporation (Headquarters and Miyazaki Branch); Miyazaki Biomass Recycling Co., Inc.; Shinkawa Sensor Technology, Inc. (Hiroshima Factory); JX Nippon Oil & Energy Corporation (Oita Refinery and Marifu Refinery); Woods Corporation; Invensys Process Systems Japan, Inc.

Countries: Colombia, Indonesia, Iraq, Kazakhstan, Myanmar, Pakistan, Qatar, Saudi Arabia, Sudan, Thailand, UAE, Uzbekistan, Vietnam

TR-11-14 Reliability Enhancement and Maintenance Management of Rotary Machinery
September 30 – October 17, 2014 **Lecturer: Shinji Marumo**

Content: Petroleum Industry in Japan; Reliability Enhancement and Maintenance Management for Rotary Machinery; Operational Practices and Maintenance of Governors; Various Technologies for Pumps and Steam Turbines; Maintenance Technology and Reliability Management for the Plant Pumps; Various Technologies for Gas Turbines; Operational Practices and Maintenance of Mechanical Seals; Instrumentation for High-efficiency Power Generation; Vibration Measurement of Rotary Machinery

<10 countries / 16 participants>

Site visits: Woods Corporation (Head Office and Works); Shin-Nippon Machinery (Kure Factory); Kobe Steel, Ltd. (Takasago Works); Torishima Pump Manufacturing Company (Takatsuki Works); Mitsubishi Hitachi Power Systems Co., Ltd. (Takasago Works); Osaka Gas Co., Ltd. (Senboku Power Plant); Eagle Burgmann Japan Co., Ltd. (Niigata Factory); Yokogawa Electric Corporation (Mitaka Headquarters)

Countries: Iraq, Kuwait, Malaysia, Myanmar, Qatar, Saudi Arabia, Thailand, Uzbekistan, Vietnam, Yemen

TR-12-14 Practical Training for Young Instrument and Control Engineers
September 30 – October 31, 2014 **Lecturer: Kunio Kawashima**

Content: Plant Information and Control System; Process Control Theory, Exercise and Practice; Engineering Design for Instrumentation; Latest DCS and Software; Maintenance of Instrument; Field Device (Transmitter, Flow Meter, Control Valve, etc.); Wireless; Vibration Measurement; Information and Control System in Refinery; Safety Instrument System; Online Analyzer; Advanced Process Control System; Operation Support System; Engineering Design Work Practice

<10 countries / 13 participants>

Site visits: Yokogawa Electric Corporation (Headquarters, Kofu Factory and Chugoku Branch); Shinkawa Electric Co., Ltd. (Yamanashi Factory); JX Nippon Oil & Energy Corporation (Marifu Refinery); DKK-TOA Corporation (Tokyo Engineering Center); OVAL Corporation (Yokohama Operation Center); Azbil Corporation (Shonan Factory and Fujisawa Techno Center)

Countries: Indonesia, Myanmar, Pakistan, Qatar, Saudi Arabia, Sudan, UAE, Uzbekistan, Vietnam, Yemen

TR-13-14 Strategic Management for Petroleum Industry
October 7 – 17, 2014 **Lecturer: Tetsuo Arii**

Content: This course has been newly launched for management of the government or national oil companies (NOC) of oil producing countries. The course covers policy of energy and oil, latest energy and environment technologies, strategies of oil companies, which provide each participant with an opportunity to formulate a strategy of NOC. Lecturers are foremost authorities in the fields and lectures consist of Japanese history of economic development, energy and environment policy, energy industry policy.

<8 countries / 13 participants (incl. 6 directors)>

Participants visited Japanese representative industries, such as oil upstream, oil downstream, engineering, automobile, and heavy industries and studied business strategies and advanced technologies. They also had the opportunities to discuss management strategy directly with the management of the companies.
Subjects include efficient use of oil, efficient power generation, renewable energy, smart community, hydrogen and fuel cell. They could develop their original business plan for their own countries in the workshop session.
At the end, they have an opportunity to have dialogue with director general of METI and share understanding for future cooperation.

Cooperation: Ministry of Economy, Trade and Industry (METI); The Institute of Electric Engineers of Japan (IEEJ); Mitsui Oil Exploration Co., Ltd. (MOECO); Kitakyushu City; Smart Community; Mitsubishi Hitachi Power Systems. Ltd.; Nissan Motor Co., Ltd.; JGC Corporation; Hitachi, Ltd.; Idemitsu Kosan Co., Ltd.; Dazaifu City; Sophia University; Hitotsubashi University; Keio University

Countries: Cambodia, Indonesia, Kazakhstan, Kuwait, Myanmar, Oman, UAE, Vietnam

FY2015 JCCP Course Schedule

In FY2015, JCCP will offer 25 courses, including 21 regular courses (TR) and 4 intensive courses (IT), as shown below.

Course No.	Course Title	Period
TR-1-15	Future Advanced Technology for Petroleum Industry	Apr. 7 – 24, 2015
TR-2-15	Petroleum Marketing	Apr. 13 – 24, 2015
IT-1-15	Material Problems and Their Countermeasures	May 12 – 22, 2015
TR-3-15	Upgrading Processes of Heavy Oil	May 12 – 29, 2015
TR-4-15	[New] Fundamentals and Applications of Instrumentation and Control in the Oil Downstream	May 12 – 29, 2015
TR-5-15	Human Resource Management (HRM)	May 26 – Jun. 12, 2015
TR-6-15	Maintenance Management	May 26 – Jun. 12, 2015
TR-7-15	Advanced Technologies in a Transforming Energy Market	Jun. 1 – Jun. 16, 2015
TR-8-15	Environmental Management for Sustainability	Aug. 25 – Sep. 11, 2015
TR-9-15	Reliability Enhancement and Maintenance Management of Rotary Machinery	Aug. 25 – Sep. 11, 2015
TR-10-15	Advanced Technology and Control System of Power Generation Facilities	Aug. 25 – Sep. 11, 2015
TR-11-15	Project Management for High Value-Added Petroleum Industry	Sep. 29 – Oct. 16, 2015
TR-12-15	Practical Training for Young Instrument and Control Engineers	Sep. 29 – Oct. 30, 2015
IT-2-15	Finance and Accounting Management	Oct. 13 – 23, 2015
TR-13-15	Strategic Management for Petroleum Industry	Oct. 20 – 30, 2015
TR-14-15	Human Resource Development (HRD)	Nov. 2 – 19, 2015
TR-15-15	Current Situation and Future Perspectives of LNG Technology	Nov. 2 – 19, 2015
IT-3-15	Latest Technologies for Power Plant Turbines and Boiler Systems	Nov. 9 – 19, 2015
IT-4-15	Turnaround and Inspection	Nov. 24 – Dec. 4, 2015
TR-16-15	Wide Scope of Downstream Safety Management	Nov. 24 – Dec. 11, 2015
TR-17-14	Utilization of Information and Control Systems in the Oil Downstream	Nov. 24 – Dec. 11, 2015
TR-18-14	Petroleum Distribution	Jan. 12 – 29, 2016
TR-19-15	Inspection and Reliability Evaluation	Jan. 12 – 29, 2016
TR-20-14	Quality Management of Refinery Products	Feb. 9 – 26, 2016
TR-21-14	Advanced Process Control on DCS	Feb. 9 – 26, 2016

Marketing & Distribution of Oil Products, Personnel Management

Oil Refining Processes

Facility Maintenance

Computer and Instrumentation Control Technologies

Signing Ceremony for the Joint Project on the Construction of a Refinery Maintenance System in Saudi Arabia

Between the 1970s and 1980s, Japanese companies have engaged in the construction of a large number of oil refining facilities in the Middle East region. As these facilities have been in operation for many years since their construction, state-run oil companies in Middle East oil-producing countries are now showing increasing interest in their maintenance. Against this backdrop, JCCP has launched projects on the maintenance of refinery facilities in Kuwait and other Middle East countries, and has garnered extremely high praise from the beneficiary countries. Thus, it is exploring the possibility of horizontally expanding the technical cooperation project even further.

As part of the effort to further expand the technical cooperation project, JCCP has established a relationship with Saudi Aramco and has made preparations for the commencement of a technical cooperation project on the maintenance of refineries and other oil refining facilities.

The "Project Finding Program on the Construction of a Refinery Maintenance System in Saudi Arabia" was thus launched as part of JCCP's FY2013 Project Finding Program, and has been upgraded to a joint project in fiscal 2014.

Project efficiency is being pursued not only by consulting with Saudi Aramco's Juaymah Natural Gas Liquid Fractionation Department (JNGLFD), but also by collaborating and consulting with Aramco Asia Japan (AAJ).

Revolving around the technical keywords of "Risk Based Inspection" (RBI), the project aims to assess the size of risks to plants, facilities and equipment by block and to inspect and repair them based on that assessment. This inspection method was first used in the oil plants of major oil companies, and was later applied to petrochemical and power generation plants as well. Furthermore, the technology has been disseminated throughout the world and introduced to general oil refining facilities also at Saudi Aramco.

As the RBI method by API is based on case examples of accidents and statistical analyses, the RBI method by API has not been applied to LNG and LPG facilities, for which there are extremely few examples of accident cases. Additionally, as there are many countries where open inspection of LNG and LPG facilities is not legally required, it is common practice throughout the world not to conduct open inspections even if facilities have been in operation for 20 to 30 years after their construction. However, from the perspective of facility management, not conducting an open inspection of such tanks is unsafe, and the introduction of an alternative inspection method was therefore sought.

Meanwhile, the High Pressure Institute, Japan

Signing ceremony (Mr. Abdulrahim S. Al-Ghamdi, Acting General Manager, and Mr. Tsukidate, General Manager, JCCP)

Exchanging of commemorative gifts (Mr. Abdulrahim S. Al-Ghamdi, Acting General Manager, and Mr. Tsukidate, General Manager, JCCP)

(HPI) and Japanese companies have developed an RBI inspection method for LNG and LPG tanks and related facilities, and have begun their introduction to facilities in Japan. The possible introduction of this technology has been discussed with Saudi Aramco's JNGLFD, and as a result, arrangements were begun to introduce RBI to propane and butane tanks in an LPG shipping base in Juaymah.

HPI and IMC commenced deliberations on analyzing the damage mechanism of LPG tanks operated by Saudi Aramco's JNGLFD and fine-tuning HPI's RBI program to the LPG tanks during fiscal 2014. Based on this deliberation, Saudi Aramco's JNGLFD and JCCP held a ceremony for signing an agreement for the project on August 25, 2014.

An outline of the project is as follows.

(1) Term of agreement:
FY2014 – FY2016 (3 years)

(2) Signer representing JCCP:
Mr. Tsukidate, General Manager, Technical Cooperation Dept.

(3) Signer representing Saudi Aramco:
Mr. Abdulrahim S. Al-Ghamdi, Acting General Manager

(4) Main issues to be examined:
Introduction of the RBI system to LPG tanks at JNGLFD
Examination of Corrosion under Insulation (CUI) of the LPG shipping pipeline

(5) Attendees from Japan:
Mr. Sakai, Chairman, HPI
Mr. Kihara, Special Researcher, HPI
Mr. Shimura, Corporate Officer, IMC
Mr. Tsukidate, General Manager, JCCP
Mr. Nobayashi, Councilor, JCCP

Posing for a group photo after the ceremony

The signing ceremony began with opening remarks from Saudi Aramco, followed by speeches from Saudi Aramco and JCCP regarding the project. As a matter of special note, a member from the Inspection Engineering Unit gave an impromptu speech, stating that since Saudi Aramco has some 200 LPG tanks, the results of the recent study should definitely be considered for introducing the RBI system to the tanks in the future. This statement was taken as expressing Saudi Aramco's strong interest in the project concerned.

JCCP, for its part, expects the recent deliberations to promote the widespread application of Japan's technologies to Saudi Aramco's LPG tanks. Furthermore, through implementation of the upcoming project, JCCP hopes to strengthen its relationship with Saudi Aramco and AAJ, and to organically link together JCCP's training activities and technical cooperation projects for further promotion of the two principal activities.

<by Yukio Nobayashi, Technical Cooperation Dept.>

Project Finding Program for "Feasibility Study for Applying Guided Wave Inspection to Oil & Gas Pipelines (Indonesia)"

This project finding program is being implemented in Indonesia as a JCCP Technical Cooperation Project funded by the subsidy of the Ministry of Economy, Trade and Industry (METI) for projects in oil-producing countries. PT Pertamina Gas is JCCP's counterpart in Indonesia, and Hitachi Power Solutions Co., Ltd. is the main participating company from Japan.

1. Background

Pipeline security is a priority issue to oil companies in oil-producing countries. Thus, various safety measures are taken in compliance with strict laws and regulations on the planning, design, installation, operational functions and inspection of pipelines. As any corrosion that occurs on the inner or outer surfaces of pipes could develop into a leak accident, environmental pollution, productivity decline, or other such serious matter, pipeline managers have an important responsibility to inspect pipelines regularly and confirm their strength and soundness.

Pipelines are not always easy to inspect, since many segments are buried underground or suspended overhead and allow only restricted access. Conventionally, such pipelines were inspected by digging up areas where they are buried underground or installing a scaffold where they are suspended in the air, and using an X-ray or ultrasonic wave from the outside to inspect both the inside and outside of the pipes. However, this method simply allows a spot check of restricted locations, and does not allow accurate assessment of entire pipeline conditions.

Kick-off meeting with Pertamina Gas executives

To supplement the above issue, an inspection pig is commonly used to perform pipeline inspections, with good results. However, using an inspection pig entails shutting down a plant and installing a pig launcher/receiver and slag catcher, removing sludge and other contamination from inside the pipeline using a cleaning pig, and verifying the passage of the inspection pig using a profiling pig. Even after running an inspection pig through the pipeline, leak and pressure testing needs to be performed.

The guided-wave inspection introduced in this project eliminates such troublesome tasks, and allows a wide range of inspection that includes the conditions of buried, aerial and insulation pipelines from a single location. It can provide high-speed screening of pipelines without shutting down a plant.

2. Guided-Wave Non-destructive Inspection

Non-destructive inspection using guided waves allows pipelines to be simultaneously inspected over a wide range by transmitting guided waves at a frequency of one to several kilohertz around entire pipes in the axial direction. In the project finding program, this technology was used to examine and locate pipe-wall thinning along a pipe approximately 100 meters long.

Fig. 1 shows a guided-wave non-destructive inspection apparatus. A ring sensor is attached to the circumference of a pipe to generate and transmit guided waves along the pipe. If any thinning is detected, the waves are reflected back to the sensor, and the sensor identifies the location of the thinning from the reflected signal.

Fig. 2 shows a measuring example. It is the result of an

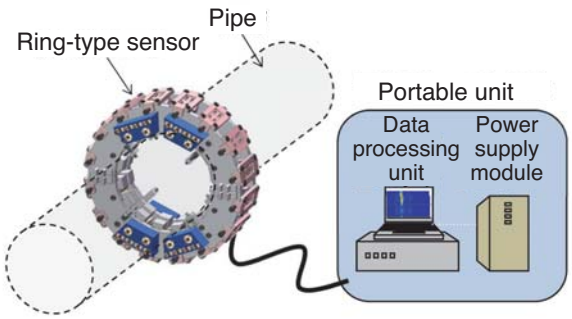

Fig. 1: Guided-wave non-destructive inspection equipment

inspection test performed on a pipe that has a bend in one location and artificial scratches in various directions and shapes. The result shows that the locations of scratches A, B and C after the bend have been accurately identified by guided-wave inspection. This inspection method can also identify the angle of a scratch along a pipe.

3. Progress of the Project

This project was initially launched last fiscal year as a basic project finding study, and began by introducing the guided-wave non-destructive inspection technology to Pertamina Gas last December. At the same time, hearings were held to assess issues Pertamina Gas faces in regard to pipeline inspection technologies, with the result that (1) only the important parts of submarine and buried pipelines are inspected, because a complete inspection requires time and is costly; (2) there are obstacles to inspection of pipelines in high places, as a scaffold needs to be erected and heavy inspection tools must be carried up; and (3) it is difficult to inspect pipelines that are in operation at high or low temperatures. The project verified that there is large, potential demand for guided-wave non-destructive technology, and members of Pertamina Gas realized that the technology could be extremely beneficial in addressing their pipeline inspection issues.

The project was upgraded to a project finding program this fiscal year, and kicked off on May 14 with meetings with executive officers and project managers at Pertamina Gas. In the kick-off meeting with corporate executives, Mr. Wahyudi Satoto, Operational Director, represented Pertamina Gas in extending his heartfelt gratitude to the Japanese side for its cooperation in paving the way up to the day's meeting, and expressed the company's strong expectations for the project and its successful completion. In the subsequent kick-off meeting with project managers, the Japanese side gave a general overview of the project plan for this fiscal year, and engaged the members in an active Q&A discussion.

On July 10, 2014, an onsite inspection tour was held to examine the actual natural gas pipelines in question. Of the 12-inch pipeline connecting Mundo LNG Plant and Balongan Refinery, a spot approximately 200 km east of Jakarta, where aboveground and underground pipes connect with each other, was inspected.

At the inspection site, a hearing survey was first conducted in the regard to the material, thickness, etc. of the pipeline and corrosion countermeasures, followed by a variety of measuring surveys (pipe thickness, welding build-up inside the pipe, etc.) and samplings of soil. As a result, it was found that the pipeline is not greatly different from those in Japan, and a good prospect was obtained for proper application of said technology.

Based on the data obtained, preparations are being made to reproduce the soil environment of the buried pipeline in a "mock-up test" and perform an economic assessment of whether or not the guided-wave non-destructive inspection technology would be effective.

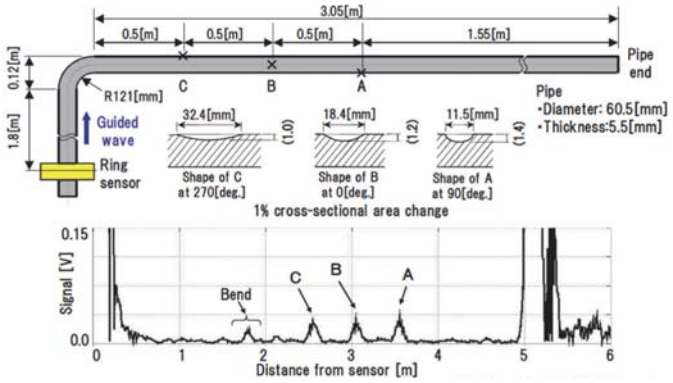

Fig. 2: Example of inspection by guided-wave non-destructive inspection

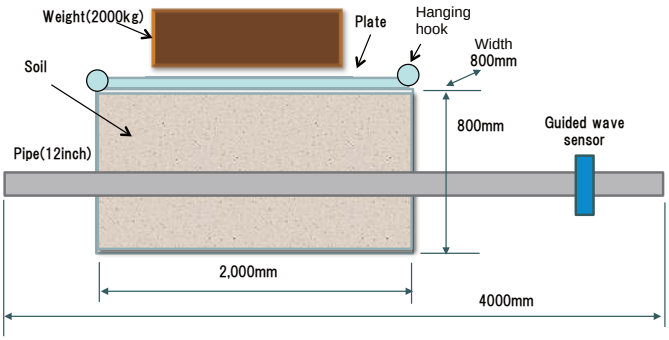

Fig. 3: Schematic diagram of the mock-up test

4. Future Outlook

Hereafter, a mock-up test will be performed at a Hitachi Power Solutions plant to measure the degree of attenuation of the guided waves transmitted along the pipeline, by passing the piping that was inspected onsite through a casing, filling the casing with soil similar to that found onsite, applying a load from above, and measuring the attenuation according to the difference in load (Fig. 3). The result will be used to obtain the measurement interval necessary for guided-wave non-destructive inspection, and based on the data obtained, the economic efficiency of applying the technology at the site of the onsite inspection will be assessed to determine whether or not to implement a joint project next fiscal year.

It is hoped that this project will measure up to the expectations of all parties involved and transition to a joint project next fiscal year. It is also expected to contribute to enhancing pipeline inspection technologies in Indonesia and to play a role in strengthening relations between Indonesia and Japan.

<by Tsuyoshi Ota, Technical Cooperation Dept.>

Technical Cooperation

Project Finding Program for Management of Environmental Safety, Operations and Quality in the Oil Refining Sector in Myanmar

This is a project implemented as a JCCP Technical Cooperation Project funded by a subsidy of the Ministry of Economy, Trade and Industry (METI) for projects in oil-producing countries, with the cooperation of JX Nippon Oil & Energy Corporation and JX Nippon Research Institute, Ltd.

1. About Myanmar

The Republic of the Union of Myanmar is a multi-ethnic country with a population of 51 million mainly engaging in agriculture in a 680,000-km^2 land area (roughly 1.8 times as large as Japan). It stretches vertically from north to south in the western part of the Indochina Peninsula, and is bordered by many countries, including China to the northeast, Laos to the east, Thailand to the southeast, Bangladesh to the west and India to the northwest. The capital was previously located in Yangon (old name: Rangoon) in the south, but was transferred to Naypyidaw in the central part of the country in 2006.

The country's per capita GDP was 868 dollars in

2012, corresponding to roughly 2% of that in Japan, but with an economic growth rate of 6%, it is garnering expectations of future growth.

2. Development of the Project

JCCP has never implemented a joint technical cooperation project with Myanmar to date, so this project marks the first such undertaking in the country. The counterpart is Myanma Petrochemical Enterprise (MPE), a national oil company that operates two refineries in central Myanmar (Tambayan, Chauk) and one in southern Myanmar (Yangon), which have a combined refining capacity of 51,000 b/d. The facilities are aging and there are calls for the construction of a new refinery, but at the same time, technical support is sought to achieve efficient operation of existing facilities. Furthermore, as there are also demands to formulate oil product standards in the future, quality management is an important theme for future consideration.

The project finding program has held two meetings so far in Myanmar regarding its implementation as a joint project, and MPE and the participating companies from Japan have exchanged views on issues presently facing Myanmar and MPE, along with ideas for their solution.

In the first meeting held in May, the participating companies examined and discussed the importance of four future themes of the project with MPE, namely 1) quality management, 2) environmental management and standards, 3) safety management, and 4) formulation of future oil and energy demand-supply plans. During the meeting, MPE members explained that Myanmar has been aiming to deliver oil products to end consumers in good quality, and expressed their wish to learn from Japan's initiatives. They then replied to the participating companies that they wish to select "quality management of oil products" as the main theme for the project next year.

In the second meeting, discussions focused on MPE's specific needs regarding quality management. As a result, MPE noted that it mainly wishes to pursue the following topics, and requested future assistance through the project.

(1) Quality management system
International quality management systems, quality management systems employed in Japan, and related initiatives

Meeting with MPE

(2) Quality management policies, etc.
Quality management policies, framework and specific standards in head offices and refineries of Japanese oil companies

(3) Role of quality management departments
Organizational structure of quality management departments in refineries and their focus on assessing quality management

In addition to the above, MPE also requested detailed support in related themes, including oil product storage standards and measures for improvement of gasoline octane rating. Such requests indicated MPE's wide-ranging expectations of Japan's support in this project.

Moreover, as MPE has a close relationship with the Myanmar Ministry of Energy (MOE), technical assistance through this project was also expected to strengthen relationships with governmental institutions in Myanmar.

3. Future Issues

Discussions with MPE have so far revealed that quality management is an issue of pressing concern to MPE. Thus, the four themes presented by the participating companies are themes that should be addressed in Myanmar, and continuous discussions will be held with MPE regarding their importance. It is hoped that by achieving its initial objective, the project will contribute to further promoting the friendly relationship between Myanmar and Japan in the future.

<by Osamu Nonaka, Technical Cooperation Dept.>

Researcher Invitation Program

Among the researchers invited to Japan under the FY2014 Researcher Invitation Program, three researchers, from King Fahd University of Petroleum and Minerals (KFUPM) in Saudi Arabia, United Arab Emirates University (UAEU) in UAE, and King Abdulaziz City for Science and Technology (KACST) in Saudi Arabia, subsequently visited JCCP to report on their research achievements. The researchers pursued their respective research themes with the cooperation of the Japan Petroleum Institute and their host university in Japan. JCCP extends its deepest gratitude to all university laboratories and the Japan Petroleum Institute for their generous cooperation.

1. King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia (Aug. 7)

Researcher:
Dr. Palani Arudra, Research Scientist III, Center for Refining & Petrochemicals Department, KFUPM
Host institution:
Hokkaido University Graduate School of Engineering, Division of Chemical Process Engineering; Prof. Takao Masuda
Study period:
July 1 – August 6, 2014
Research theme:
"Catalytic cracking of C6 olefins using large crystal with high silica ZSM-5 and ZSM-11"

Dr. Palani Arudra, Center for Refining & Petrochemicals Department, KFUPM

2. United Arab Emirates University (UAEU), UAE (Aug. 21)

Researcher:
Dr. Mohammad Sayem Mozumder, Assistant Professor, Chemical and Petroleum Engineering Department, UAEU
Host institution:
Kagoshima University Graduate School of Science and Engineering; Prof. Toshio Tsutsui
Study period:
July 14 – August 20, 2014
Research theme:
"Effects of the type and structure of zeolites and reaction condition on the selectivity for aromatics, light olefins, or multi-branched gasoline compounds in the catalytic cracking of petroleum or vegetable oil"

Dr. Mohammad Sayem Mozumder, Chemical and Petroleum Engineering Department, UAEU

3. King Abdulaziz City for Science and Technology (KACST), Saudi Arabia (Sept. 24)

Researcher:

Mr. Nasser Judaya N. Alqahtani, Assistant Researcher, Petrochemicals Research Institute, KACST

Host institution:

Kyoto University Graduate School of Engineering; Prof. Koichi Ohe

Study period:

August 1 – September 22, 2014

Research theme:

"Transition metal-catalyzed synthesis of heteroaromatic compounds"

<by Sadao Wada, Technical Cooperation Dept.>

Mr. Nasser Judaya N. Alqahtani, Petrochemicals Research Institute, KACST

KISR Receives JPI Award for Invaluable International Cooperation

Kuwait Institute for Science and Research (KISR), a long-standing partner of JCCP technical cooperation projects in Kuwait, has received the FY2013 Award for Invaluable International Cooperation from Japan Petroleum Institute (JPI), an international authority in the field. KISR was recognized for the following, as explained by JPI.

Among the activities implemented by Kuwait and Japan from the perspective of strengthening relations in the oil sector are the Kuwait-Japan Joint Symposium, which has been organized every year since 1993, and the invitation program for researchers from oil-producing countries, offered every year since 1995.

The former is a seminar on oil refining processes hosted jointly by KISR, JCCP and JPI. It contributes significantly to seeking solutions to technical issues in Kuwait's oil industry through presentations and discussions by researchers representing Kuwait and Japan.

The latter is a program in which researchers in oil-producing countries who are nominated by their own institution, dispatched to Japan over a period of a couple of months to pursue their field of study at a university and/or a corporate research institution in Japan. A couple of researchers from KISR participate in the program every year. In addition to the above, since 2007, KISR has invited Japanese researchers on oil-refining process to Kuwait for research consultation.

Such achievements by KISR have received high commendation from the Kuwaiti government, and have also indirectly led to the Kuwaiti government's high appreciation of Japan. The fruits of technical and personal exchanges borne over many years in cooperation with KISR can be expected to bear even bigger fruits and further develop the two countries' friendly relationship into the future.

Consequently, KISR has played a central role in promoting technical and personnel exchanges between Kuwait and Japan over many years, and is recognized for its achievements as a deserving recipient of the International Cooperation Award.

Overseas recipients of the International Cooperation Award in the past include Dr. Khaled S. Al-Sultan, Rector of King Fahd University of Petroleum and Minerals (KFUPM) in Saudi Arabia, who received the Award for Invaluable International Cooperation in 2007, and UAE's national oil refining company TAKREER in Abu Dhabi, which received the Award for International Technical Cooperation as an organization in fiscal 2009.

H.E. Dr. Naji Al-Mutairi, Director General of KISR, attended the award ceremony held on May 27 and received the award in person. H.E. Mr. Abdul-Rahman Al-Otaibi, Kuwaiti Ambassador to Japan, also attended the ceremony as an eyewitness.

(From the left) Yutaka Yamada, (then) Chairman of JPI;
Dr. Meena Marafi, Executive Director of the KISR Petroleum Research Centre (PRC);
Dr. Naji Al-Mutairi, Director General of KISR; and
H.E. Mr. Abdul-Rahman Al-Otaibi, Kuwaiti Ambassador to Japan

<by Sadao Wada, Technical Cooperation Dept.>

Our Technical Cooperation in Oil-Producing Countries and Expectations of JCCP

Third Contributory Article: JX Nippon Oil & Energy Corporation

Mr. Takaaki Koide
Senior Manager, Overseas Technology Group
Technical & Engineering Service Dept.
JX Nippon Oil & Energy Corporation

1. Birth of the JX Group and JX Nippon Oil & Energy Corporation

JX Holdings was established on April 1, 2010 by the merger of the business management department of Nippon Oil Corporation and Nippon Mining Holdings, Inc. On July 1 of that year, the three companies of Nippon Oil Corporation, Nippon Petroleum Refining Co., Ltd. and Japan Energy Corporation under JX Holdings merged to form a new petroleum refining and marketing company called JX Nippon Oil & Energy Corporation.

As a core business company of the JX Group, JX Nippon Oil & Energy manufactures and markets petroleum and petrochemical products. It also engages in the energy business centered on non-petroleum and non-petrochemical fuels, including the import and sale of liquefied natural gas and coal and the sale of fuel cells and Enefarm systems, as well as provides services as an independent power producer (IPP) and power producer-supplier (PPS) by utilizing wind power generators installed in power plants and oil depots attached to refineries and factories.

The JX Group comprises three core companies that engage in diverse business fields. In addition to JX Nippon Oil & Energy, they include JX Nippon Oil & Gas Exploration, which undertakes oil exploration and production, and JX Nippon Mining & Metals, which engages in the development of copper and other resources, smelting and refining, electronics materials processing and recycling and environmental services.

Lecture session

2. JX Energy's Technical Cooperation in Oil-producing Countries

JX Energy's relationship with JCCP is based on training programs and technical cooperation projects on environmental technologies. As a central pillar of technical cooperation to oil-producing countries, training programs mainly on oil refining technologies have been implemented continuously for national oil companies in oil-producing countries since fiscal 2007, with the objective of contributing to human resource development in these countries. To date, the programs have received more than 550 participants from Iraq and Kuwait. In fiscal 2013, training programs for Myanmar have been launched as part of the effort to strengthen relations with oil-producing countries in Southeast Asia, which are expected to become significant presences in the future, and onsite training at refineries is thus being implemented on a continuous basis for state-run oil refining companies in the country. An introduction to such training programs by JX Energy is outlined in detail below.

3. Introduction of JX Energy Training Programs

JX Energy's training programs enjoy a good reputation in oil-producing countries, likely for their

following characteristics.

(1) They are designed and operated in response to the needs of each beneficiary country.
(2) They provide an organic combination of lectures, inspection tours, offsite training and workshop-style discussions.
(3) They incorporate Japanese-style management practices and thought processes.
(4) They are consistently improved based on participants' views and feedback.

Offsite training

With respect to the first characteristic, that JX Energy's training programs are designed in response to specific needs, JX Energy has indeed given careful consideration to respond to diverse training needs in oil-producing countries. Efforts are made to organize, propose and provide effective and meaningful training plans that satisfy needs by holding meetings with executive officers in oil-producing countries on a regular basis to assess their training needs. As a result of responding to individual needs, courses have been offered on diverse themes. The following chart shows some of the representative courses that have been offered so far in the major areas of refinery management, process technologies, maintenance, and operator training. As training needs sometimes go beyond the content of training and extend to the quality of accommodations and meals, efforts are made to ensure flexible responses.

The second characteristic is that our training programs offer a combination of lectures, offsite training and discussions. Courses offered in the management, process technologies and maintenance fields, in particular, include lectures, inspection tours and offsite training at relevant vendors and factories, and a workshop-style discussion session. Careful consideration is given to create a comprehensive training experience, by making certain that the contents of lectures, tours and site visits mutually complement each other, and that they provide information that will stimulate discussions in the workshop. In courses offered for operator training, classroom lectures and practical training are both provided at our training plant. As the training plant uses water and nitrogen, thus any potential training-related danger is eliminated. At the same time, it provides training that is as close as possible to actual operations by connecting a training-dedicated DCS, a simulator or onsite facilities such as pumps and valves. Training thus ranges from basic operations, such as the startup/shutdown of pump operations and valve switching operations, to the startup/shutdown and emergency response of the entire plant.

The third characteristic is the incorporation of Japanese-style practices. Our training programs introduce

Field	Course title
Refinery management	Refinery Management
	Environmental Management
	Refinery Production Management
	Advanced Refinery Management
	Petroleum Market and Production Planning
Process technologies	Catalytic Unit
	Upgrading Process Technology
	CDU Operation / Coker / Wax
	Lube Oil Modern Technology
	Technology in Evaluation of Lube Oil, Wax, Grease and Additives
	Utility and Power Plant
	Safety Enhancement and Fire Fighting Activities
Maintenance	Rotary Machinery Engineering, Piping and Tank
	Maintenance and Inspection for Stationary Equipment
	Basic of Maintenance and Inspection
Operator training	Practical Refinery Plant Operation

Japanese-style management practices that are implemented by our refineries, including Japanese-style operational management, production management and environmental and safety management, the 5S system, the analysis method of fundamental causes ("naze-naze" analysis), and human resource development methods (small group activities, on-the-job training, off-the-job training). Furthermore, discussions and interactions are held between refinery managers/engineers and participants, as forums for enhancing the training experience, as well as for deepening international exchanges.

The fourth characteristic is the continuous improvement of training contents. Based on the PDCA principle, we place importance on the cycle of formulating a plan, implementing the plan, confirming and reviewing the results of training, and incorporating the results of the confirmation and review in subsequent programs, and apply this cycle to all of our programs. Furthermore, in addition to receiving participants' feedback in the form of a questionnaire, a general exchange of views is held with all participants after completion of each program. Based on the feedback thus obtained, regular meetings are held with executive officers in oil-producing countries, to elicit additional requests from them and present proposals from JX Energy in a further effort to satisfy training needs in oil-producing countries.

As a result of such continuous efforts, we are able to implement training that participants appreciate as being highly fruitful, and owing to the participation by members of diverse positions and fields, we have built a wide-ranging network of personal connections, and thereby believe we are making some contribution to the stable supply of crude oil. Our next challenge is to widely link the experience we have so far cultivated with visible results.

Please note that the planning and operation of our training programs is made possible by the framework of cooperation with the Training Department at JX Nippon Research Institute, Ltd., which undertakes the planning and operations of various training schemes for the entire JX Group.

4. Expectations of JCCP

As you know, the oil industry in Japan and around the world is facing difficult times today. Private oil companies in Japan are making ongoing efforts to secure a profit despite decreasing demand in Japan, but are at the same time conscious of the urgency of expanding their business overseas. Under this situation, maintaining cooperation and ties with oil-producing countries is a structural issue for private oil companies. It is important not only from the perspective of ensuring stable procurement of crude oil, but also from the perspective of expanding oil refining and marketing businesses overseas and of advancing into the overseas oil upstream sectors, including the oil and natural gas exploration and development sector. As a company that invests in the upstream sectors mainly in Southeast Asia, JX Energy recognizes the importance of strengthening ties with Southeast Asian oil-producing countries also from the perspective of expanding the oil refining and marketing business, and places primary importance on building personal networks. However, we realize there is a limit to what we can do at the private sector level, and are thus aware that the above-mentioned training programs have been made possible thanks to the underpinning provided by JCCP and its schemes. In our future efforts to strengthen relations with oil-producing countries, we wish to take comprehensive advantage of JCCP's schemes, including training courses, technical cooperation programs, and dispatch of experts, as we aim to establish even more fruitful relationships of cooperation with oil-producing countries.

At the same time, in order for private companies to be able to link JCCP-supported training programs and projects to future business opportunities in oil-producing countries, more weight could perhaps be placed not only on "JCCP" and "Japan," but also on training programs and technical cooperation projects that create a strong impression of the names of each participating company in the beneficiary country. We expect that placing emphasis on such activities would lead to overseas business expansions that are even more fruitful to JCCP, private companies and Japan's energy industry alike.

5. Summary

We believe that continuation is extremely important to reaping the results of human resource development through technical cooperation and training and the results of building personal networks. It is certainly a tribute to JCCP's long years of support and guidance that we have been able to continue offering training programs and technical cooperation projects to oil-producing countries over so many years. We wish to take the opportunity of this article to express our deepest gratitude to JCCP and ask for its continued support into the future.

Participation in the 21st World Petroleum Congress in Moscow

The 21st World Petroleum Congress Moscow was held over a period of five days, from June 15 to 19, 2014, in Moscow, Russia.

1. Overview

The World Petroleum Congress, held every three years, is the world's largest forum for the presentation of information and research achievements related to the oil industry and oil technologies, and provides a forum for deepening exchanges among the participants. Organized around the main theme of "Responsibly Energising a Growing World," this year's event brought together some 17,000 attendees (according to the WPC Secretariat). The exhibition part of the event was represented by some 4,800 delegates from 80 countries, including approximately 140 members from nine Japanese companies and organizations. JCCP also participated in the exhibition, represented by J. Nishimura, Director of the Middle East Office, and Y. Tsujimura and M. Iwase from the Planning and Public Relations Group, Administration Department.

Venue of the 21st World Petroleum Congress: Crocus Expo, Exhibition Center

JCCP's booth

(At JCCP's booth, from the left)
Mr. Junichi Hatano, Secretary General, Japan National Committee for the World Petroleum Council
Mr. Yasushi Kimura, Chairman, JX Holdings Inc.
Mr. Akihiko Tembo, Chairman, Japan National Committee for the World Petroleum Council
Mr. Masataka Sase, Executive Director, JCCP
Mr. Naoki Kuroda, Vice Chairman, Japan National Committee for the World Petroleum Council
Mr. Takashi Tatsumi, Vice Chairman, Japan National Committee for the World Petroleum Council
Mr. Fumiaki Watari, Advisor, JX Holdings Inc.

2. Overview of JCCP's Participation

As the World Petroleum Congress boasts a membership representing the world's major countries and provides a forum that promotes horizontal connections among members from the world's oil industries, JCCP set up a booth at the event with expectations of meeting past participants of JCCP training courses and important figures who have been involved in JCCP programs, and with the goal of strengthening JCCP's profile in Russia, the host country of this year's event.

3. Exhibition

JCCP's booth featured a design that incorporated various aspects of traditional Japanese culture. In addition to erecting a wooden watchtower adorned with paper lanterns, a large, beautiful visual of Mt. Fuji with a cherry tree in bloom was applied to the expanse of wall inside the booth to provide the perfect backdrop for taking pictures. By inviting visitors to take a picture with Mt. Fuji and the cherry tree in the background and giving them a printout of the photo on the spot, JCCP's booth attracted a total of some 300 visitors in four days.

On June 16, the booths of the nine Japanese companies and organizations that participated in the exhibition* received a visit from Mr. Akihiko Tembo, Chairman of the Japan National Committee for the World Petroleum Council, and other principal members of the committee, who seemed impressed with the portrayal of Japanese culture using a visual of Mt. Fuji and a cherry tree in JCCP's booth.

* (in visiting order) Yokogawa Electric Corporation; the Japan National Committee for the World Petroleum Council; Chiyoda Corporation; Japan Oil, Gas and Metals National Corporation; JGC Corporation; Inpex Corporation; Japan Cooperation Center, Petroleum; JX Nippon Oil & Energy Corporation; Idemitsu Kosan Co., Ltd.

4. Observations

The World Petroleum Congress has a membership representing the world's major countries, and is attended by large numbers of people from well-known oil-related industries around the world. Thus, even though the recent event was held in Moscow, where there are few JCCP alumni and parties involved in JCCP programs, JCCP delegates were able to meet with past participants and key figures who have taken part in JCCP programs in the past and confirm their current whereabouts. As a result, they found that many alumni have gone on to assume important posts and are now playing an active role in their respective departments.

As the photo opportunity that was offered to attract visitors to JCCP's booth contributed to keeping a record of visitors, and reunions with JCCP alumni allowed JCCP to confirm and update their current contact information, setting up a booth at the World Petroleum Congress proved to be a meaningful undertaking for JCCP.

Mr. Mostafa Kashkouli, Managing Director, National Iranian Oil Company (NIOC) (left)
(Participated in physical distribution courses in 1999 and 2004)

Mr. Buranin Rattanasombat, Vice President of International Marketing Dept., PTT (left)
(Participated in a petroleum marketing course in 2005)

<by Masako Iwase, Administration Dept.>

The 33rd JCCP International Symposium

The JCCP International Symposium is held annually in Japan, bringing together oil experts from oil-producing countries to promote dialogue and cooperation between those countries and Japan. This fiscal year, it will be held as shown below.

■ Date & Time: January 21, 2015 (Wed.)

13:30 – 14:00	Registration
14:00 – 17:30	Opening Ceremony
	Leaders Panel Discussion
18:00 – 20:00	Reception

January 22, 2015 (Thur.)

9:00 – 9:30	Registration
9:30 – 12:00	Session 1
13:30 – 16:05	Session 2

■ Venue: The Prince Park Tower Tokyo Ball Room, B2 Floor
(http://www.princehotels.co.jp/parktower/)

■ Main Theme: "Sustainability and International Cooperation in the Petroleum Industry"

■ Session Themes: [Session 1] "Advances in HR Development"
[Session 2] "Challenges for Advanced Technology"

■ Program & Panelists: To be announced on our website (http://www.jccp.or.jp)

■ Contact: International Symposium Secretariat
Mr. Koichi Io, Operations Dept.
Tel: (81)-3-5396-6001 Fax: (81)-3-5396-6006
E-mail: symposium@jccp.or.jp

Please Help Us Update Our Roster

Thank you for reading *JCCP NEWS* as always.

JCCP has reached a significant milestone in its history and celebrated 30 years of operations in 2011. In commemorating this achievement, we extended our deepest appreciation to you all for your support and cooperation in our activities.

All of you who have participated in a JCCP training program in the past (graduates) are a precious asset to JCCP. We therefore wish to take this occasion to confirm your current addresses and update our roster of former participants so that we may reconnect and maintain contact with you into the future.

Our current roster mostly shows information that you provided at the time you participated in a JCCP training program, and could be outdated by now. If there have been any changes in your affiliation (position), email address, or any other contact information, we ask that you provide the latest information on the attached form and return the form to JCCP's Planning & Public Relations Group. Those of you who return the form to us are entitled to receive the latest issues of *JCCP NEWS* and announcements and invitations to exhibitions and reunions.

Also, if you know of anyone who is a former participant but is not receiving copies of *JCCP NEWS*, or anyone who wishes to update his/her contact information, we would appreciate it if you would forward this message and the attached form to that person.

Please Send Us a Message as Alumni

Future issues of *JCCP NEWS* will feature a new section for messages from alumni. Please send us the latest news about what you are up to or photos that you wish to share with others. The Planning & Public Relations Group looks forward to hearing from you.

Thank you for your cooperation.

Registration Form for JCCP Course Graduates

Please fill in the form below and return it to JCCP.
Please contact us if you wish to obtain the form in MS Word format.
E-mail: planning@jccp.or.jp or FAX: 81-3-5396-6006

1. Full Name			
2. Country (Current place of residence)			
3. Nationality			
4. Name of Organization/ Company			
5. Refinery/Department/Section			
6. Title/Position			
7. Mailing Address			
8. Telephone		9. Email	
10. Fax		11. Telephone (mobile)	
12. Date of Birth (This is necessary to eliminate redundant registrations)			
13. JCCP Course you have attended in the past	Course No.: Year: Course Title:		

Signature _____ Date _____

Update or Change of Address
Cancellation of Subscription

If there have been changes in your mailing address, affiliation or any other contact information, or if you wish to cancel your subscription, please fill out the following form and return it by FAX or E-mail to JCCP's planning and Public Relations Group.

Email: planning@jccp.or.jp or Fax: 81-3-5396-6006

Also contact us if you wish to obtain the form in MS Word format.

Date:	Country:
☐ Change of Address ☐ Cancellation of Subscription	
Old Address	
1. Full Name	
2. Title/Position	
3. Affiliation	
4. Telephone/FAX	
5. Mailing Address	
6. E-mail Address	
New Address	
1. Full Name	
2. Title/Position	
3. Affiliation	
4. Telephone/FAX	
5. Mailing Address	
6. E-mail Address	

Personnel Changes

Incoming Personnel

Counselor

Tadashi SUGAWARA
(October 1, 2014)

Editorial Postscript

We are pleased to bring you the latest issue of *JCCP NEWS*.

As announced in the September issue of this newsletter, there have been changes in full-time board members this past July, prompting this issue to include special messages from Mr. Masataka Sase, Special Adviser, and Mr. Tsuyoshi Nakai, CEO. After assuming the position of CEO of JCCP, Mr. Nakai spent from August to October visiting countries in the Middle East region to exchange greetings with the leaders of their national oil companies. He also used the occasion to engage in active exchanges of views regarding human resource development and technical cooperation in oil-producing countries, as reported in detail in this issue.

Between April and November 2014, a total of 335 participants from oil-producing countries completed 23 JCCP training courses in Japan. They are featured in the Topics section of this newsletter as a new endeavor beginning with this issue.

One of the first items on our agenda for 2015 is the 33rd JCCP International Symposium, scheduled to be held at Prince Park Tower Tokyo on January 21 and 22, 2015. We are expecting a large turnout and hope to see you there.

Yoshishige Tsujimura
Planning and Public Relations Group
Administration Dept.

Japan Cooperation Center, Petroleum (JCCP)

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