

JCCP NEWS

No. 110 2011 September

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Topics

- The 29th JCCP International Symposium
- Executive Meeting in UAE
- Executive Meetings in Saudi Arabia, Kuwait, and Thailand
- Establishment of a Cooperative Relationship with OAPEC
- Visit by the President & CEO of SUDAPET



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Cover photo:
Minoru Horike
(Technical Cooperation Dept.)

Fiscal 2011 JCCP Activities

Masataka Sase
Executive Director,
Japan Cooperation Center, Petroleum (JCCP)



First of all, I wish to offer my deepest condolences to each and every person affected by the March 11 earthquake.

We at JCCP Headquarters in Ikebukuro, Tokyo also felt the tremors that caused our high-rise building to sway considerably. Luckily we suffered little damage, but the elevators in our building did stop and create a minor commotion, so it was fortunate that our fiscal 2010 training programs had finished the previous week and there were no participants at JCCP.

However, in consideration of the occasional aftershocks we had been experiencing in Tokyo and the possible confusion that planned power outages could cause, we canceled or postponed some of the fiscal 2011 programs that were scheduled to be implemented in Japan. We are sorry for the inconvenience we caused everyone who was planning on participating in those training programs, and hope you will accept our apology. We will do our best to place our training programs back on track as quickly as possible, but we are happy to say that our overseas programs (customized programs-overseas; CPO) and technical cooperation projects are being implemented as scheduled.

After the earthquake, we received heartwarming messages of support and encouragement from the management of our counterpart institutions abroad, as well as from people who participated in a JCCP regular course in the past. Their praise of the Japanese people's resilience in the face of disaster both humbled us and reminded us anew that "the world is one."

We will celebrate JCCP's 30th anniversary this

autumn. In the wake of two oil crises, JCCP was established in 1981 through public-private cooperation to mitigate the insecurity of crude oil supplies that are essential to our country's economy. Oil-producing countries had been remote presences to Japan until then, but toward fulfilling the objective of our organization, we have made steady efforts to establish friendly relationships with oil-producing countries by promoting opportunities for interaction among people in the same oil industry.

When looking at the achievements of training programs alone, we see that there are more than 20,000 "JCCP graduates" in 55 countries around the world. Our network with universities and research institutions mainly in the Middle East and GCC countries is also expanding through the implementation of technical cooperation projects.

However, partly owing to our lack of effort and partly due to remarkable economic growth in oil-producing countries and the growth of Asian countries, we are finding that our conventional framework of activities is not wholly sufficient to respond to newly emerging needs. Taking this situation seriously, we came to the awareness that what we foremost need to do is to refine and keep on refining our sensitivity to current trends and circumstances.

As long as petroleum continues to be indispensable to our lives, JCCP will remain committed to promoting smooth personnel exchanges with oil-producing countries. On behalf of JCCP, I wish to ask for your warm support, as we embark on our next ten years.

The 29th JCCP International Symposium

“Sustainable Development of Oil Downstream Industry: For Energy Supply Security”

The 29th JCCP International Symposium was held on January 26 and 27, 2011 under the auspices of the Ministry of Economy, Trade and Industry (METI). Some 400 people from METI, oil-producing countries, foreign embassies in Japan, government offices, domestic firms, and organizations filled the room reserved for the symposium in Hotel Okura, Tokyo.

1. Theme and Objective

The theme of this year’s symposium was “Sustainable Development of Oil Downstream Industry: For Energy Supply Security.” Worldwide population is on the rise, and oil consumption is increasing particularly in emerging countries such as China and India. To save precious oil resources for the next generation, companies and organizations working in the oil downstream sector must strive to use oil efficiently by constantly improving technologies and management.

Based on this common awareness, leading authorities from oil-producing and consuming countries exchanged views on the sustainable development of the oil downstream industry in this year’s symposium.

2. Overview

(1) First Day (January 26): Opening Ceremony

The symposium began at 2:00 p.m. on January 26 with an opening ceremony. Mr. Yaichi Kimura, President of JCCP, delivered an opening address, followed by a greeting from the guest of honor, Mr. Hisayoshi Ando, Director-General of the Natural Resources and Fuel Department, METI.

In his speech, Mr. Kimura reiterated the theme of this year’s symposium and presented a perspective on the issue. He said that the world population is continuing to grow, and petroleum is becoming an increasingly important resource to support the daily lives of this growing number of people. Amid this trend, he said that those of us who work in the oil downstream sector must work hard to develop relevant technologies that would



Mr. Hisayoshi Ando, Director-General of the Natural Resources and Fuel Department, METI, giving a speech as the guest of honor

allow even more efficient use of petroleum so that the future generations of people can also enjoy the wealth produced by oil and lead affluent lifestyles. Mr. Kimura then emphasized that managers in the oil downstream sector have a critical responsibility to do two things—to meet the technological challenges presented in the industry and to develop human resources who will lead our endeavors in the future.

Mr. Ando from METI took the podium next. He said that the long-standing friendship between oil-producing countries and Japan has been instrumental to Japan’s oil security, and expressed his gratitude to all oil-producing countries for their cooperation. He also said that the global oil situation is undergoing major changes and is necessitating prompt and precise responses to such issues as the global economic slowdown, global warming, and changes in the supply-demand situation. Given this situation, he expressed his expectations that relevant parties from both oil-producing and oil-consuming countries will engage in active discussions in this symposium to deepen mutual understanding and relationships, and thereby contribute to ensuring global oil security.

(2) Keynote Speeches

Keynote speeches were given by two speakers. H.E. Mr. Arne Walther, Ambassador, Royal Norwegian



*Dr. Fereidun Fesharaki,
Chairman, FACTS Global
Energy Inc.*



*Ms. Huda M. Al-Ghpson,
General Manager,
Training and Development,
Saudi Aramco*



*Mr. Abdulaziz Alattar,
Head of Office,
KPC Houston, Kuwait
Petroleum Corporation*



*Mr. Masakazu Toyoda,
Chairman and CEO,
The Institute of Energy
Economics, Japan*

Embassy, spoke on “Global Energy Dialogue”; and H.E. Mr. Ahmed A. A. Al-Shamma, Deputy Minister, Ministry of Oil-Iraq, gave a presentation entitled “Refining in Iraq—Present and Future.”

Mr. Walther spoke from his experience as the first Secretary General of the International Energy Forum (IEF), and said that deepening mutual understanding through formal and informal dialogues among producers and consumers of oil is an important key to maintaining a stable energy balance in the future. Mr. Al-Shamma shared Iraq’s future vision of constructing refineries capable of producing Euro-IV compatible oil products through advanced catalytic cracking and establishing a domestic and international supply framework. Summaries of the two keynote speeches are provided on pages 9 to 13 in this issue of *JCCP NEWS*.

(3) Special Lectures

The keynote speeches were followed by four special lectures. Dr. Fereidun Fesharaki, Chairman, FACTS Global Energy Inc., gave a lecture entitled “Future of the Refining Industry in the East of Suez,” and described the future supply-demand balance of crude oil and oil products in the Middle East and Asia-Pacific regions. Mr. Abdulaziz Alattar, Head of Office, KPC Houston, Kuwait Petroleum Corporation, gave a lecture entitled “Future Prospects of Oil Balance in Asia and International Cooperation for the Best Energy Supply Mix of the Future.” He described Kuwait’s commitment to expanding oil supply capacities in the future and its efforts toward achieving the best energy supply mix of the future based on initiatives that address global environmental issues and future prospects of renewable energy sources. Ms. Huda M. Al-Ghpson, General

Manager, Training and Development, Saudi Aramco, gave a lecture entitled “Leadership Development in Saudi Aramco—An Enduring Legacy,” in which she emphasized that human resource development is an important strategic issue that has direct bearing on Saudi Aramco’s development, and that Saudi Aramco will invest generously in discovering and developing outstanding personnel. Lastly, Mr. Masakazu Toyoda, Chairman and CEO, The Institute of Energy Economics, Japan, gave a lecture entitled “Global Energy Outlook and the Importance of Petroleum from the Perspective of Global Warming and Energy Security.” He said that oil will continue to be the most important source of energy in the future, and emphasized that potential risks must be minimized to maintain a stable supply-demand balance through cooperation between oil-producing and -consuming countries, particularly in addressing global warming countermeasures and energy safety and security measures.

(4) Second Day (January 27): Discussion Sessions

The second day featured Discussion Session 1 in the morning, chaired by Mr. Misao Hamamoto, Executive Officer, Manufacturing Division, Showa Shell Sekiyu K.K.; and Discussion Session 2 in the afternoon, chaired by Mr. Shogo Shibuya, Managing Executive Officer, Technology & Engineering, Chiyoda Corporation.

Session 1 panelists each gave a presentation on the theme of “Leadership Development.” Dr. Luis Miguel Rodríguez Otal (Assistant Manager, Process Engineering Division, PEMEX Refinación) spoke about “Managing and Leading a Sustainable Refining Company”; Ms. Juniwati Rahmat Hussin (Vice President, Human Resource Management Division, Petroliam Nasional



Session 1



Session 2

Berhad (PETRONAS)) about “Talent Development—the PETRONAS Experience”; Mr. Andrew Laah Yakubu (Managing Director, Warri Refining and Petrochemical Company (WRPC)) about “Future Vision of NNPC for Comprehensive Hydrocarbon Industry”; Mr. Fahed Fahhad Al-Ajmi (Deputy Managing Director for Finance and Administration, Kuwait National Petroleum Company) about “Structured On-Job Training (S-OJT) Program at KNPC”; and Mr. Yoshitaka Furumatsu (Manager, Training & Business Efficiency Promotion (Group), TOA OIL Co., Ltd.) about “Corporate Innovation and Development of Leaders.”

As chairman of the session, Mr. Hamamoto summarized the panelists’ presentations as follows: All countries are facing severe international competition in the oil downstream sector. Unless efforts are made to innovate technology and management toward creating competitive companies, the oil downstream sector cannot fulfill its social responsibility of providing stable oil supplies. The key to building a strong company lies in human resources and their development. In other words, only by developing human resources can companies achieve growth.

Session 2 panelists each gave a presentation on the

theme, “Technical Management.” Dr. Nguyen Anh Duc (Deputy General Director, Vietnam Petroleum Institute-Petrovietnam) spoke about “Current Status and Future Vision of the Petroleum Refining and Petrochemical Industry of Vietnam”; Dr. Sahel N. Abduljauwad (Professor of Civil Engineering and Vice Rector for Research, King Fahd University of Petroleum and Minerals (KFUPM)) about “Saudi Arabia’s Strategy in Higher Education and R&D for the Future of Hydrocarbon Processing Industry”; and Mr. Kazuo Matsuda (General Manager, Energy Frontier Business Development Office, Strategic Business Development Division, Chiyoda Corporation) about “Energy Saving by Pinch Technology—From Single Site to Multiple Sites.”

As chairman of Session 2, Mr. Shibuya gave a summary of the presentations as follows: Oil-producing countries are currently striving to convert heavy oil into petrochemical feedstock. They are also actively promoting the production of bio-fuels. To allow humanity to enjoy the benefits of Earth’s limited resources for as long as possible, oil-producing countries and Japan are pursuing technical innovations in oil refining and petrochemical processes. Despite the differences between oil-producing



Plenary session of the 29th JCCP International Symposium

and -consuming countries, they nevertheless share a common commitment to utilize oil and natural gas in even more advanced and effective ways. By sharing experience and technologies, all countries should come together to reform the oil downstream sector.

3. Summary

Mr. Masataka Sase, Executive Director of JCCP, closed the symposium with a message saying that the oil industry is undergoing a major transformation and is in urgent need of leaders who will lead the change. He said that we must draw out the full potential of human

resources and make outstanding leaders of them to usher in a new era for the oil industry.

In the symposium, speakers and panelists from oil-producing countries and Japan gave insightful presentations about technical innovations and human resource development, and laid the foundation for active exchanges of views. Through such forums as this symposium, JCCP hopes to continue promoting mutual understanding between oil-producing countries and Japan.

Please also visit JCCP's website (<http://www.jccp.or.jp>) to view the presentation materials prepared by the speakers and panelists.

<by Hisayoshi Tanda, Administration Dept.>

The 29th JCCP International Symposium Program "Sustainable Development of Oil Downstream Industry: For Energy Supply Security"

Date	Time	Proceedings
Jan. 26 (Wed)	14:00 – 15:20	Opening ceremony Opening address: Mr. Yaichi Kimura, President of JCCP Guest-of-honor speech: Mr. Hisayoshi Ando, Director-General, Natural Resources and Fuel Department, Agency for Natural Resources and Energy, METI Keynote speeches: H.E. Mr. Arne Walther, Ambassador, Royal Norwegian Embassy H.E. Mr. Ahmed A. A. Al-Shamma, Deputy Minister, Ministry of Oil-Iraq
	15:35 – 17:40	Special lectures (1) Dr. Fereidun Fesharaki, Chairman, FACTS Global Energy Inc. (2) Mr. Abdulaziz Alattar, Head of Office, KPC (WH) Houston, Kuwait Petroleum Corporation (WH) (3) Ms. Huda M. Al-Ghpson, General Manager, Training and Development, Saudi Aramco (4) Mr. Masakazu Toyoda, Chairman and CEO, The Institute of Energy Economics, Japan
	18:00 – 20:00	Reception
Jan. 27 (Thu)	9:30 – 12:00	Session 1 "Leadership Development"
	13:30 – 16:00	Session 2 "Technical Development"
	16:00 – 16:10	Closing address: Mr. Masataka Sase, Executive Director of JCCP

Keynote Speeches

Country	Speaker	Speech Title
Norway	H.E. Mr. Arne Walther Ambassador, Royal Norwegian Embassy	Global Energy Dialogue
Saudi Arabia	H.E. Mr. Ahmed A. A. Al-Shamma Deputy Minister, Ministry of Oil-Iraq	Refining in Iraq—Present and Future

Special Lectures

Country	Speaker	Speech Title
United States	Dr. Fereidun Fesharaki Chairman, FACTS Global Energy Inc.	Future of the Refining Industry in the East of Suez
Kuwait	Mr. Abdulaziz Alattar Head of Office, KPC (WH) Houston, Kuwait Petroleum Corporation (WH)	Future Prospects of Oil Balance in Asia and International Cooperation for the Best Energy Supply Mix of the Future
Saudi Arabia	Ms. Huda M. Al-Ghosen General Manager, Training and Development, Saudi Aramco	Leadership Development in Saudi Aramco —An Enduring Legacy
Japan	Mr. Masakazu Toyoda Chairman and CEO, The Institute of Energy Economics, Japan	Global Energy Outlook and the Importance of Petroleum from the Perspective of Global Warming and Energy Security

Session 1: Leadership Development

Chairman: Mr. Misao Hamamoto, Executive Officer, Manufacturing Division, Showa Shell Sekiyu K.K.

Country	Speaker	Speech Title
Mexico	Dr. Luis Miguel Rodríguez Otal Assistant Manager, Process Engineering Division, PEMEX Refinación	Managing and Leading a Sustainable Refining Company
Malaysia	Ms. Juniwati Rahmat Hussin Vice President, HRM Division, Petroliaam Nasional Berhad (PETRONAS)	Talent Development—The PETRONAS Experience
Nigeria	Mr. Andrew Laah Yakubu Managing Director, Warri Refining and Petrochemical Company (WRPC)	Future Vision of NNPC for Comprehensive Hydrocarbon Industry
Kuwait	Mr. Fahed Fahhad Al-Ajmi Deputy Managing Director for Finance and Administration, Kuwait National Petroleum Company	Structured On-Job Training (S-OJT) Program at KNPC
Japan	Mr. Yoshitaka Furumatsu Manager, Training & Business Efficiency Promotion (Group), TOA OIL Co., Ltd.	Corporate Innovation and Development of Leaders

Session 2: Technical Development

Chairman: Mr. Shogo Shibuya, Managing Executive Officer, Technology & Engineering, Chiyoda Corporation

Country	Speaker	Speech Title
UAE	Mr. Salem Obaid Al Dhaheri Engineering & Technical Support Division Manager, Abu Dhabi Oil Refining Company (TAKREER) * Mr. Al Dhaheri could not make it to the symposium, but his presentation material has been posted on the JCCP website.	Business Development at Abu Dhabi Oil Refining Co. (TAKREER)—The Ruwais Refinery Expansion (RRE) Project
Vietnam	Dr. Nguyen Anh Duc Deputy General Director, Vietnam Petroleum Institute – Petrovietnam	Current Status and Future Vision of the Petroleum Refining and Petrochemical Industry of Vietnam
Saudi Arabia	Dr. Sahel N. Abduljauwad Professor of Civil Engineering and Vice Rector for Research, King Fahd University of Petroleum and Minerals (KFUPM)	Saudi Arabia's Strategy in Higher Education and R&D for the Future of Hydrocarbon Processing Industry
Japan	Mr. Kazuo Matsuda General Manager, Energy Frontier Business Development Office, Strategic Business Development Division, Chiyoda Corporation	Energy Saving by Pinch Technology —From Single Site to Multiple Sites

Keynote Speech

Global Energy Dialogue

H.E. Mr. Arne Walther
Ambassador, Royal Norwegian Embassy



1. Global Energy Situation and Energy Dialogue

Global energy demand will grow, the IEA says, by 36% between 2008 and 2035, and oil and other fossil fuels will remain paramount in the global energy mix for quite some time.

To boost energy security, global dialogue on energy is essential. It raises our awareness of common long-term interests and helps us avoid misunderstandings and mistrust. It increases transparency and can help us mitigate excessive market volatility and to seize win-win opportunity.

Oil is an important industry in Norway, and as an industrialized, oil-exporting country, Norway takes active part in international energy dialogue and cooperation. We have important interests in common and good relations with petroleum producers in and outside of OPEC, and also cooperate with Japan and other industrialized petroleum-importing countries. Norway is a member of the International Energy Agency (IEA), and has also participated in establishing the International Energy Forum (IEF). I personally had the honour of being elected the first Secretary General of the IEF.

2. An Evolving Energy Reality

Environmental and climate change concern will grow and impact energy policy decision-making, and increasing attention will be paid to renewable alternatives, such as solar, wind, tide and bio-fuels. Rising energy demand will also increase the need to conserve energy and to improve efficiency in energy production, transport and consumption. Therefore, we need to develop smarter and more cost-efficient technologies. We will need, among other things, large-scale commercialization of cleaner fossil fuel technologies, such as carbon capture and

storage, to reduce the global carbon footprint. As the twin challenges of energy security and climate change are increasingly interlinked, measures to meet the climate change challenge should not jeopardize energy security, nor should policies and measures for energy security exacerbate climate change.

Additionally, more predictable and equitable investment conditions should be facilitated, as failure to invest when oil prices are low inevitably leads to price spikes when demand picks up. Global energy investments of some USD 25 trillion are needed up to year 2030 to satisfy growing energy demand.

We must also consider vulnerability of energy production and supply to politically motivated disruption, terrorist intention and attack, technical mishap, and to forces of nature, and expect to see an increase in competition for oil, as well as competition from other energy resources

3. Energy Dialogue and International Cooperation

New sets of cooperative relationships between national and international oil companies are in the making. It also has geopolitical implications that governments and their national oil companies now control some 90% of proven oil reserves, and it is expected that national oil companies will account for all of the increase in global production from now up to year 2035. The IEF has therefore set up a NOC-IOC Forum to facilitate dialogue between the two groups of oil companies: national oil companies (NOC) and international oil companies (IOC).

New patterns of bilateral and regional cooperation among nations are also emerging. For example, China, the world's largest consumer of energy, and others are offering great infrastructure packages to countries on other continents in return for secure access to oil.

However, energy poverty must be dealt with forcefully, in international solidarity and cooperation. It is unfair and a geopolitical time-bomb that one and a half billion people lack access to electricity.

New patterns of energy cooperation can shape new geopolitical realities. Likewise, new geopolitical realities that replace, merge or clash with longstanding ones will have their impact on energy, and established geopolitical realities may raise stumbling blocks for wise and sustainable new patterns of energy cooperation.

Amid increasing energy uncertainties and vulnerabilities, however, let me offer a fundamental certainty. That is that the world will need more and cleaner energy, used in a more efficient way, accessible and affordable to a larger share of the world's population. Toward this end, producer-consumer dialogue can build confidence and help us to better seize win-win cooperative opportunity in our globalizing and increasingly interdependent world. Dialogue can preempt and correct misunderstandings and mistrust that otherwise could lead to conflict.

4. History of Energy Dialogue

Global political-level dialogue on energy, as we know it today, did not have an easy start. Mutual suspicion between producers and consumers ran high. When oil prices were high, the oil-exporting countries were happy, and the oil-importing countries complained and wanted dialogue. When prices were low, the importing countries were happy, and the exporting countries complained and wanted dialogue.

A quarter of a century ago, the United Nations Commission on Environment and Development, chaired by former Prime Minister of Norway Dr. Brundtland, highlighted in its report "Our Common Future" the importance of oil prices and the importance of energy for the environment and sustainable development. It recommended that new mechanisms for dialogue be explored.

At the same time, Norway was advocating a "global energy policy interrelationship." As a petroleum-exporting industrialized country, Norway saw herself in a bridge-building position between the oil-importing countries and the oil-exporting countries.

At the World Economic Forum in Davos in 1989, Prime Minister Brundtland followed up the Norwegian initiative by proposing a "workshop" of government leaders at political level. The objective was to raise

the awareness of long-term common interests, to avoid excessive oil market volatility and promote the stability and predictability that would benefit long-term economic planning.

Oil-producing and -exporting countries greeted the initiative with enthusiasm, and many oil-importing countries were willing to try. The first workshop was held in Paris in the wake of the first Gulf War between 1990 and 1991, and this eventually led to the establishment of the IEF.

Through political-level dialogue in the IEF, Ministers in the IEF came to uphold the mantra that security of energy supply and security of energy demand are two sides of the same energy security coin, and that energy security is a shared producer-consumer responsibility. When energy is traded from one country to another through a third country, transit countries have their interests and importance within the wider shared responsibility as well.

5. From Asia to the Arctic

The center of global economic gravity is on the move eastwards to Asia, and emerging economies led by China and India will increasingly influence our global energy future. Reflecting this increasing importance of Asia and recognizing the importance also of regional dialogues, "Roundtables of Asian Energy Ministers" are taking place under the global umbrella of the IEF.

The Arctic is another region of potentially great importance for global security of oil and gas supply. It is where the continents of Asia, North America and Europe meet and where more than a fifth of the yet-to-be-discovered reserves of oil and natural gas in the world could be found. State-of-the-art technology is called for in this challenging and high-cost environment. Norway is already producing and exporting oil and natural gas from her part of the Arctic.

The Arctic stands out as a politically stable and peaceful region with large petroleum promise. For Norway, our High North and Arctic is a most important area of strategic focus in the years ahead. Our policy is one of dialogue with the states that have interests in the region, because we take our responsibility for managing vast areas in the Arctic very seriously in light not only of petroleum interests, but also in light of an alert awareness of concerns related to the environment and ecological balance in the area.

6. Global Energy Governance

There is today no global, intergovernmental institution with supranational decision-making power to deal comprehensively with all forms of energy in our multi-polar energy world. Given the strategic importance of energy to the national interests of each and every country, it hardly seems realistic to expect one in any near future. What we more realistically can do, and are doing, is to constantly improve our “global energy policy interrelationship”—that comprehensive network of inter-governmental energy institutions and cooperative contacts among countries at political and technical levels, on bilateral, regional and global bases.

Addressing security of oil supply and demand also

requires consideration of the impact and potential of other forms of energy. A comprehensive dialogue on energy must integrate environmental and climate change perspectives, and that within the even wider framework of global political and economic developments.

In this wider global picture there is, I believe, every reason to be confident that oil produced, transported and used effectively in the best possible environmental way will continue to fuel our energy security for many years to come. Oil and its downstream sector will continue to be a forceful engine for the global economic growth needed to fulfill both the political and social ambitions of individual nations and the UN Millennium Development Goals in a sustainable world order.

Keynote Speech

Refining in Iraq —Present and Future

H.E. Mr. Ahmed A. A. Al-Shamma
Deputy Minister, Ministry of Oil-Iraq



1. History of Refineries in Iraq

There are three major refineries in Iraq. The Daura Refinery was built in the 1950s with a capacity of 70 kbl/d, which was later increased to 140 kbl/d. The Basra Refinery was built in the 1970s with a capacity of 140 kbl/d. The Baiji Refinery was built partly in the 1970s and partly in the 1980s, with a capacity of 290 kbl/d and increased to 310 kbl/d by adding two 10-kbl/d units. All these refineries were designed to produce white products not exceeding 50% to 55% of the barrel.

The refineries sustained severe damage during the 1991 Gulf War. They were restored and continued to be operated, but not in a healthy state. Furthermore, after the war came a long period of UN sanctions. The country was cut off from all parts supplies from the outside world, and the refineries fell into a state of disrepair so severe that it was almost a miracle that they even continued to operate.

After the fall of the dictatorship in 2003, the refineries were the first victims of insurgent and terrorist acts that took place particularly in the years from 2005 to 2007. The attacks targeted crude oil lines and product pipelines, which caused loss of refining capacity. Refineries stopped operations, either because of lack of crude oil, or because they could not ship the products through the pipelines. Things finally began to normalize at the beginning of 2008, and refining capacity has started to increase, albeit gradually.

2. Present Status

(1) Daura Refinery

The Daura Refinery now has an installed capacity of 140 kbl/d. It has two CDUs with a capacity of 70 kbl/d each, both of which have commenced operations after a construction period of three years.

A new 10-kbl/d hydrotreater reformer unit is slated

to be constructed soon. It is presently in the procurement phase. There is also a plan to construct a 10-kbl/d isomerization unit. It is presently in the equipment procurement and civil works phase.

In Iraq, there are frequent energy disruptions due to inadequacy of the electricity network. To overcome this inconvenience, we will be constructing a power generation plant within the refinery to secure stable electricity supply. It will have two new boilers with a 150-tonne/hour capacity, of which one has been completed and other is under construction. A new RFCC unit will have a capacity of 40 kbl/d, and has just been awarded a FEED Package.

Still, Daura faces a problem of how to get rid of heavy fuel, which amounts to about 100 kbl/d. There are power stations nearby, but they have either reached their capacity or are not operating to their capacity. We are therefore planning to run a pipeline to a large new power station that is being built not far away from Daura, to try to get rid of the excess fuel oil and operate the refinery at maximum capacity.

As part of our future plans, we are also working to improve the flare system to reduce emissions and improve the environment around the refinery. We will also complete the renovation of our lube oil plants, possibly with some changes in the process of some of the units, to eliminate the use of chemicals such as CFCs that have become environmentally prohibited. Finally, we have designed and are now tendering for a new hydrotreater unit to produce gas oil with low sulfur content.

(2) Baiji Refinery

The Baiji Refinery is the largest refinery complex in Iraq, with a capacity of 310 kbl/d. A new isomerization unit will soon be commissioned as the first to be installed in an Iraqi refinery. Six new boilers are under construction, a power generation plant has been contracted, and a contract is now being concluded for a new LPG unit for the North Refinery.

At Baiji, 51 storage tanks were destroyed in the 1991 war. We have yet to complete their reconstruction, and until we do, the refinery must operate with virtually no storage tanks. The hydrocracker unit works on and off, due to design problems. The war had started soon after it was commissioned, and there was no time for proper repair. We are presently seeking how we can rehabilitate the unit and put it into full operation once again. There is a lube oil plant composed of two trains. One train was completely destroyed during the 1991 war; the second

train is in operation but also requires rehabilitation. Two new crude distillation units are being installed to provide fuel oil to a nearby power station, which is also under construction. A feasibility study was carried out by a Japanese company for a new FCC unit (50 kbl/d).

(3) Basra Refinery

The Basra Refinery has a capacity of 140 kbl/d. We are building a new unit with a capacity of 70 kbl/d, which will bring the total capacity of the refinery to 210 kbl/d.

We are building a new hydrotreater platformer unit and a new LPG unit to replace one that has been used as a spare, and the plan for a new isomerization unit is in the phase of awaiting the delivery of equipment. New boilers and new utility packages are also under construction. Since the wastewater treatment unit at the Basra Refinery was damaged in the war in 1991, there has been an overflow of wastewater, but we plan to address this problem by building a new wastewater treatment unit. A gas oil hydrotreatment unit has also been designed and is in the phase of receiving tenders.

3. Production Status

The actual refining capacity of the refineries has been declining since 2004, through 2005 and 2006, to 2007, its lowest figure. This is a result of the refineries having to shut down frequently due to lack of security, terrorist acts, and electricity failures. The figures started improving in 2008, and we are confident that by the end of 2011, we will have much higher figures compared to 2010.

Due to the low refining capacities, we needed to import products. Production has begun to recover now, but we still import gasoline, because a large number of cars are coming into the country and creating a large demand for cars. Before 2003, the most modern cars on the road were models built before 1985, but now people are vying to acquire the latest models.

4. Construction of New Refineries

The Ministry of Oil-Iraq has plans to construct four new refineries and commence their operations sometime between 2014 and 2015.

(1) Karbala Refinery

We have completed the FEED Package for the

Karbala Refinery, and are talking with companies who are interested in investing in the refinery. However, even if we do not receive investment, we still need to build the refinery, because it should have already been built three decades ago to compensate for the lack of supplies. As soon as it is built and completed, all its products will immediately be consumed. It will only substitute for some of the products we are importing now, but it will be designed to Euro-IV specifications, with less than 15% fuel oil production.

(2) Maissan Refinery

The Maissan Refinery will be constructed near the oil fields of Maissan, and will have a refining capacity of 150 kbl/d. We have contracted and signed the license service for the various units, and the refinery is now in the FEED stage. There are many units here because we will be dealing with heavy crude, such as Bazargan Crude, which requires much more treatment. Again, product quality will be designed to Euro-IV specifications.

(3) Al-Nassiriya Refinery

The Al-Nassiriya Refinery will have a capacity of 300 kbl/d, and will be the largest among the newer refineries. It will be oriented for export, and will commence operations to coincide with the building of the new port of Fao. We have already included in the design of that port the necessary jetties for export of the various products, and will be running pipelines for gasoline, gas oil, kerosene, and ATK to this facility at

the port. The project is in the FEED stage, and licensing has already been decided. The refinery will have its own power station, and will produce products according to Euro-IV specifications.

(4) Kirkuk Refinery

The Kirkuk Refinery will be constructed in the Kirkuk Oil Field where crude oil is available. It will be similar to the Maissan Refinery, but will use lighter crude oil for production.

By building these four refineries, we hope to provide for the needs of Iraq at least for the next two decades.

5. Refinery Construction Investment

A law was enacted in 2007 to allow investment in refineries by private investors. Under this law, crude oil will be sold to investors and products will be bought at international prices. Investors would receive a 1% discount on the crude oil, which may be increased to 3% if parliament moves to amend the law*.

There is still much work to be done to restore the production of oil products in Iraq. As there is a lot of work for contractors, engineering companies, and investors alike, we welcome and appreciate the cooperation of our Japanese partners.

* Note: The Ministry of Oil-Iraq announced on April 27, 2011 that it will increase the discount rate on crude oil to 5%.



Executive Meeting Visit to UAE

1. Objective

Mr. Masataka Sase, Executive Director of JCCP, visited the United Arab Emirates (UAE) from February 20 to 25, 2011 to request UAE's cooperation in implementing the 20th Joint GCC-Japan Environment Symposium and to hold policy dialogues about JCCP operations with the leaders of Abu Dhabi National Oil Company (ADNOC), Abu Dhabi Oil Refining Company (TAKREER), UAE University, and the Embassy of Japan in UAE. Mr. Sase was accompanied by A. Yamanaka, General Manager of the Operations Department, and S. Yagi, General Manager of the Middle East Office.

2. Visit to the Head Office of TAKREER

In the morning on Monday, February 21, Mr. Sase visited TAKREER and met with Mr. Jasem Ali Al-Sayegh, General Manager.

Firstly, Mr. Sase expressed his appreciation to Mr. Al-Sayegh for TAKREER's cooperation in JCCP activities through the years. In turn, Mr. Al-Sayegh thanked Mr. Sase for JCCP's ongoing training of TAKREER engineers and for its support through technical cooperation projects, briefly mentioning the projects for flare gas recovery, operational support of TAKREER Research Center, and refinery wastewater treatment. Then, in response to Mr. Sase's request for TAKREER's cooperation in the 20th Joint GCC-Japan Environment Symposium scheduled to be held in UAE this year, Mr. Al-Sayegh readily consented, with a promise to spare no

effort in providing the necessary cooperation.

Mr. Al-Sayegh took the opportunity of the meeting to express his expectations regarding the training of UAE personnel and their receiving JCCP training in the maintenance and operational management of FCC, RFCC, and alkylation units, in light of the expansion of the Ruwais Refinery, which is slated for completion in 2013. Mr. Sase also took the occasion to give a detailed view of the political situation and the oil industry in Japan, as well as the importance of the Middle East countries to Japan.

3. Visit to the Marketing & Refining Directorate of ADNOC

In the afternoon on Monday, February 21, Mr. Sase visited the head office of ADNOC to meet with Mr. Hashem Y. Al Refaei, Marketing Research & Administration Division Manager, Marketing & Refining Directorate, and Mr. Mubarak S. Al Ketbi, Manager, Crude & Condensate Division.

Messrs. Refaei and Al Ketbi, who both participated in the FY2009 JCCP International Symposium, thanked Mr. Sase for their invitation to the symposium, saying that it gave them an invaluable opportunity to expand their business connections.

Mr. Sase explained the objective of his visit to UAE and acquired valuable views and opinions about the Joint GCC-Japan Environment Symposium. In their discussion, Mr. Refaei expressed his preference that the symposium be held in Abu Dhabi and not in Al Ain, to facilitate participation by ADNOC personnel. He



Mr. Jasem Ali Al-Sayegh, General Manager of TAKREER (third from right)



Mr. Hashem Y. Al Refaei, Marketing Research & Administration Division Manager, Marketing & Refining Directorate (left), and Mr. Mubarak S. Al Ketbi, Manager, Crude & Condensate Division (second from right)

also provided input regarding the selection of speakers, and informed the JCCP members that the Abu Dhabi government is taking strong interest in the symposium as an event of major significance.

4. Dialogue with the CEO of ADNOC

In the morning on Tuesday, February 22, Mr. Sase visited the head office of ADNOC once again, this time to meet with H.E. Mr. Yousef Omais Bin Yousef, Chief Executive Officer.

After being ushered into the CEO's office, Mr. Sase paid his greetings to H.E. Mr. Yousef Omais Bin Yousef, expressing his appreciation of the ADNOC Group's cooperation in JCCP activities and assuring renewed efforts to strengthen their cooperative relationship by accurately grasping future needs and implementing CPO/CPJ courses and information exchange programs for young engineers. H.E. Mr. Yousef Omais Bin Yousef responded by thanking Mr. Sase for JCCP's many years of training ADNOC Group personnel, and articulated his expectations of further support from JCCP in the future.

Mr. Sase also requested the ADNOC Group's cooperation in the Joint GCC-Japan Environment Symposium scheduled to be held in UAE this fiscal year, and received assurance of full cooperation from the CEO.



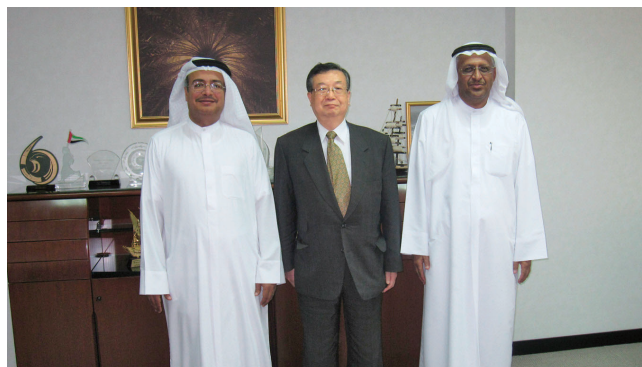
*H.E. Mr. Yousef Omais Bin Yousef,
Chief Executive Officer of ADNOC (left)*

5. Visit to UAE University

In the afternoon on Wednesday, February 23, Mr. Sase visited Dr. Abdullah Al-Khanbashi, Vice Chancellor of UAE University in Al Ain.

In the Vice Chancellor's office, Mr. Sase firstly thanked UAE University for its role in JCCP technical cooperation projects that have been implemented in UAE to date, and requested the university's cooperation in this year's Joint GCC-Japan Environment Symposium. Mr. Al-Khanbashi

also expressed his assessment and appreciation of UAE University's cooperative relationship with JCCP for more than ten years. He then gave his word for the university's cooperation in the Environment Symposium, and asked about the dates on which it will be held. Mr. Sase said he would like to discuss details of the symposium again at a later time with an eye to its implementation sometime before or after the World Petroleum Congress, which will be held from December 4 to 8 in Doha. After the meeting, the JCCP members toured the university campus.



*Dr. Abdullah Al-Khanbashi,
Vice Chancellor of UAE University (left)*

6. Embassy of Japan in UAE

In the afternoon on Tuesday, February 22, Mr. Sase paid a call on the H.E. Mr. Tatsuro Watanabe, Ambassador, at the Embassy of Japan in UAE.

Mr. Sase explained that the main objective of his visit was to request the cooperation of relevant parties in the Joint GCC-Japan Environment Symposium scheduled to be held in UAE this year, and requested the Ambassador's presence at the symposium. In response to a question from Ambassador Watanabe concerning the participants of the symposium, Mr. Sase recounted last year's symposium in Oman, in which a professor from Waseda University served as leader of the Japanese side and the opening ceremony was attended by ministerial-level leaders from oil-producing countries.

<by Akio Yamanaka, Operations Dept.>



H.E. Mr. Tatsuro Watanabe, Ambassador of Japan to UAE (right)

Executive Meetings Visits to Saudi Arabia, Kuwait, and Thailand

Mr. Masataka Sase, Executive Director of JCCP, and H. Tanda, General Manager of Planning and Coordination, made a round of visits to Saudi Arabia, Kuwait, and Thailand from May 14 to 21, 2011, to explain the schedule of JCCP training courses in the aftermath of the Great East Japan Earthquake of March 11.

Placing priority on participants' safety, JCCP has postponed the implementation of all regular courses between April and July, but plans to reorganize and resume the courses in September. The recent visits were therefore made to obtain the understanding of JCCP counterparts in oil-producing countries about JCCP's safety measures for participants and to personally urge them to send participants to regular courses in the knowledge that they will be safe.

K. Nita, General Manager of the Riyadh Office, accompanied Mr. Sase in Saudi Arabia and Kuwait.

1. King Fahd University of Petroleum & Minerals (KFUPM)

On May 16, the JCCP delegation paid a call on H.E. Dr. Khaled S. Al-Sultan, Rector of KFUPM; and Dr. Sahel Abduljawwad, Vice Rector for Research at KFUPM, and held a meeting in the rector's office.

Before proceeding to the main topic of the meeting, Mr. Sase thanked the two leaders for the many messages of sympathy and support JCCP received from KFUPM in the wake of the Great East Japan Earthquake. He also thanked Dr. Abduljawwad for giving a presentation at the



At KFUPM:
H.E. Dr. Khaled S. Al-Sultan, Rector (left)

JCCP International Symposium this past January.

Dr. Al-Sultan said he was struck by the Japanese people's patience and tolerance in their struggles toward recovery from the disaster, and that he holds them in the highest respect and admiration. He also said that the relationship between JCCP and KFUPM is not just a word, but a reality built on past achievements, and that he wishes to see further development of the relationship in the future.

2. Saudi Aramco's Ras Tanura Refinery

On May 16, the JCCP delegation visited Saudi Aramco's Ras Tanura Refinery to pay a call on Mr. Abdulhakim A. Al-Gouhi, General Manager of the refinery.

Mr. Al-Gouhi expressed his appreciation of JCCP's support, while noting that Saudi Arabians have great respect for Japanese culture and always associate the word "Japan" with a positive value. The JCCP side explained that all regular courses scheduled between April and July have been postponed in consideration of participants' safety and health, but asked for Mr. Al-Gouhi's cooperation in sending participants to the courses if and when they resume in September.



At Saudi Aramco's Ras Tanura Refinery:
Mr. Abdulhakim A. Al-Gouhi, General Manager (right)

3. Saudi Aramco HQ

On May 17, the JCCP delegation called on Ms. Huda M. Al-Ghpson, General Manager of Training and Career

Development, at Saudi Aramco Headquarters.

After thanking Ms. Al-Ghpson for her participation in the JCCP International Symposium this past January, Mr. Sase explained that JCCP regular courses between April and July have been postponed due to the impact of the March earthquake, but that JCCP is planning to resume the courses in September, and requested Ms. Al-Ghpson's help in urging the participation of Saudi Aramco personnel.

Ms. Al-Ghpson sincerely explained that many employees from Saudi Aramco, not to mention Saudi Arabia as a whole, receive training in Japan, and said she has found that they all wish to continue their training in Japan despite the recent earthquake. She was also kind enough to say the Saudi Arabian people have strong feelings of trust in Japan, and that everyone is confident that the hardworking people of Japan will progress steadily along the road to recovery.



*At Saudi Aramco Headquarters:
(From the left) H. Tanda; Mr. Mutlaq A. Al-Subaey,
Superintendent; Mr. Masataka Sase; Ms. Huda M. Al-Ghpson,
General Manager of Training and Career Development;
and Mr. K. Nita*

4. Japanese Embassy in Kuwait

On May 18, the JCCP delegation visited the Japanese Embassy in Kuwait to pay a courtesy call on H.E. Mr. Yasuyoshi Komizo, Ambassador.

Ambassador Komizo noted that the Kuwaiti government donated five million barrels of petroleum to Japan in the wake of the recent earthquake, and shared his understanding that Japan's contribution to human resource development in Kuwait since the mid-1970s was well recognized by leading figures in Kuwait's oil industry and was the decisive factor behind the generous donation of unprecedented scale. He also offered words of encouragement to the

JCCP delegation, saying human resource development is a long-term process, which requires continuous and persistent efforts on the part of JCCP.



*At the Japanese Embassy in Kuwait:
H.E. Mr. Yasuyoshi Komizo, Ambassador (second from left)*

5. Kuwait National Petroleum Company (KNPC)

On May 19, the JCCP delegation visited KNPC to meet with Mr. Asaad Ahmed E. Al-Saad, Deputy Chairman, Mr. Fahed Fahhad Al-Ajmi, Deputy Managing Director; and Mr. Ahmad S. Al-Jemaz, Deputy Managing Director of the Shuaiba Refinery.

At the outset of the meeting, Mr. Sase articulated his deep appreciation for the many heartfelt messages JCCP received from KNPC after the recent earthquake. He then went on to explain that all regular courses scheduled up to this summer have been postponed, but as JCCP is



*At KNPC:
(From the second from left) Mr. Waleed Al-Hamad,
Assistant Manager of HR Department;
Mr. Fahed Fahhad Al-Ajmi, Deputy Managing Director;
and Mr. Asaad Ahmed E. Al-Saad, Deputy Chairman*

planning to resume them following the establishment of strict safety measures, he asked KNPC to encourage the participation of its employees.

The KNPC leaders offered warm words of condolence for the recent earthquake and expressed their deep conviction that the Japanese people's strength and resilience will help them overcome the disaster and rebuild an even stronger nation than before. They also emphasized that the strong relationship of trust that JCCP and KNPC have steadily established over the years will never be severed.



At KNPC:

Mr. Ahmad S. Al-Jemaz, Deputy Managing Director of the Shuaiba Refinery (second from right)

between April and July have been postponed after the earthquake in consideration of the safety of participants, but as they are being readied to resume in September, he asked for the active participation of the company's employees. Mr. Teparimargorn firstly praised the Japanese people for their perseverance and prayed for the country's swift recovery. He then said that, due to lack of information about the earthquake in Thailand, he had not been sure whether he should send participants to JCCP regular courses, but he is glad to hear that JCCP is moving forward, and appreciates the JCCP delegation making the long trip to provide reassurance.



At PTT Public Company:

Mr. Pitipan Teparimargorn, Senior Executive Vice President (fourth from left); and Ms. Papinya Tansamrit, Vice President (third from right)

6. PTT Public Company Limited

On May 20, Mr. Sase visited PTT Public Company Limited as the final destination of the series of follow-up meetings, to meet with Mr. Pitipan Teparimargorn, Senior Executive Vice President, Human Resources and Organization Excellence; and Ms. Papinya Tansamrit, Vice President, Learning and Development Center Department.

Mr. Sase explained that all regular courses scheduled

At all destinations of the recent follow-up meetings, the JCCP members were deeply touched by everyone's expressions of sympathy and encouragement for recovery from the Great East Japan Earthquake, as well as for their warm patience and support of JCCP courses. To respond to their expectations, we at JCCP have strengthened our resolve to resume the courses as quickly as possible and to continue striving to strengthen our relationships with oil-producing countries.

<by Hisayoshi Tanda, Administration Department>

Formal Agreement on the Establishment of a Cooperative Relationship with OAPEC

On March 9, 2011, the Organization of Arab Petroleum Exporting Countries (OAPEC) and JCCP formally agreed to enter into a cooperative relationship based primarily on the joint organization of technical seminars and joint implementation of technical studies in the oil downstream sector.

1. Background

In May 2010, the OAPEC Secretariat, which had been seeking to establish a cooperative tie with an extra-regional institution, approached JCCP with an enquiry about a possible scheme of mutual cooperation. After a series of discussions, the two sides reached a basic agreement for the joint organization of technical seminars and the joint implementation of technical studies in the oil downstream sector. As verification of their intent to establish a cooperative relationship, the two organizations signed a Letter of Intent (LOI) on December 10, 2010 in Tunis and publicly announced their intent on the following day at the Second Japan-Arab Economic Forum.

Thereafter, the agreement to build a cooperative relationship with JCCP was formally approved by the OAPEC Ministerial Council meeting that was held on December 25, 2010 in Cairo.



*Greeting by H.E. Mr. Yasuyoshi Komizo,
Ambassador to Kuwait*



Greeting by H.E. Mr. Abbas Naqi, Secretary General of OAPEC

2. Signing Ceremony

After receiving the formal approval of the OAPEC Ministerial Council, a Memorandum of Understanding (MOU) signing ceremony was held on March 9, 2011, at the head office of OAPEC in Kuwait.

The ceremony opened with speeches by H.E. Mr. Yasuyoshi Komizo, Japanese Ambassador to Kuwait; H.E. Mr. Abbas Naqi, Secretary General of OAPEC; and Mr. Morihiro Yoshida, Managing Director of JCCP. After the speeches, H.E. Mr. Naqi and Mr. Yoshida signed the MOU.

Others members of the OAPEC Secretariat also attended the ceremony, which included a presentation of JCCP activities.

3. Future Activities

As OAPEC is a multilateral organization representing oil-exporting countries in the Arab region, establishing a cooperative relationship with OAPEC means establishing even more multi-tiered relationships with these oil-producing countries. JCCP therefore hopes to maintain close ties with the OAPEC Secretariat through the joint implementation of technical seminars and studies, and to forge new connections with relevant counterparts in OAPEC member countries.



Signing of the LOI by H.E. Mr. Abbas Naqi, Secretary General of OAPEC, and Mr. Morihiro Yoshida, Managing Director of JCCP (witnessed by Ambassador Komizo)

As a specific activity in the area of technical seminars, a presentation on such topics as heavy oil processing technologies, control technologies for refining facilities, and effective utilization of hydrogen is considered being given at the OAPEC Conference. This year's conference will be held from November 28 to 30 in Cairo, Egypt, and JCCP members will also take part in the presentation.

In the area of technical studies, JCCP will begin translating technical documents on equipment corrosion into English in the immediate future, and once it is finished, the OAPEC Secretariat will translate them into Arabic and distribute them to OAPEC member countries.

We hope to implement many more joint technical seminars and studies with OAPEC, also with support from our member companies.

<by Hiroshi Iida, Technical Cooperation Dept.>



Group photo of the signing ceremony

VIP Invitation Program

Invitation to the President & CEO of SUDAPET

JCCP invited a delegation from the Sudan National Petroleum Corporation (SUDAPET)—Mr. Salah Hassan Wahbi, President and CEO; Mr. Hisham Galal Lufti, Executive Office Manager, President Office; and Mr. Sami Suliman Mudathir, Manager, Facilities Management Department—to Japan for a three-day visit, from February 7 to 9, 2011.

1. Background

Sudan began developing petroleum resources in the country in the early 1990s, and began exporting crude oil by the late 1990s. In 2010, it boasted a production capacity of roughly 500,000 b/d, corresponding to 0.6% of global oil production. To Japan, which imported some 2.53 million kiloliters of crude oil from Sudan in fiscal 2010 (1.2% of Japan's total petroleum imports), Sudan is one of its most important suppliers of crude oil.

Based on the above understanding, JCCP extended the scope of its activities to include Sudan in March 2010 and began receiving participants to its regular courses. JCCP members also conducted a comprehensive survey of technical cooperation needs to identify issues for future technical cooperation.

In the light of these developments, Mr. Masataka Sase, Executive Director of JCCP, made a courtesy visit to Sudan in July last year, and extended an invitation to Mr. Wahbi and members of SUDAPET's management to visit Japan in February of this year.

2. Content of the Visit

Accepting Mr. Sase's invitation, Mr. Wahbi visited Japan and paid a call on JCCP on February 7, 2011. He met with Mr. Sase, Mr. Morihiro Yoshida, Managing Director, and other executive officers and general managers in the executive reception room, and gave a presentation on the oil situation in Sudan in the JCCP Conference Room.

In his meeting with the board members and executive officers of JCCP, Mr. Wahbi emphasized



*Courtesy visit to JCCP (Feb. 7):
Mr. Salah Hassan Wahbi, President and CEO of SUDAPET
(third from left in the front row)*

that the oil industry is important to Sudan. He said that the development of human resources capable of supporting the oil industry and technical modernization are priority issues for development in the country and Japan's cooperation would be deeply appreciated. The JCCP side responded by promising to support the development of Sudan's oil industry through human resource development and technical cooperation, noting that JCCP has already received 18 participants to its regular courses since JCCP's relationship with Sudan began in March last year. The JCCP members also mentioned that a customized program-overseas (CPO) on maintenance management has been held in Khartoum this past January, and that a comprehensive survey of technical cooperation needs has been conducted toward the implementation of future seminars.

During the rest of their stay until their return to Sudan on February 9, Mr. Wahbi and the delegation from SUDAPET visited oil-related institutions in Japan and held intense exchanges of views about the possibility of cooperation between the oil industries in Sudan and Japan. While the three-day agenda may have been short, it proved to be a meaningful opportunity for SUDAPET and JCCP to further their understanding of each other's countries.

<by Hisayoshi Tanda, Administration Department>

Toward the Renewal of JCCP Training Courses

The diversifying needs in oil-producing countries today are calling for JCCP training programs to grasp issues faced by each country and provide as much content as possible that could lead to possible solutions to those issues. Based on this awareness, we have devised an additional scheme to our conventional survey activities, whereby lecturers of training courses personally meet with members of counterpart organizations in oil-producing countries to investigate their requests and proposals concerning JCCP training programs. The survey allows us to confirm the direction and appropriateness of our improvement measures toward offering practical training, and to examine how JCCP's cooperation might be maximized in response to specific issues faced by oil-producing countries and their requests of JCCP. We will also formulate a medium-term action plan for renewing the content of JCCP training courses, to ensure steady application of the PDCA cycle to training programs based on the results of the survey.

1. Surveyed Regions and Survey Team Members

- (1) GCC Region A (Qatar, Oman, Saudi Arabia) / Tetsuji Kubota, Fumihiro Tone
- (2) GCC Region B (UAE, Kuwait, Iraq) / Akio Yamanaka, Shigeyoshi Takahashi, Kazuko Takayama
- (3) Central Asia (Kazakhstan) / Akio Hoshino
- (4) North Africa (Sudan, Libya) / Shigeyoshi Takahashi

2. Surveyed Companies and Departments

(1) Qatar

- 1) Qatar Petroleum
 - Corporate Training (CT) Department
 - Gas Operations Department
 - Mesaieed Refinery

(2) Oman

- 1) Oman Refineries and Petrochemicals Company (ORPC)

(3) Saudi Arabia

- 1) Saudi Aramco Refining & NGL Fractionation Area

- Administration Division of Refining & NGL Fractionation
 - Ras Tanura Refinery
 - Jeddah Refinery
 - Yanbu Refinery, NGL Fractionation Department
 - Riyadh Refinery
- 2) Saudi Aramco Northern Oil Operations Area
 - 3) Saudi Aramco Southern Oil Operations Area
 - 4) Saudi Aramco, Professional Engineering Development Division (PEDD), Engineering Service Department
 - 5) Saudi Aramco Head Office, Training & Development Department, Professional Development Department, etc.

(4) UAE

- 1) Abu Dhabi National Oil Company (ADNOC) Head Office
- 2) Abu Dhabi Oil Refining Company (TAKREER) Head Office

(5) Kuwait

- 1) Kuwait Petroleum Corporation (KPC) Head Office
- 2) Kuwait National Petroleum Company (KNPC) Head Office
- 3) KNPC Mina Abdulla Refinery

(6) Iraq

- 1) Ministry of Oil

(7) Kazakhstan

- 1) Samruk Kazyna Corporate University
- 2) KazMunaiGas, Human Resource Development Department

(8) Sudan

- 1) Khartoum Refinery Company (KRC), Khartoum Refinery

3. Survey Items

- (1) How are JCCP training programs evaluated?
 - Expectations of JCCP courses
 - Purpose and expectations of sending participants to JCCP courses
 - Utilization of the results of training by participants upon their return to their regular duties
- (2) What types of courses and programs are sought?

- Regular courses
- Customized programs
- Evaluation and future expectations of countries that have participated in a JCCP course or program in the past
- Themes and topics sought by countries that have never participated in a JCCP course or program in the past

4. Survey Results

(1) Evaluation of JCCP courses

On the whole, the surveyed countries gave JCCP training courses a satisfactory rating. However, the GCC countries requested an enhancement of regular courses by providing more professional knowledge instead of general knowledge. Saudi Aramco departments, in particular, questioned what the “benefits” are of JCCP training. This made us realize that there is a large gap in the understanding of the benefits of JCCP training among those who have participated and those who have never participated in JCCP training. We must work on bridging that gap by more widely promoting participation in our programs.

(2) What types of courses and programs are sought?

The following is a summary of requests from the countries we surveyed.

1) Short-term issues

With respect to existing regular courses, there were requests for more practical hands-on training at offsite facilities, in addition to lectures at JCCP Headquarters. This issue involves elements that need to be considered from a medium-term perspective, as discussed below.

Many countries also requested that each course be



Meeting with Saudi Aramco's Southern Oil Operations Area

taught not only by the lecturer in charge of the course, but also by engineers who have direct relevance to the technologies and topics covered in the course, so that participants have sufficient opportunities to directly exchange and discuss views with engineers.

Furthermore, there were strong requests regarding case study discussions, in which participants each present an issue and exchange views among themselves. Many countries were of the view that the scope of these case studies is too broad and shallow, and only allows discussions at a superficial level. They requested that participants be required to give a presentation on a specific issue that is relevant to the course title, and that engineers of JCCP member companies who are experts regarding the course topic also participate in the case study discussions. We will consider this proposal, as it could also help improve the effect of case study discussions that are held at offsite facilities.

2) Medium-term issues and new courses

Raising the level of current training programs that are centered on classroom lectures was not the only common request regarding JCCP courses among the countries surveyed. Another common request was for on-the-job training (OJT) and hands-on training by mentors at offsite facilities, especially in regular maintenance management processes. There were also requests for new courses, as described below. We will take them into consideration to design and propose specific new courses.

- **Kaizen course**
Under the present program, Kaizen is taken up as a lecture topic in the course on HRM, but there were requests for a dedicated course on Kaizen, as the concept is extremely effective in improving employee awareness.
- **Leadership course for senior managers**
Given that the content of regular courses is leveled off to accommodate participants from various levels of position, there were requests for a course specifically intended for senior managers.
- **Financial course**
Many countries noted that they wish to give financial department employees the opportunity to participate in a JCCP course, but since there are no relevant courses, they wish JCCP would organize a new course. In answer to this request, we will consider organizing a course on financial management, in addition to courses on personnel management and marketing and physical distribution in the oil industry.



Meeting with the training and human resource development departments in Saudi Aramco's Head Office



Meeting with KNPC head office members

- Course on technical tradition (passing down technologies from veteran to young engineers)

In oil-producing countries, the early retirement system is creating a shortage of engineers who can pass on the necessary technologies to young engineers, and the small number of skilled engineers is not enough to provide sufficient guidance. At the same time, the younger engineers have their hands full with on-the-job training and cannot afford the time to receive outside training, making it difficult for them to participate in JCCP training programs. Against this background, there were many requests to learn how the tradition of skills is passed down in Japan, and the effectiveness and promotional framework of that system.

- Practical inspection course

In addition to the general course that is presently offered on an overview of inspections, there were requests for a course that provides systematic knowledge of inspections at a more professional level.

3) Interaction program for young engineers in oil-producing countries and Japan

We will consider establishing the information exchange and training program for young engineers as

a regular program, given the high level of interest in all countries. This program was implemented on a trial basis in fiscal 2010 for young engineers at Saudi Aramco. When we presented the results of the program to other countries, UAE and Kuwait desired a similar program for administrative employees. Additionally, Oman, UAE, and Kuwait requested a technical program not only for employees of a single country, but for a number of countries together. These countries wish to see the program implemented within fiscal 2011, but since that would be difficult under the present situation, we will explore the possibility of its implementation at a later date. We will also maintain discussions with relevant countries, to continue the program on a continuous basis.

We will give due consideration to the above results in organizing future training programs, and will strive to incorporate countermeasures to the short-term issues in fiscal 2011 courses. With respect to the medium-term issues, we will establish a study group for the renewal of training programs within the Training Department, and will formulate a medium-term plan (proposal), to ensure that the results of the survey are appropriately applied to future JCCP training programs, as well as to ensure continuous improvements.

<by Fumihiro Tone, Training Dept.>

Participation in the HR Conference and HRD Seminar in Kazakhstan

On March 10 and 11, 2011, JCCP members participated in and gave a presentation at the Sixth HR Conference that was held in Astana, the capital of Kazakhstan, for personnel department employees in state-run companies in Kazakhstan. Following the conference, the members held a Customized Program-Overseas (CPO) on human resource development (HRD) over a period of three days from March 14 to 16, at Samruk Kazyna Corporate University (hereinafter, SKC University), also located in Astana.

1. Background

In July 2010, when JCCP implemented a program seminar (TCJ-1-10) for JCCP counterpart managers in oil-producing countries, two participants—Ms. Gulmira Raissova, Director of SKC University; and Ms. Sholpan Yerzhigitova, General Manager of HR at KazMunaiGas (hereinafter, KMG)—invited JCCP to participate in the Sixth HR Conference for personnel managers from state-run companies, and also requested a CPO on human resources on the same occasion.

SKC University, the sponsor of the conference, is an affiliate of Samruk Kazyna, a holding company that owns a group of some 400 state-run companies including KMG. It serves as a comprehensive coordinator of training programs for all Samruk Kazyna subsidiaries.

Lecturers dispatched from Japan:

Akio Hoshino (JCCP Training Dept.)

Prof. Hiromasa Tanaka (School of Humanities and Social Sciences, Meisei University)

Mr. Yuichiro Katagiri (HR Dept., JGC Corporation)

2. Participation in the HR Conference

The HR Conference is an annual two-day event intended for employees in the personnel departments of state-run companies throughout Kazakhstan. It is sponsored by SKC University, and was held for the sixth time this year.

After the presentation of keynote speeches in a plenary session attended by 300 to 400 participants, separate



Commemorative photo taken after the closing ceremony

working sessions were held concurrently in different conference rooms, attended by participants at their own choice. Four large conference rooms at the hotel were each set up with a booth for simultaneous interpretation to provide English and Russian interpretation through receivers, as is usually done at JCCP International Symposiums.

Keynote speeches were given not only by speakers representing Kazakh companies, but also by high-level academics, including an associate professor from Harvard University and a professor from Massachusetts Institute of Technology.

2-1. Main Keynote Speeches

- (1) “The Role of IT for Better HR” (by SAP Deutschland AG & Co. KG)
- (2) “HR Strategy in British Gas” (by Lead HR Manager in BG Group for Europe and Central Asia)
- (3) “The art and practice of the learning organization” (by Dr. Peter Senge, Professor at MIT)
- (4) “Understand why change is so hard and unlock your leadership potential” (by Dr. Lisa Lahey, Associate Professor at Harvard University Graduate School)

2-2. Working Sessions

(Session 1)

“HR strategies”: 5 speakers

(Session 2)

“Performance management, personnel motivation and remuneration systems”: 4 speakers

(Session 3)

“Personnel training and development: Work with the talent pool”: 5 speakers

(Session 4)

“Leadership”: 5 speakers

2-3. Business Labs

(Lab 1)

“Managing HR of different generations: What awaits us in the future”: 4 speakers

(Lab 2)

“Managing HR of different generations: In companies with shareholders of different cultures”: 4 speakers

JCCP had its turn at delivering a presentation in Business Lab 2. JCCP Lecturer A. Hoshino gave a 20-minute presentation titled “Transition & Status-quo of Japanese Style HRM” to an audience of around 70 people. After the presentation, Hoshino and Prof. Tanaka shared in the task of responding to the many questions from the audience and moderator.

3. CPO Implementation

Topic: Human resource development (HRD)

3-1. Overview of the Seminar

We generally design a customized program on HRD to span a period of at least five days. However, in response to a request from SKC University to abbreviate the program to three days, we designed the program so that each day featured a different lecturer.

The seminar took place using a classroom at SKC University, with Russian-English interpretation, and was attended by around 11 to 13 participants, mainly composed of women and one man.

3-2. Seminar Details

[Day 1] “Japanese-style HRM” and “General Overview of Kaizen” (Hoshino, JCCP)

In the case of regular courses and CPO, general lectures usually take up two days of the program, but this time we were afforded only a single day to give these lectures for the reason mentioned above. Judging that a single day’s lecture on an overview of HRD would not provide the intended effect, the focus of the lecture was instead placed on a general overview of Kaizen.

The first half of the lecture provided a cultural



Lecture by Akio Hoshino, JCCP lecturer

background to the Japanese people’s success in achieving rapid economic growth after the second world war, by discussing the unique teamwork spirit of the Japanese people and Japanese-style HRM practices, which include the lifetime employment and seniority systems.

The latter three hours of the lecture focused on a general overview of Kaizen, and aimed to promote knowledge of the Kaizen concept and the “Kaizen mind” of the Japanese people. After explaining the process of introducing Kaizen activities, the 5S approach, and the Toyota Way as a result of implementing Kaizen, the lecture discussed how the Kaizen mind could be ingrained in the workplace.

[Day 2] “General Studies in Training Program Planning” (Prof. Tanaka, Meisei University)

This lecture is usually given over two days in the regular course on HRD. It comprehensively discusses the knowledge necessary for implementing education and training programs by introducing methods of surveying educational needs, designing educational programs, and evaluating the results of training. The workshop that is usually incorporated in the lecture was omitted this time due to the time constraint, but Prof. Tanaka



Lecture by Prof. Hiromasa Tanaka



Lecture by Mr. Yuichiro Katagiri, JGC Corporation

was basically able to cover the usual two days' worth of content, because questions and answers required a shorter time than expected.

[Day 3] "Recruitment and Human Resource Development in an Engineering Company" (Mr. Katagiri, HR Department, JGC Corporation)

Following an introduction of JGC Corporation, Mr. Katagiri spent three hours explaining the company's recruitment process, the training of new recruits, and the career paths of employees in an engineering company. Due to limited time, the lecture highlighted HRD issues and omitted issues related to the personnel system, such as employee salaries and the evaluation and ranking systems.

The seminar closed with a final speech by Ms. Shanar Baizhumanova, Deputy Director, and a presentation of completion certificates from A. Hoshino to all participants.

3-3. Summary of the Seminar

The seminar was attended by more than ten employees from SKC University, the HR Department in KMG, subsidiaries of KMG, and other organizations of the Samruk-Kazyna group. As mentioned earlier, they were all young women with the exception of one man. By offering three days of lectures as a single package and designing the program so that participants can obtain the maximum effect by attending all three lectures, we also provided an invaluable off-the-job training opportunity where participants were able to concentrate solely on the seminar.

4. Conclusion

News of the Great East Japan Earthquake reached us just as we were preparing to give our presentation at the HR Conference. Needless to say, we were simply dumbstruck. Considering the three-hour time difference between Japan and Astana, we had heard of the disaster two and a half hours after it occurred (around 5:30 p.m. Japan time). When we returned to our hotel that day, BBC News was all about the earthquake and tsunami, with the exclusive coverage continuing for the next four days. We were also able to watch NHK, TBS, and Fuji TV news live via the Internet. At the same time that we were surprised by the enormity of the devastation, we were also amazed with the speed and spread of information that would have been inconceivable just a few years ago.

We offer our deepest sympathy to all who were affected by the disaster and our heartfelt condolences to all who lost their loved ones.

<by Akio Hoshino, Training Dept.>



JCCP Presentation at the HR Conference



Plenary session of the HR Conference

CPO Seminar on “Safety Management” Held at Saudi Aramco’s Jeddah Refinery

1. Background and Overview of the Seminar

As Saudi Arabia is one of the most important crude oil suppliers to Japan, JCCP regularly surveys the training needs of oil-producing countries in the Middle East. In 2008, we received a request from Saudi Aramco for a Customized Program-Overseas (CPO) on safety management in the refinery, and implemented the seminar on two separate occasions. The first seminar was held at the Ras Tanura Refinery in December 2008, and the second was held at the Yanbu Refinery in February 2010.

Following the first two seminars, Saudi Aramco’s Jeddah Refinery offered to host the third convening of the seminar, and thus it was held in a seminar room at the refinery’s training center over a period of four days, from February 27 to March 2, 2011. The members of the Japanese team dispatched to implement the seminar in Saudi Arabia included Mr. Hideto Hamada from JGC Corporation, Mr. Susumu Adachi from NKSJ Risk Management, Inc., and JCCP lecturers Yoshiaki Ueno and Fumihito Tone.

The participants were a group of employees carefully nominated and selected by their superiors in organizations relevant to the refinery. Therefore, they seemed to attend the seminar with a conscious awareness that they were each a representative of their respective workplace. The large majority of 21 participants were from different departments in the Jeddah Refinery, but there were also two participants from the Riyadh Refinery and three from the NGL Department.

2. Seminar Content

On the first day, following self-introductions by the participants and an introductory DVD presentation of JCCP, Y. Ueno lectured on “Theories and Practices in Safety Management in the Refinery,” with discussions on the occupational health and safety management system standard (OHSAS 18001), the reformation of safety culture, and safety awareness-building. By showing a video of danger prediction activities and finger-pointing



Participants of the seminar

confirmation activities, particular emphasis was placed on introducing safety activities and systems and small-group activities that have been established through the years in Japanese companies and society. After the first day of the seminar, the four lecturers toured the refinery site in preparation for the next day’s lectures.

On the second day, F. Tone gave a lecture on “Safety Management Activities in Japanese Refineries,” covering such topics as specific case examples of accidents in the refinery, safety management systems, and TPM activities, which captured the participants’ interest and were well received. Following this lecture, Mr. Hamada from JGC Corporation gave a lecture titled “Safety Design Technology and Risk Management in Plants.” He introduced technical issues in equipment design and risk assessment in detail from the perspective of an engineering company, and also discussed methods and concepts that are considered effective in the operational management of existing plants. The overall structure of the lecture was as follows, with items 4 and 5 covered in the morning of the third day of the seminar through actual examples and practical training.

- (1) HSE risk management
- (2) HSE risk assessment
- (3) Plant safety design from the HSE perspective
- (4) Introduction of safety risk assessment systems (HAZOP, LOPA, OHR)
- (5) HAZOP & LOPA study methods and training

From the latter half of the third day to the first half of the fourth day, Mr. Adachi from NKSJ Risk Management gave a detailed introduction of risk evaluation and



Lecture by Yoshiaki Ueno,
JCCP Lecturer



Lecture by Mr. Susumu
Adachi (NKSJ Risk
Management)



Lecture by Mr. Hideto Hamada (JGC Corporation)

assessment in refineries from the perspective of a nonlife insurance company. His lecture specifically focused on: the reality of risk management in Japan; accident trends and risk analysis in Japanese refineries and petrochemical plants; critical elements of risk evaluation in oil refineries and petrochemical plants; risk evaluation methods; the perspective of an underwriter; and rate calculation methods. Many participants showed particularly strong interest in learning about risk evaluation methods.

After the lecture, the lecturers and participants reviewed the program and lectures and engaged in questions and answers. The lecture on the 5S activities and other small-group activities for building a safety culture, in particular, seemed to create a strong impression on most of the participants, and promoted an understanding of the significance of these activities.

In the closing ceremony, JCCP thanked everyone for their role in the successful implementation of the seminar, expressed their future expectations, and encouraged each participant to take a step forward in building a culture of safety.

3. Evaluation and Impressions of the Seminar

Practically all participants said the seminar was meaningful, and that the knowledge they acquired will benefit their current jobs. Given this response, we believe that the seminar precisely matched the participants' level of understanding. In response to a question about their impressions of Japanese-style small-group activities, such as the 5S activities, KYK (danger prediction) activities, near-miss prevention activities, and finger-pointing confirmation activities, and their effectiveness in creating a safety culture, many participants agreed that the 5S, finger-pointing, and KYK activities are effective practices. We take this to mean that the necessity of

small-group activities is gaining greater recognition and dissemination in the oil industry.

Saudi Aramco enjoys a relatively strong position in terms of human resources, organizational power, and technological capability, and has been stringent in its requests and demands of JCCP. We implemented CPO seminars on safety management in the refinery twice in the past, and received high praise for our implementation of the first seminar at the Ras Tanura Refinery in December 2008. We agreed to maintain the same content for seminars in other refineries as requested by the Saudi Aramco side, and thus came to implement this third seminar.

One of the major themes of this seminar was to introduce the activities and methods that have been adopted by Japanese companies to establish a safety culture and a safe working environment. The other major theme was to provide detailed knowledge of risk management systems from the perspective of process safety design. Under these themes, most of the participants said they acquired an extremely broad range of knowledge even within a short four days. Therefore, we believe this seminar was just as successful as the previous ones had been.

<by Fumihito Tone, Training Dept.>



Presentation of the completion certificate

CPO Seminar on “Refinery Maintenance Management” Held in UAE

1. Background and Overview of the Seminar

UAE is the second-largest supplier of crude oil to Japan after Saudi Arabia, contributing 21% of Japan’s crude oil imports, and is important to Japan in terms of securing a stable supply of crude oil.

UAE and JCCP held the first Refinery Maintenance Management Seminar in 2008 and agreed to hold the seminar every three years after that. The second seminar took place just recently, with four Japanese lecturers from the Maintenance Group in JCCP’s Training Department—Shintaro Miyawaki, Kenji Saito, Hiromitsu Saito, and Fumihiro Tone—each covering a specific theme.

A total of 16 engineers participated in the seminar from Abu Dhabi Oil Refining Company (TAKREER)’s Abu Dhabi and Ruwais Refineries and Head Office.

Owing to exemplary preparation by Mr. Anwar Mahmoud Ghalib Al Mutawa, Senior Training Officer, Training & Career Development Dept., HR&A Division, the seminar proceeded smoothly according to plan and provided fruitful training.

2. Seminar Content

This four-day seminar was designed to introduce various maintenance management issues and



Participants of the seminar

countermeasure examples in Japanese refineries experienced by the JCCP lecturers.

An opening ceremony kicked off the seminar on the first day. Although the ceremony coincided with a conference co-sponsored by TAKREER (Middle East Downstream Week, May 8-11, 2011), Dr. Jafarulla Packer Mohamed, Human Resource & Administration Div., took the time to deliver a welcome greeting on behalf of TAKREER. On the JCCP side, S. Miyawaki gave an opening speech, in which he also presented an outline of JCCP activities and an account of the aftermath of the recent earthquake and tsunami disaster. The audience listened with calm attention, even when he mentioned the nuclear crisis at the Fukushima Nuclear Power Station. Mr. Miyawaki then segued into a description of the changes and regulations in the oil industry in Japan and a discussion on activities toward breaking free of external pressures such as the rising price of crude oil. He also gave a lecture entitled “Maintenance Management of Rotary Equipment in Japanese Refineries,” in which he presented various failure cases of rotary equipment and their countermeasures.

On the second day, K. Saito gave a lecture on “Refinery Maintenance Management.” After explaining the reasons why maintenance is necessary, he drilled it into the minds of the participants that HSSE (health, safety, security, and environmental conservation) is the cornerstone of maintenance management in the refinery, through carefully organized steps that allowed the participants to follow with clear understanding. Mr. Saito also discussed the purpose and basic flow of TPM



Preliminary meeting on the day before the seminar



Lecture scenes

(Total Productive Maintenance/Management) activities using various case examples, and completed his lecture with a brief outline of risk management.

On the third day, F. Tone gave a lecture on “Refinery Safety Management.” He presented case examples of serious accidents that have occurred in oil complexes in Japan, and explained that they were caused by design flaws, poor use of precedent cases, and inadequate management of modifications. As another cause, he also mentioned the deterioration of safety culture, which becomes evident in the lax attitudes toward compliance with basic management instructions and procedures among work process managers and subcontractors, and in their falling into an unthinking routine. Most refinery accidents are initially caused by human error or a defect in the management system, he said, and could be prevented if everyone, from employees to management-level officers, take part in TPM activities.

On the fourth day, H. Saito gave a lecture entitled “Damage Cases of Static Equipment and Their Countermeasures.” After giving a systematic explanation of the relationship between static equipment and

materials, he provided a simple overview of corrosion and other defects that are related to material characteristics, and explained how to select appropriate materials. Furthermore, Saito introduced five representative accidents that occurred from insufficient knowledge of material characteristics and mistaken usage, to emphasize the importance of performing operations based on proper knowledge of materials. We believe the lecture as a whole provided invaluable reference to participants in charge of maintenance.

The closing ceremony was held with the attendance of Mr. Ahmed Mohamed Al Gattan, Manager, Training & Career Development Dept., and closed with the presentation of completion certificates to all participants.

3. Evaluation and Impressions of the Seminar

Throughout the seminar and in participant evaluation forms, the participants exhibited a strong desire to apply what they have acquired in the seminar to their own workplaces to contribute to future improvements in TAKREER’s refineries. They also made various suggestions that indicated their expectations for further enhancement and development of JCCP training programs. To answer to their expectations, we reaffirmed the need to make further efforts to create programs that meet counterpart needs by sending an abstract of lecture materials in advance and engaging in sufficient preliminary discussions with the counterpart. We also realized the need to contemplate in more detail how we may effectively communicate the difference between theory and reality, and how we may offer even more practical training.



Mr. Ahmed Mohamed Al Gattan, Manager, Training & Career Development Dept. (third from left); and Mr. Anwar Mahmoud Ghalib Al Mutawa, Senior Training Officer, Training & Career Development Dept. (third from right)

<by Fumihito Tone, Training Dept.>

CPJ Seminar on “Japan’s Oil Industry” Held for Saudi Aramco

1. Background

In January 2009, JCCP received a request for a training program in Japan from the Tokyo Office of Aramco Overseas Company B.V. (AOC), a subsidiary that provides services and materials to Saudi Aramco. After a series of discussions, AOC Tokyo and JCCP agreed on the implementation of a program that would allow participants to comprehensively study Japan’s oil industry from the perspective of materials procurement, as well as learn about the commercial practices of Japanese companies, their system of procuring materials, and their business operation methods and principles. This agreement was formally endorsed by Saudi Aramco and JCCP in December 2010, and came to be implemented as a Customized Program-Japan (CPJ) in February 2011.

2. Program Overview

As decided in preliminary discussions, the CPJ was held from February 22 to March 1, 2011, with two days given to lectures at JCCP Headquarters ((1) The oil industry and oil marketing and physical distribution in Japan; and (2) General overview of Kaizen and the Toyota Way) and three days to practical offsite training ((1) Toyota Motor Corporation, Motomachi Plant; (2) JFE Steel Corporation, West Japan Works; and (3) Showa Shell Sekiyu K.K., Head Office).

The program was attended by a total of ten supervisor-class participants—nine from the Materials Procurement Department in the Head Office and one from AOC Shanghai. Their average age was 36.

3. Program Content

Training at JCCP

(1) *The oil industry and oil marketing and physical distribution in Japan*

This lecture emphasized the importance of stable oil supplies to Japan, and discussed the flow of oil in Japan in terms of oil marketing and physical distribution, in light of the recent decline in demand for oil in Japan’s oil industry.

(2) *General overview of Kaizen and the Toyota Way*

This lecture was organized to provide preliminary knowledge before visiting a Toyota plant in the latter part of the program. The first half of the lecture discussed the concept of Kaizen and its introduction to industrial processes. The second half focused on Toyota Motors’ Kaizen-oriented management system as a representative style of Japanese management.

Offsite training

(1) *Toyota Motor Corporation, Motomachi Plant*

Toyota Motor offers guided tours of its entire automobile production line at the Motomachi Plant, where visitors can see how automotive parts are welded and assembled using robots. Moreover, the tours are provided not only in Japanese but also in English. With the plant located some distance from the nearest city of Nagoya, we realized that the tour would take an entire day, but we nevertheless included it in the program, because we believed a tour of the state-of-the-art plant would be worth the time, and also because we had strong approval from AOC Tokyo.

After the plant tour, the participants stepped inside the Toyota Kaikan Museum, where they feasted their eyes and shot pictures of the latest hybrid cars, fuel-cell vehicles, and cutaway models.

(2) *JFE Steel Corporation, West Japan Works*

JFE Steel provided high-level lectures on pipe structures and manufacturing and the installation and maintenance management of pipelines. As procurement



At JFE Steel Corporation, West Japan Works

experts, the participants asked many technical questions about pipelines.

After the lectures, the participants toured the company's world-class steel plant and specifically the rolling mill and pipe manufacturing facility that were in operation. They focused strong attention on the tour, as it had direct relevance to their procurement activities, and expressed amazement at the sheer impact and scale of the plant. Coincidentally, the participants spotted a large stack of pipes earmarked for export to Saudi Aramco and, with great delight, took group pictures in front of the pipes.

The lectures by pipeline experts at JFE Steel and the special tour of the plant seemed to be highly appreciated by all participants.

(3) Showa Shell Sekiyu K.K., Head Office

First, members of the Sales Planning Department in Showa Shell Sekiyu's head office gave a corporate overview of the foreign-affiliated oil company and the marketing environment in Japan as a whole. Then, the Retail Sales Department gave a lecture on gasoline sales policies and service station operations, which is the core business of the company, and the Distribution Department gave a lecture on the company's physical distribution system and the rationalization of physical distribution.

The content of the lectures and English teaching materials provided deep knowledge befitting the world-renowned Shell Group of companies.

4. Summary

Initially, we failed to have a clear grasp of AOC Tokyo's needs, and mistakenly thought it would fully suffice to design a typical one-week program in Japan that covers such topics as Japanese culture and history and Japanese-style business practices, intended for



Lecture at Showa Shell Sekiyu K.K., Head Office

employees of AOC. However, when we signed the confirmation document with AOC on December 1, 2010 and received a nomination list, we saw that participants were carefully selected from among Saudi Aramco's Procurement Department, and understood that we were expected to provide specialized training related to procurement. The participants indicated a broad range of interests, and expressed a particular desire to learn about the excellent supply chain in Japan. Taking this into consideration, we included a lecture on Kaizen and the Toyota Way on the premise of taking a plant tour at Toyota Motor, to respond to the participants' wishes as much as possible.

For practical offsite training, we asked JFE Engineering Corporation to give a technical lecture on pipelines, and to change the scope of the plant tour from a general tour to one that focuses on the rolling mill and pipe manufacturing facility. We furthermore asked Showa Shell Sekiyu to not only give a general presentation of its operations, but to also discuss the supply chain of oil within the overall flow of oil, with a focus on the marketing and physical distribution aspects.

In the evaluation forms filled in at the end of the program, the participants gave straightforward opinions about the good and bad points of the program befitting their occupation as specialists in Saudi Aramco's Procurement Department, and indicated their desire for specialized, in-depth training instead of general overviews. Taking into consideration the many opinions and suggestions for future training programs we received from the participants, we realize that, when we again have the opportunity to implement a CPJ for Saudi Aramco's Head Office Procurement Department, we will be expected to design an advanced program within a short timeframe centered on the supply chain in Japan.

The participants were a group of outstanding employees with all-around skills. Moreover, we were impressed by the way they looked after each other and spontaneously acted as a team under the strong leadership of the group leader. They also exhibited impeccable manners while thoroughly enjoying their time together in the program, sharing ideas and exchanging views.

The program being the first attempt of its kind, we faced some uncertainties prior to its implementation, but were able to successfully complete the program thanks to the generous cooperation of all relevant companies and by being blessed with wonderful participants.

<by Kazuo Kojima, Training Dept.>

Report on the Training Cooperation Program

—Saudi Aramco—

A JCCP delegation paid visits to eight departments in Saudi Aramco to inquire about their needs for customized programs and to exchange views regarding training on two separate occasions, from February 22 to March 5, 2011 (including five days spent on implementing a CPO (customized program-overseas) on safety management at Jeddah Refinery), and from May 13 to 19, 2011. Among the meetings, that with the Professional Engineering Development Division (PEDD) yielded further progress in the agreement to incorporate a CPO in Saudi Aramco's Professional Engineering Development Program, as has been proposed by the Refining & NGL Fractionation Area and JCCP.

1. Refining & NGL Fractionation Area

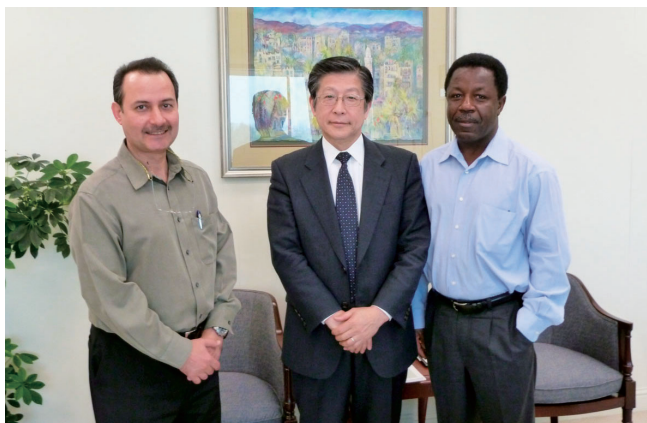
The JCCP members met with Mr. Sami A. Iskandrani, Assistant to the Vice President; and Mr. Lloydie Johnson, Former Assistant to the Vice President.

The Refining and NGL Fractionation Department expressed its wish to implement the Information Exchange and Training Program for Young Engineers again in fiscal 2011, following its successful implementation in fiscal 2010. It seems the department was thinking along the lines of implementing it from late May to the end of June as with last year's program, but they readily approved the JCCP side's request to implement it some

time after December due to the lingering impact of the recent earthquake disaster. JCCP will hereafter make the necessary preparations and adjustments with relevant departments through a counterpart office designated by the Saudi Aramco side.

2. Meeting with the New Director of the Ras Tanura Refinery

Through the good offices of Mr. Iskandrani in the Refining and NGL Fractionation Department, the JCCP delegation met with Mr. Abdulhakim A. Al-Gouhi, who newly assumed the post of General Manager of Ras Tanura Refinery in January 2011. The JCCP members gave an overview of JCCP and noted JCCP's contribution to training Saudi Aramco employees by showing Mr. Al-Gouhi a list of Saudi Aramco participants to JCCP courses since 1982. Mr. Al-Gouhi questioned the meaning of JCCP going so far as to shoulder 75% of the expenses to implement the courses, but expressed his understanding when the JCCP members explained that Japan is more than 98% dependent on foreign countries for oil, and that JCCP activities are aimed at promoting mutual understanding with oil-producing countries. He then responded agreeably to the JCCP side's request for the participation of Ras Tanura Refinery employees in JCCP courses. The JCCP members felt it is important to



Mr. Sami A. Iskandrani, Assistant to the Vice President (left); and Mr. Lloydie Johnson, Former Assistant to the Vice President (right)



(From the left) K. Saito, JCCP Lecturer; Mr. Iskandrani; F. Tone, JCCP Lecturer; and Mr. Abdulhakim A. Al-Gouhi, General Manager of the Ras Tanura Refinery

maintain and deepen ties with Mr. Al-Gouhi by making regular visits and also by inviting Mr. Al-Gouhi to visit Japan.

3. Yanbu Refinery

The JCCP delegation visited the Yanbu Refinery and met with Mr. Abdulsalam A. Ashi, Maintenance Superintendent, Yanbu Refinery Department. In a prior meeting, Mr. Ashi and members of the training department at Yanbu requested guidance on a hands-on approach to maintenance activities that would encourage refinery operators to strengthen their sense of ownership of their machines and plant. They said that promoting visualization, for example, might help operators change the attitude that they are in charge of operations only, and maintenance is the job of maintenance engineers. In response, the JCCP members took the occasion of this meeting to propose a training program and to exchange views with the refinery members. As the first part of the proposed training program, they suggested the implementation of a training course for supervisors and assistant supervisors in the operations, maintenance, and engineering departments, and as the second part, they proposed a training course on visualization activities for interested operators (or operators designated by their superiors). Mr. Ashi approved of this two-stage proposal, but he noted that the Yanbu Refinery has six divisions, and hence a large number of supervisor-class employees. Gathering them together in one training course would detract from the focused approach of the course, so he said he would like to implement the course several times with the participation of one or two supervisors, assistant supervisors, and key persons from each division. He said he would give consideration to the operator course after implementing the supervisor course. Mr. Ashi also



Mr. Abdulsalam A. Ashi, Maintenance Superintendent (right)

expressed his wish for practical training in a successful Japanese refinery sometime after implementation of the CPO, so that the participants can seal the knowledge they acquire in the CPO and apply it to future activities. JCCP will strive to realize these requests.

4. Jeddah Refinery

The JCCP delegation next met with Mr. Mazin A. Al-Najjar, Supervisor Training Unit; Mr. Ahmad A. Rajab, Senior Supervisor of Maintenance, Service Maintenance Div.; and other refinery officers. After mentioning that many employees from the Jeddah Refinery's Engineering Department would be participating in the upcoming CPO on TPM, the refinery side voiced its specific preference for practical field training rather than desk studies. The JCCP members proposed a program for initial cleanup and visualization of the refinery, whereby a model zone would be created in the refinery as a center for developing a sense of ownership of the plant among the employees. They also proposed a preliminary TPM course for supervisors before implementing it on a larger scale, because TPM activities could fail to deliver the intended result if the management class does not have proper knowledge of TPM. Mr. Rajab, on the other hand, said he would like to have shift supervisors take part in the course, so it was agreed that the specific content and date of implementation would be discussed with members of the training department at the Jeddah Refinery.



Mr. Mazin A. Al-Najjar, Supervisor Training Unit (left); and Mr. Ahmad A. Rajab, Senior Supervisor of Maintenance (second from right)

5. Southern Oil Operations Area, Training Center

The Training Center is responsible for training all new operators assigned to the Southern Oil Operations Area,

which manages the extensive area that includes the South Ghawar Oil Field. The meeting held here with the JCCP delegation was attended by Mr. Mutlaq A. Al-Subaey, Superintendent, Industrial Training Department/Southern Area Industrial Training Division, and 11 supervisors in charge or training in each division. Mr. Al-Subaey strongly requested the continued implementation of the TPM-based maintenance management course that JCCP and Saudi Aramco are initiating, as well as the regular implementation of a safety management course. The JCCP side agreed to hold discussions toward the regular implementation of these courses.



Discussion scene

6. Head Office in Dhahran, Training & Development Department

The JCCP delegation exchanged views on the renewal of JCCP training programs with Ms. Huda M. Al-Ghpson, General Manager, Training & Development; Mr. Raed H. Al-Rabeh, Director, Professional Development Department (chief executive of professional training for all Saudi Aramco employees); and Mr. Al-Subaey from Southern Oil Operations Area.

The JCCP delegation found that the implementation of JCCP training programs is documented in Saudi Aramco's record of employee development, and interpreted this to mean that JCCP training is accepted as part of the overall training system at Saudi Aramco. Ms. Al-Ghpson said that, to her understanding, JCCP training programs are mostly geared toward "hard" technical skills, but she expressed her desire for programs on enhancing "soft" administrative skills as well, with specific reference to skills relating to leadership, finance, business, and IT. Mr. Al-Rabeh requested JCCP's guidance for capacity building of young employees and in the implementation of training programs for developing team leader attributes and

hands-on leadership skills. Furthermore, in relation to Saudi Aramco's expansion of operations from oil refining to petrochemical operations, Mr. Al-Rabeh also noted that he would like to consider a training program in Japan for management-class employees in charge of petrochemical operations. The JCCP side agreed to create a draft program to discuss details of the course hereafter.



Mr. Raed H. Al-Rabeh, Director, Professional Development Department (second from left); Ms. Huda M. Al-Ghpson, General Manager, Training & Development (right); and Mr. Mutlaq A. Al-Subaey, Superintendent, Industrial Training Department/Southern Area Industrial Training Division (left)

7. Professional Engineering Development Department (PEDD), Engineering Service Department

PEDD develops and implements internal training programs with the objective of enhancing the skills of professional engineers in all operations at Saudi Aramco. With the participation of Dr. Awadh O. Al-Oadah, Division Head; Dr. Dahham M. Al-Anazi, Engineering Curriculum Design & Control; and eight staff members, the JCCP delegation discussed the feasibility of incorporating JCCP training programs into PEDD's training curriculum. Actually, this meeting took place as an extension of a discussion begun last year on the content of three CPOs (maintenance management, safety management, TPM-based maintenance management) that have been implemented at Saudi Aramco since 2008. In this meeting, the teaching materials and the implementation dates were discussed in detail toward implementation of the three courses that are under consideration, again by the end of this year. The course on TPM-based maintenance management, in particular,

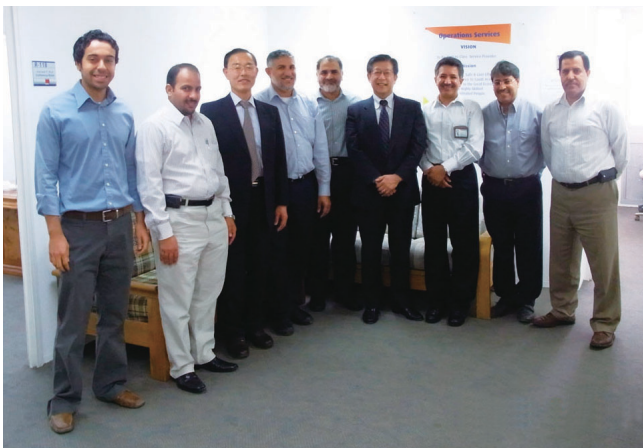
is being promoted for its effectiveness in developing a sense of ownership and bringing a change in awareness among engineers. It was agreed that PEDD would continue to review the respective lecture materials and provide feedback on areas that need improvement. At the same time, PEDD has begun to explore potential program contents toward addressing its future aim of providing hands-on training in utility maintenance as sought by the Refinery Department, and has asked JCCP to consider whether there are any areas in which it could extend its cooperation.



Dr. Awadh O. Al-Oadah, Division Head (left); and Dr. Dahham M. Al-Anazi, Engineering Curriculum Design & Control (right)

8. Corporate Maintenance Support Division, Maintenance Council

The Corporate Maintenance Support Division acts as a supportive administrative arm of the Maintenance



Members of the meeting and Mr. Nezar Al-Shammasi, Director, Corporate Maintenance Support (third from right)

Council, a lateral organization composed of maintenance managers from all departments in Saudi Aramco, and is responsible for creating the syllabus of maintenance training programs implemented by PEDD. Mr. Nezar Al-Shammasi, Director, Corporate Maintenance Support, Saudi Aramco Maintenance Council, who met with the JCCP delegation along with seven staff members, explained that his division is seeking to incorporate JCCP's maintenance courses and programs into PEDD's curriculum. Toward that end, he requested JCCP to compress its 18-day regular course on maintenance to five days, and said he would like to contact JCCP again after his staff members extract the key items of the course.

9. Summary

JCCP activities are designed for the oil downstream sector. In recent years, however, JCCP's relationship with Saudi Aramco has gone beyond its refineries and related departments to include cooperation with preprocessing departments that handle operations that ensue after crude oil and gas drilling, as well as with diverse other departments. JCCP training has thus entered the phase of promoting company-wide activities at Saudi Aramco, with the exclusion of activities carried out by the crude oil and gas production departments. The recent visits to Saudi Aramco's departments have yielded progress in many areas. Of particular note is the formal incorporation of three CPOs into PEDD's training program for professional engineers across the company, beginning from this fiscal year. The JCCP delegation sees this development as the result of JCCP's 30-year history of receiving participants to its training programs since 1982. It can also be interpreted as a manifestation of the strong desire of past participants, who have assumed important positions in their respective departments, to provide their younger employees with the opportunity to participate in a JCCP training program to acquire knowledge of Japanese-style management practices that are based on technologies and experience deeply rooted in Japanese culture. Hereafter, JCCP will engage in discussions regarding the various requests the delegation received in the recent meetings with relevant counterparts, and devise appropriate schemes for their realization.

<by Fumihito Tone, Training Dept.>

Report on the Training Cooperation Program

—UAE and Qatar—

Two JCCP members—Masayuki Jimbo and Kazuo Kojima, Lecturers of the Training Department visited UAE and Qatar from June 3 to 9, 2011 under the Training Cooperation Program. The main objectives of the visits were to introduce and promote the FY2011 JCCP regular course program, explain and discuss in detail the implementation of customized programs (CPO & CPJ), and exchange views with JCCP counterparts in oil-producing countries. In addition to the main objectives, there were also other special reasons: to express JCCP's appreciation for the messages of support and encouragement it received from various companies and organizations in the wake of the Great East Japan Earthquake, to explain the cancellation/postponement of courses scheduled in the first half of the year, and to announce that the September and October courses will be held in western Japan, centering on Osaka.

UAE

On June 5, the JCCP members visited Abu Dhabi Oil Refining Company (TAKREER) and held a meeting with Mr. Ahmed Herzallah, Head of the Career Development Section, HR & Administration Division; Mr. Anwar Mahmoud Ghalib Al Mutawa, Head of the Training Section, Training & Career Development Dept., HR & Administration Division; and other staff members.



At the TAKREER Head Office

Mr. Herzallah not only thanked JCCP for its support through training programs and technical cooperation projects, but also expressed his appreciation to the JCCP members for making the visit and providing the latest information of the situation in Japan and the situation surrounding JCCP after the earthquake. He said he will consider TAKREER's participation in regular courses in September and beyond when he feels the situation is right, but he strongly requested the implementation of a Customized Program-Overseas (CPO) on maintenance, as was recently implemented in Abu Dhabi. He also had a request for a Customized Program-Japan (CPJ) that could provide onsite operators with hands-on training in topics related to electricity, machinery, and instrumentation.

After visiting TAKREER, the JCCP members visited Abu Dhabi National Oil Company (ADNOC) and held a meeting with Mr. Mahmood Al Mulla, Administration Coordinator, Marketing Research & Administration Division, Marketing & Refining Directorate; and Mr. Ahmed Al Nuwais, Head of Training & Career Development Department.

After expressing his appreciation for JCCP training programs and technical cooperation projects, Mr. Al Mulla expressed deep respect for how calm and resolute the Japanese people have been in the face of the earthquake disaster, hailing their reaction as an example



At the ADNOC Head Office



At the QP Head Office



At the TASWEEQ Head Office: Mr. Anton Bray, Executive Director, Marketing & Shipping (center)

for the world. In regard to JCCP regular courses scheduled in September and beyond, he said he would actively encourage the participation of ADNOC employees when various on-going issues have been resolved and safety can be assured. Yet in regard to customized programs, Mr. Al Mulla requested the implementation of programs that address marketing issues, with one program focusing on negotiations leading up to the signing of a contract, and another focusing on the transactions and delivery of products after signing the contract. On a new note, Mr. Al Mulla also said he would like JCCP to organize a customized program on finance that covers accounts receivable management and budget management.

Qatar

On June 7, the JCCP delegation visited Qatar Petroleum (QP) and held a meeting with Mr. Mohamed Normarzuki Bin Yaacob, Senior Supervisor, Short Tech, Corporate Training, and other staff members.

Mr. Yaacob thanked the JCCP members for JCCP's training programs and technical cooperation projects, and also acknowledged JCCP's judicious decision to cancel/postpone the regular courses that were scheduled for the first half of the year as a result of placing priority on the safety and security of participants in the aftermath of the Great East Japan Earthquake. In regard to regular courses scheduled in September and beyond, he noted that holding the courses in Osaka and other areas in western Japan is certainly reassuring, and asked to be sent a copy of the course program when it becomes available. Mr. Yaacob also requested a CPO

on maintenance management for the employees of QP and its subsidiaries.

After QP, the JCCP members visited Qatar International Petroleum Marketing Company Ltd. (TASWEEQ), a wholly state-owned company that is mainly responsible for the export and marketing of oil products. Here, they held a meeting with Mr. Anton Bray, Executive Director, Marketing & Shipping, and his staff, in JCCP's second visit to the company following a visit made last year also under the Cooperation with Training Centers Program.

Mr. Bray said he deeply appreciates the CPO proposal from JCCP and wishes to enter detailed discussions toward its implementation during this fiscal year, especially since TASWEEQ is currently aiming to implement a more vigorous training system to increase the quality of its operations to world-class level. He also responded positively to the implementation of a CPJ, saying he intends to select outstanding employees from among participants of the upcoming CPO to participate in the program in Japan.

Through their visits to UAE and Qatar, the two JCCP members were greatly heartened and encouraged by the fact that JCCP counterparts in all companies they visited were sufficiently understanding of the significance of JCCP training programs. They also felt keenly that direct face-to-face communication with counterparts in oil-producing countries is indispensable for addressing issues in a prompt and specific manner. This awareness, too, is the product of the achievements and trust JCCP has established over its 30-year history.

<by Kazuo Kojima, Training Dept.>

Report on the Training Cooperation Program

—Kuwait and Oman—

From May 30 to June 6, 2011, JCCP Lecturers Tetsuji Kubota and Tetsuo Arii visited Kuwait and Oman under the Training Cooperation Program for the following three main purposes:

- (1) To discuss the implementation of a new Customized Program-Overseas (CPO) in response to emerging needs in Kuwait and Oman for training in the reduction of greenhouse gas (GHG) emissions in the oil industry;
- (2) To seek advice from relevant people in JCCP counterpart countries about the new training program that the JCCP Training Renewal Committee is currently formulating toward a renewal of training programs; and
- (3) To explain to the JCCP counterpart in each organization about the changes that have been made to this fiscal year's JCCP training program due to the Great East Japan Earthquake.

In Kuwait, visits were made to Kuwait Petroleum Corporation (KPC) and Kuwait National Petroleum Company (KNPC). In Oman, visits were made to the Ministry of Oil and Gas, the Ministry of Environment and Climatic Affairs, and Oman Refineries and Petrochemicals Company (ORPC).

Oil companies in both Kuwait and Oman are striving to reduce GHG emissions, and expressed strong interest in a new training program on this theme, so JCCP agreed to commence working-level discussions toward its implementation. Relevant personnel in both countries also showed high interest in JCCP's renewal of training programs, and not only offered constructive advice, but also agreed to discuss this issue on a continuing basis.

Kuwait

1. KPC Head Office

At the KPC head office, the JCCP members met with Dr. Rasha Abbas Maarafi, Team Leader, International Relations Department; Dr. Fatima Al Shatti, Team Leader, Waste Management, Environment & Oil Spill Response Department; and other personnel.



*At the KNPC Head Office:
Dr. Rasha Abbas Maarafi, Team Leader,
International Relations Department (left); and
Dr. Fatima Al Shatti, Team Leader,
Waste Management, Environment & Oil Spill Response
Department (fourth from left)*

Subsidiaries of the KPC Group of companies are currently directing their efforts to reducing greenhouse gases in the upstream and downstream sectors. To further promote these efforts, KPC made it clear that it intends to actively cooperate in regard to JCCP's proposed seminar program on greenhouse gases (GHG). The JCCP members and the KPC side therefore discussed the content and preparation method of the program.

The KPC side made a specific request to include a technical session for project development (Japan's energy-saving technologies, GHG reduction technologies, underground storage technologies, etc.) and lectures on project development (carbon financing, financial planning, etc.). It also requested a sufficient amount of time to hold a practical workshop that would allow participants to develop practical skills. Moreover, the KPC side offered its active cooperation by proposing to take charge of part of the lecture.

The two sides agreed to implement the program during this fiscal year, and to hereafter engage in detailed discussions toward its implementation.

2. KNPC Head Office

At KNPC, the JCCP members met with Mr. Fadhel Mirza Abdulla, Team Leader, Employee Development,

Human Resource Department, and other relevant personnel to discuss the JCCP training program for this fiscal year. Expressing strong concern regarding the situation in Japan after the Great East Japan Earthquake, the KNPC side said that KNPC intends to consider sending its employees to JCCP courses based on JCCP's latest training plans, and would be waiting for active communication of information from JCCP.

Like KPC, KNPC also expressed strong interest in cooperating and participating in a training program on greenhouse gas reduction, but since the issue is relevant to the entire KPC Group, it was agreed that discussions toward implementation of the program would be held with KPC as the counterpart.

JCCP has established a dedicated committee that is currently making concentrated efforts to renew and improve JCCP training programs. In addition to a new program for GHG reduction, some other new programs under consideration (environmental management, the latest oil technologies, maintenance, instrumentation, etc.) were explained to the KNPC side. In response, the KNPC side, also with the attendance of experts in refining technologies, offered the following views and advice.

- KNPC provides training for its employees according to various position levels, and wishes JCCP to also implement level-based training (especially for senior and middle-level managers).
- JCCP training programs should give consideration not only to their technical content, but also to the occupations of the participants (process, maintenance, instrumentation, electrical engineering, etc.).
- It would be preferable to allocate more time to



*At the KNPC Head Office:
Mr. Fadhel Mirza Abdulla, Team Leader,
Employee Development, Human Resource Department
(second from left)*

workshops, case studies, hands-on training, and other such practical training. It would be especially effective to associate the training with projects that are being undertaken by the participants.

- A more practical approach would be to provide customized programs (CPO, CPJ) that focus on a topic relevant to the needs of each department at KNPC, instead of general programs geared to all departments.
- KNPC seeks training programs that spotlight uniquely Japanese practices such as Kaizen, in each training field.

JCCP will take the above views and advice into consideration and gradually implement renewed programs in the form of customized programs as the first step. Continuous discussions will also be held with national oil companies in oil-producing countries in the region, to achieve an even more effective renewal of training programs.

Oman

1. Ministry of Environment and Climatic Affairs (MECA)

The JCCP members visited the Ministry of Environment and Climatic Affairs for the first time based on the understanding that the ministry is promoting environmental conservation, and particularly the reduction of greenhouse gas emissions. They met with Mr. Ibrahim Ahmed Al Ajmi, Director General of Climate Affairs, and discussed the implementation of a Customized Program-Overseas (CPO) on that theme.

Mr. Al Ajmi explained that Oman has steadily established a framework for reducing greenhouse gas emissions in the country, and expressed his expectations that JCCP activities would contribute to greenhouse gas reduction in the oil industry, where large reductions are anticipated. He added that the timing is perfect to implement a training program particularly on relevant Japanese technologies. Although the CPO would address the oil industry and would therefore fall under the control of the Ministry of Oil and Gas, Mr. Al Ajmi nevertheless offered his ministry's cooperation such as by providing a lecturer for the program. It was agreed that the ministry and JCCP would continue to exchange information toward preparation of the program.

2. Ministry of Oil and Gas (MOG)

This was JCCP's first visit to the Ministry of Oil



*Omani Ministry of Oil and Gas:
Mr. Sultan Mohammed Al Hilali,
Director of Regulating Oil Production (third from left)*

and Gas, which governs the upstream and downstream sectors of the oil and gas industries in Oman and their operations. Mr. Sultan Mohammed Al Hilali, Director of Regulating Oil Production, welcomed the JCCP members and expressed keen interest in the new CPO program on greenhouse gas reduction in the oil industry, as it would also help improve operational efficiency in the oil and gas industries in Oman. The MOG side and the JCCP members agreed to exchange a letter of intent soon thereafter.

In regard to the content of the training program, the MOG side requested the program to include lectures on the effective utilization of gas, energy conservation, renewable energy sources and other related technologies, and project development and financing. The JCCP members agreed to thereafter discuss specific details for implementation of the program with the ministry.

3. ORPC

The JCCP members visited ORPC and met with Mr. Said Suleiman Al Aufi, Head, Professional Development, Human Resource, which is JCCP's counterpart in ORPC. At the end of June soon after JCCP's visit, ORPC became a new joint venture company established by the integration of ORPC's Oman Refinery and Sohar Refinery with Aromatics Oman LLC (AOL) and Oman Polypropylene (OPP).

In the meeting with the JCCP members, the ORPC side articulated its intention to encourage as many ORPC staff members as possible to participate in the proposed

CPO on greenhouse gas reduction. As its input to JCCP's renewal of training programs, the ORPC side requested practical workshop-style training, senior-level training, and special programs that feature a specific theme. The ORPC side would also provide feedback from experts in various fields at ORPC.

Summary

The visits to Kuwait and Oman allowed JCCP to confirm strong expectations for the recommencement of JCCP training programs in the two countries despite the lingering impacts of the recent earthquake in Japan, and to also confirm the foundation of the relationships of trust and cooperation that JCCP has established with oil companies in oil-producing countries through the steady accumulation of achievements over the years.

In regard to the CPO on environmental issues and particularly the reduction of greenhouse gas emissions, the organizations that JCCP visited in the two countries showed strong interest in its implementation, particularly because GHG reduction is being addressed as an important issue in the GCC countries, and commenced discussions with JCCP toward its preparation.

Key figures in the two countries also articulated their expectations for the renewal of JCCP training programs and proposals for new programs that would be of interest to oil-producing countries. In recent years, the diversification of needs in oil-producing countries has illuminated the importance of identifying training needs through personal meetings with human resource departments and other operational departments in oil-producing countries.

Moreover, the human resource training departments in oil companies in oil-producing countries have developed in-house training programs to the point where their expectations of JCCP have begun to change. There are greater needs now for new programs intended for prospective senior management of oil companies and other such level-based training.

It is becoming increasingly important to grasp the changing needs in oil-producing countries and to promptly respond to these changes in order to deepen cooperative relationships in the future.

<by Tetsuo Arij, Training Dept.>

Report on the Training Cooperation Program

—China (SINOPEC)—

JCCP Lecturers Shintaro Miyawaki and Tetsuji Kubota, and Mr. Hiroshi Sano from Idemitsu Kosan K.K. visited China's SINOPEC from May 16 to 20, 2011 under the Training Cooperation Program. The main objectives of the visit were to discuss the implementation of a Customized Program-Overseas (CPO) that was requested by SINOPEC this fiscal year, and to tour the Hainan Refinery, which is SINOPEC's newest refinery and one of the candidate CPO sites recommended by the SINOPEC head office. Just as importantly, the visit was made to personally thank SINOPEC for its warm support and encouragement in the wake of the Great East Japan Earthquake, and to explain to the managers of SINOPEC's training department the new schedule for 2011 that has been revised after the disaster.

Recognizing that refinery efficiency improvement and energy conservation are some of the major issues of importance in the framework of mutual cooperation between SINOPEC and JCCP, the SINOPEC side and the JCCP delegation discussed the details, dates, and venue of a CPO that would cover such themes as energy conservation, maintenance, and TPM.

1. SINOPEC Head Office

On May 16, the JCCP delegation paid a courtesy call on Mr. Tang Suxin, Director General, Foreign Affairs Bureau. On the next day, they held a detailed discussion on

training issues with five SINOPEC personnel—Mr. Zhang Zheng, Deputy Director General; Mr. Rong Qi, Head Office Director; Ms. Li Bingie, Asia & Africa Division (and Japanese translator); Mr. Kang Baohui, Senior Engineer, Coordination Manager Division, Production Management Department; and Mr. Ren Gang, Senior Engineer, Equipment Division Refinery Department.

As SINOPEC has many refineries under its wing, JCCP was requested to implement CPO programs twice during this fiscal year. Taking various information into consideration, such that the Maoming Refinery has been voicing an especially strong desire for a CPO, and that a CPO for upstream departments is already scheduled to be implemented in early August, it was suggested that the first CPO be held in late August or early September at the Tianjin or Jinan Refinery, and the second CPO in late February 2012 at the Maoming Refinery.

The head office side said it would select a venue that provides good transportation access to all participants and that offers a favorable seminar environment.

The CPO content discussed was as follows:

- 1) Energy conservation: promotion framework, the number of managers and engineers, energy-saving cases
- 2) Maintenance: promotion framework, the number of managers and engineers, the frequency, planning, and framework of turnaround maintenance, selection of contractors, and cost reduction cases



Members on the SINOPEC side in the meeting with SINOPEC's Foreign Affairs Bureau



All members of the meeting with SINOPEC's Foreign Affairs Bureau

The head office members were highly motivated in regard to the CPO, and communicated requests concerning further details that had been examined in advance by a working group within SINOPEC. The JCCP side, for its part, proposed a workshop style of training instead of one-way lectures, in which both sides would give presentations on a common theme and exchange views. The SINOPEC side approved of this proposal.

The discussion ended with an agreement that SINOPEC's Foreign Affairs Bureau would make the necessary arrangements with the Tianjin Refinery, the scheduled site of the first CPO, and convey the results to JCCP at a later date. JCCP also agreed to contact SINOPEC upon preparing a detailed outline of the program.

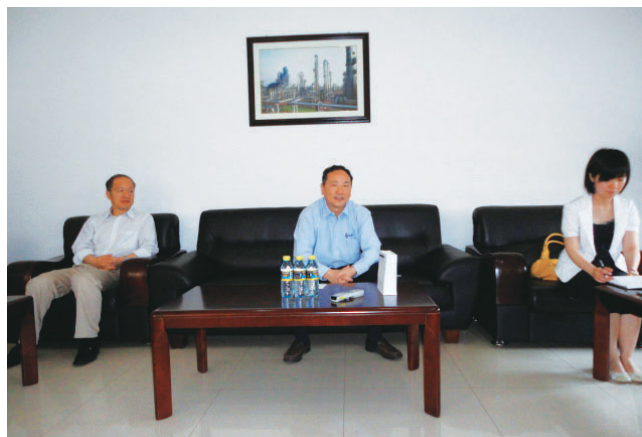
Mr. Rong acted as JCCP's counterpart for many years in the capacity of Head Office Director of the Asia & Africa Division, but was reassigned to the America & Oceania Division this year and absolved from his responsibility as JCCP's counterpart. Nevertheless, by virtue of his past performance, and to the great reassurance of the JCCP delegation, Mr. Rong was instructed to take charge of this CPO by Mr. Tang.

In the discussion about JCCP's training program for this fiscal year, Mr. Rong expressed his concern about the situation in Japan after the Great East Japan Earthquake, and said he will consider sending SINOPEC employees to JCCP courses based on the latest JCCP training schedule and would therefore be awaiting active communication of information from JCCP.

2. Hainan Refinery

On May 18, the JCCP delegation traveled to Hainan, accompanied by Mr. Rong and Ms. Li. Located four hours to the south of Beijing by air, Hainan was the venue of the Forum of Asia annual conference in 2009, where leaders from Asian countries gathered to promote economic and financial cooperation and called for mutual support for the construction of an East Asian Community and the development of Asia.

The Hainan Refinery is one of SINOPEC's newest refineries, and commenced operations in 2006 with a processing capacity of 160 MBSD. Outfitted with a hydrocracker and a residue FCC unit, it is a state-of-the-art refinery that also has plans for the installation of petrochemical units in the future. From its design to its construction and operation, the refinery fully incorporates



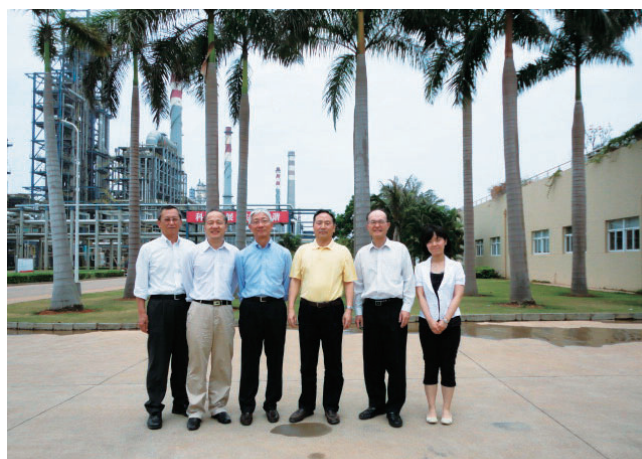
*At the Hainan Refinery:
Mr. Han Jianmin, Vice President (center)*

SINOPEC's original technologies and adopts domestic technologies in the residue desulfurization and hydrocracking processes, reactors, and catalysts. It imports crude oil from the Middle East and uses Hainan crude to produce Euro-IV compliant products.

Four years of continuous operations have been achieved so far with a small number of employees selected from among experienced refinery operators affiliated with SINOPEC. It was explained that even employees from the Dung Quat Refinery in Vietnam have previously visited the Hainan Refinery to receive training.

The refinery already boasts some of the highest levels of technology and profit of all refineries inside and outside of China, but is presently undergoing further expansion. Operations are stringently regulated by rigid environmental standards for air, wastewater and waste, because the refinery is located adjacent to a tourist site.

On May 19, the JCCP delegation met with Mr. Han Jianmin, Vice President of Hainan Refinery. Having



All members of the meeting at the Hainan Refinery

been in Japan on March 2, only a week before the Great East Japan Earthquake, to participate in a JCCP course as part of a 27-member study group that also included Mr. Rong and Ms. Li, Mr. Han was stunned and shocked by the news of the earthquake, and offered heartfelt words of condolence immediately upon welcoming the JCCP delegation. He appeared truly heartbroken that the refinery he visited for offsite training had suffered extensive damage in the disaster.

In the meeting with the JCCP delegation, Mr. Han said that opportunities to learn about Japanese technologies are coveted, because the Hainan Refinery is still a new refinery with little experience. He especially approved of JCCP courses, as they allow participants to learn not only about Japanese technologies but also about Japanese culture, and to interact with participants of vast experience from other countries. He said that participants gain invaluable experience from JCCP courses and acquire a precious asset by exchanging information with other participants. Noting the importance of SINOPEC's Foreign Affairs Bureau and JCCP to the Hainan Refinery, Mr. Han expressed his expectations of further cooperation between the two organizations.

3. Summary

At each destination, the JCCP delegation received sincere words of condolence regarding the Great East Japan Earthquake, as well as high praise regarding the Japanese people's capacity for endurance and strong sense of decorum. Many people said they are convinced that this diligent nature of the Japanese people will lead the country to an early recovery.

At the same time, there were also words of expectation for the planning and management of this fiscal year's JCCP training programs. This renewed the JCCP members' awareness that JCCP must resume its training courses as quickly as possible to maintain the relationships of trust and cooperation that have been established with oil-producing countries based on steady achievements.

The JCCP members were furthermore made keenly aware of the need to create a relationship of mutual discussion and learning with SINOPEC, instead of a relationship of one-way training. With SINOPEC owning the world-class Hainan Refinery, JCCP will continue to hold direct meetings with SINOPEC to survey its needs and to strengthen friendly ties through exchanges of technology and information.

<by Tetsuji Kubota, Training Dept.>



Report on the Training Cooperation Program —Vietnam—

1. Background

Among East Asian countries, Vietnam is the now the second-largest supplier of crude oil to Japan after Indonesia. Vietnam crude is extremely important to Japan's access to stable supplies of crude oil, particularly because it has good quality, a low sulfur content, and a small environmental footprint, and also because it is one of the few crude oil supplies that do not pass through the Strait of Hormuz, which is considered risky waters for tankers. Based on this awareness, a JCCP delegation visited Vietnam under the Training Cooperation Program from May 29 to June 4, for the first time in three years since the last visit in fiscal 2008. One of the main objectives of the visit was to inform relevant Vietnamese institutions about a special assistance program for oil-producing countries that JCCP will be implementing this fiscal year for Vietnam, to support the development of the oil downstream sector in the country.

2. Overview

The members of the JCCP delegation included Akio Yamanaka (Operations Dept.), Minoru Horike (Technical Cooperation Dept.), Shintaro Miyawaki (Training Dept.) and Kazuhiro Suzuki (Training Dept.).

They visited Petrovietnam and its subsidiaries, Vietnam National Petroleum Corporation (Petrolimex), the Japanese Embassy in Vietnam, and the JETRO Ho Chi Minh Office with the following agenda.

- (1) To convey JCCP's appreciation for the messages of condolence it received from Vietnam after the March earthquake, and to explain about the current status of JCCP training programs and about the recommencement of regular courses in September
- (2) To explain and discuss the special assistance program for Vietnam
 - 1) Background, proceedings, requests
 - 2) Training: Proposals and discussion on specific customized courses (CPO/CPJ) and assessment of training needs

Proposal 1: CPJ on instrumentation (slated to begin in August)

Proposal 2: CPO on maintenance and instrumentation (planned to be implemented in July)

Proposal 3: CPJ on marketing (slated to begin in January 2012)

Proposal 4: CPO on upgrading (planned to be implemented in September)

Proposal 5: Other new programs

- 3) Technical cooperation: Explanation of programs, designation of counterpart departments, assessment of needs

- (3) Request for cooperation from the Japanese Embassy and JETRO

3. Details

(1) Petrovietnam, Head Office

First, the JCCP members thanked Petrovietnam for its message of support and encouragement after the Great East Japan Earthquake. They explained that the extent of damage in the Tokyo area was not as severe as what the Tohoku-Pacific Coast area suffered, and that JCCP has been operating as usual but postponed all regular courses scheduled up to July as a precaution against potential



At the Petrovietnam Head Office:
Mr. Nguyen Le Binh, Deputy General Manager,
Training & HRD Division (second from right)

aftershocks. They then informed the Petrovietnam side that regular courses will resume in September, and explained that they are planned on being implemented in Osaka and other cities in the Kansai area to provide reassurance of participants' safety.

After listening intently to JCCP's present situation regarding training programs, Mr. Nguyen Le Binh, Deputy General Manager, Training & HRD Division, said JCCP's proposals are of strong interest to Petrovietnam, and he is eager to begin internal discussions toward their implementation. He also suggested that it would be best to promptly proceed to the actual planning stage and to mutually exchange the necessary information to work out the details.

(2) Vietnam Petroleum Institute (VPI), Hanoi Head Office

VPI is a research institute affiliated with Petrovietnam, and engages in a wide range of studies, from petroleum processing to market analysis. In response to the JCCP members' summary of JCCP activities and initiatives including the special assistance program for Vietnam, Mr. Nguyen Hong Minh, Deputy General Director, expressed his hope that this meeting will mark the beginning of ongoing exchanges of views between VPI and JCCP.



*At the VPI Head Office in Hanoi:
Mr. Nguyen Hong Minh, Deputy General Director (center)*

(3) Japanese Embassy in Vietnam

The JCCP members explained that the purpose of their visit to Vietnam was to notify relevant Vietnamese institutions that a budget has been approved for the implementation of a special assistance program in Vietnam and Iraq this fiscal year, and also to work out the details of the program with relevant managers in charge of human resource development and technical cooperation.

Mr. Takahiro Shimomura, Secretary, informed the JCCP delegation that a Cabinet reorganization is slated to take place soon in Vietnam and a new minister for oil is also slated to be appointed in mid-July, but reassured them that the friendly relationship between Petrovietnam and JCCP would be maintained. Before closing the meeting, the JCCP members said that the embassy's continued cooperation in JCCP activities, including the special assistance program for Vietnam, would be greatly appreciated.

(4) Vietnam National Petroleum Corporation (Petrolimex), Hanoi Head Office

Petrolimex is one of the leading importers and domestic distributors of gasoline and other oil products in Vietnam, with a domestic sales share of more than 50%. It said it has plans to build Vietnam's fourth refinery (with government approval), and therefore has strong interest in future JCCP training programs. JCCP has received participants from Petrolimex in the past, but this was the first time for JCCP to make a visit to the company.

The JCCP members gave an overview of JCCP activities and explained about the special assistance program for Vietnam, as they did at Petrovietnam. The Petrolimex side responded by noting that the company indeed has extremely strong needs for JCCP training, and said they would like to hold internal discussions and proceed to making the necessary arrangements as quickly as possible. They also asked if larger numbers of people could participate in JCCP training programs, to which the JCCP members replied in the affirmative, explaining that the participation of a larger number of people would be possible by implementing CPOs/CPJs under the framework of the special assistance program.



*At the Petrolimex Head Office:
Mr. Vuong Thai Dzung, Deputy General Director (center)*

(5) Vietnam Petroleum Institute (VPI), R&D Center

The JCCP members first thanked Mr. Nguyen Anh Duc, PhD, Deputy General Director, for his participation in the JCCP International Symposium held this past January, and Mr. Nguyen replied that it was a highly meaningful and valuable experience and thanked JCCP in return. As this was JCCP's first visit to the R&D Center in roughly ten years, the members gave the latest updates on JCCP activities and explained about the special assistance program as they did at the VPI Head Office in Hanoi. It was confirmed that Petrovietnam's Human Resource Development Department would act as JCCP's counterpart for both VPI's head office and R&D Center.



At VPI's R&D Center (Ho Chi Minh City):
Mr. Nguyen Anh Duc, PhD, Deputy General Director
(second from left)

(6) Petrovietnam, Nhon Trach Power Plant

Nhon Trach Power Plant is one of a number of power plants affiliated with Petrovietnam, and is located southeast of Ho Chi Minh City. Its two gas turbines (150 MW each) and a heat recovery steam turbine (150 MW) provide a total power generation capacity of 450 MW.



At the Nhon Trach Power Plant:
Mr. Ho Quyet Thang, Deputy General Director (center)

The plant was completed only four years ago, and is equipped with state-of-the-art facilities, including the latest analyzer for controlling the boiler. It also satisfies the required water quality standards.

Mr. Ho Quyet Thang, Deputy General Director, Nhon Trach Power Plant, who participated in a JCCP regular course (IT-1-09) in the past, said he wishes to send his employees to regular courses on an ongoing basis. Thus, Mr. Ho and the JCCP members shared common expectations for further development of the cooperative relationship between Petrovietnam subsidiaries and JCCP through JCCP activities.

(7) Petrovietnam Manpower Training College (PVMTC)

PVMTC is a training center for employees in all sectors, companies, and departments affiliated with Petrovietnam, with a focus on providing training for technician to engineer-level employees. In addition to the state-of-the-art training center (completed six months ago) that the JCCP delegation visited, PVMTC has a number of campuses inside and outside Vung Tau City.

The PVMTC side first introduced the operations of the college, noting that it is currently undergoing its first major organizational expansion since its establishment in 1975. Particularly noteworthy is the fact that PVMTC trains more than 15,000 employees per year, receiving some 1,000 participants from the Dung Quat Refinery, which is a major plant that will forge the future of Petrovietnam, and several hundreds of participants from other power plants throughout the country.

After the meeting, the JCCP members were shown the training facility floor inside the new training center building and were given an explanation of various analysis instruments and measuring devices for oil



At PVMTC's newest training center (in Vung Tau)



*Training facility recently installed in PVMTC
(completed six months ago)*

products. The training room where the measurement devices were installed was also equipped with the latest measuring equipment, and appeared to be staffed mostly by female instructors.

(8) JETRO Ho Chi Minh Office

JETRO has two offices in Vietnam: in Ho Chi Minh City and Hanoi. The JCCP delegation visited the Ho Chi Minh Office (Director: Sakae Yoshida), which oversees the southern Vietnam region, and gained an overview of the status of Vietnam's economic growth and recent examples of economic cooperation between Vietnam and Japan seen in various sectors mainly around Ho Chi Minh City (southern region). In contrast to the capital city of Hanoi, which is a political center, Ho Chi Minh City is an economic center. The area centering on Vung Tau is a major oil production center with a per capita GDP roughly three times greater than Hanoi. Moreover, various large projects related to the energy industry are concentrated in the southern region, including the

development of offshore oilfields and gas fields, the enhancement of Phumy Thermal Power Plant, the construction of oil refining plants, and the review of plans to introduce nuclear power generation. Members of the JETRO Ho Chi Minh Office said that, on the whole, the relationship between Vietnam and Japan is characterized by Vietnam's strong expectations for investment from Japan, and offered access to JETRO's materials on technical cooperation projects implemented between the two countries and other details of such initiatives as reference for future JCCP activities.

4. Summary

The visits to the head office of Petrovietnam and subsidiaries of the Petrovietnam Group took the JCCP delegation across the country from north to south, through Hanoi, Ho Chi Minh City, and Vung Tau, as meetings were held with relevant companies and institutions as planned. Not only were the objectives of the visits fulfilled, but also Petrovietnam and its subsidiaries' positive response and strong interest in JCCP programs and particularly in the proposal concerning the special assistance program for Vietnam provided perspective and direction to JCCP's future activities in the country.

Members of the JCCP delegation were contented with the opportunity to personally verify the status of JCCP activities in Vietnam, and were encouraged by the understanding that the Petrovietnam head office and other institutions showed in regard to the significance of JCCP training.

JCCP extends its deepest gratitude to everyone in all relevant departments for their guidance and cooperation in the planning and coordination of this visit to Vietnam.

<by Shintaro Miyawaki, Training Dept.>

Revised Annual Program for Fiscal Year 2011

(April 1, 2011 – March 31, 2012)

JCCP training courses have been temporarily canceled after the March 11 earthquake, but they will resume in September, as shown in the chart below. Please note that TR-4 and TR-9 have been postponed to a later date. We are sorry for any inconvenience this may cause, but we appreciate your understanding and continued cooperation.

Course No.	Course Title		Duration	Registration Deadline
TR-1	Petroleum Marketing	< canceled	Apr. 5 – 22, 2011	Jan. 31, 2011
TR-2	Upgrading Processes of Heavy Oil		Apr. 5 – 22, 2011	Jan. 31, 2011
TR-3	DCS Fundamentals and Applications		Apr. 5 – 22, 2011	Jan. 31, 2011
TR-4	Human Resource Management (HRM)	< postponed	May 10 – 27, 2011	Mar. 7, 2011
TR-5	Essential Petroleum Refining for Process Engineers	< canceled	May 10 – 27, 2011	Mar. 7, 2011
TR-6	Refinery Management		May 31 – Jun. 14, 2011	Mar. 28, 2011
TR-7	Diagnostic Techniques and Maintenance for Rotary Machinery		May 31 – Jun. 17, 2011	Mar. 28, 2011
TR-8	Safety Management for Refineries		Jun. 21 – Jul. 8, 2011	Apr. 18, 2011
TR-9	Maintenance Management	< postponed	Jun. 21 – Jul. 8, 2011	Apr. 18, 2011
TR-10	Environmental Management for Refineries	< change in venue to Osaka	Sep. 20 – Oct. 7, 2011	Jul. 18, 2011
TR-11	Project Management for Mechanical Engineers		Sep. 20 – Oct. 7, 2011	Jul. 18, 2011
TR-12	Petroleum Marketing and Oil Terminal		Oct. 11 – 28, 2011	Aug. 8, 2011
TR-13	Advanced Field Devices and Control		Oct. 11 – 28, 2011	Aug. 8, 2011
TR-14	Gas Processing for LNG		Nov. 1 – 18, 2011	Aug. 22, 2011
TR-15	Material Problems and Their Countermeasures		Nov. 1 – 18, 2011	Aug. 22, 2011
IT-1	Turnaround and Inspection (T&I)		Nov. 21 – Dec. 2, 2011	Sep. 19, 2011
TR-9	Maintenance Management		Nov. 21 – Dec. 2, 2011	Sep. 19, 2011
TR-16	Human Resource Development (HRD)		Nov. 22 – Dec. 9, 2011	Sep. 19, 2011
TR-17	Information and Control Systems Utilized in Refineries		Nov. 22 – Dec. 9, 2011	Sep. 19, 2011
IT-2	Petroleum Marketing and Physical Distribution		Jan. 10 – 20, 2012	Nov. 7, 2011
TR-18	Energy Saving for Profitability Improvement		Jan. 17 – Feb. 3, 2012	Nov. 7, 2011
TR-19	Inspection and Reliability Evaluation		Jan. 17 – Feb. 3, 2012	Nov. 7, 2011
TR-4	Human Resource Management (HRM)		Jan. 17 – Feb. 3, 2012	Nov. 7, 2011
TR-20	Quality Management of Refinery Products		Feb. 7 – 24, 2012	Dec. 5, 2011
TR-21	Advanced Process Control on DCS		Feb. 7 – 24, 2012	Dec. 5, 2011

JCCP Regular Courses Completed in February 2011

TR-19-10 Quality Management of Refinery Products February 8 – February 25, 2011

Lecturer: Takaaki Yuasa

- Content: Quality Management; Quality Control in Japan; Environmental Strategy of Japanese Oil Companies; QC in Refinery; ISO-9000; Clean Fuel in Japan; Product Planning by LP Model
- Site visits: Yokogawa Electric Corporation; DKK TOA Corporation; Idemitsu Kosan Co., Ltd. (Tokuyama Refinery); Shimadzu Corporation; JX Nippon Oil & Energy Corporation (Negishi Refinery); Tanaka Scientific Limited
- Country of participants: Bahrain, Kazakhstan, Kuwait, Libya, Malaysia, Mexico, Nigeria, Oman, Pakistan, Thailand, Vietnam



<11 countries / 15 participants>

TR-20-10 Inspection and Reliability Evaluation February 8 – February 25, 2011

Lecturer: Hiromitsu Saito

- Content: Petroleum Industry in Japan; Material Problem of Static Equipment; Maintenance Management in Japanese Refinery; Corrosion and Fouling Control and Inhibitors; Reliability Evaluation of Pressure Vessel; Maintenance Management of Static Equipment; Typical Problems and Countermeasures; Material Characteristics of Pressure Vessels and Quality Control; Steel Piping Manufacturing Process & Its Quality Control; Lecture & Practice on Newly Developed NDT; Reliability Activities in a Refinery; Typical Problems and Countermeasures; Maintenance and Repair Technologies of Plants & Tanks; Corrosion and Deterioration of Material in Refinery Equipment
- Site visits: Cosmo Oil Co., Ltd. (Sakaide Refinery); Kobe Steel, Ltd. (Takasago Equipment Plant); Sumitomo Metal Industries, Ltd. (Kansai Steel Div.); Non-Destructive Inspection Co., Ltd. (Headquarters); Showa Yokkaichi Sekiyu K.K. (Yokkaichi Refinery); Shinko Plantech Co., Ltd. (Isogo Factory); Chiyoda Corporation (Head Office)
- Country of participants: Iraq, Libya, Nigeria, Philippines, Saudi Arabia, Sudan, Thailand, Vietnam, Yemen



<9 countries / 15 participants>

TR-21-10 Advanced Process Control on DCS February 8 – February 25, 2011

Lecturer: Teruhiko Sasaki

- Content: Basic Process Control Theories with Practice Using Computer Simulator and Miniature Plant with DCS Application: Advanced Process Control Theories with Practice; Engineering Practice of Control Design; Controller Drawing and Operation Support System Using DCS; Latest DCS-related Technologies; Application Examples of Advanced Process Control in Japanese Refineries; Modernization of Latest Instrumentation
- Site visits: Yokogawa Electric Corp. (Headquarters); JX Nippon Oil & Energy Corp. (Marifu Refinery); Seibu Oil Co., Ltd. (Yamaguchi Refinery)
- Country of participants: India, Iraq, Libya, Malaysia, Mexico, Nigeria, Saudi Arabia, Sudan, Thailand, Vietnam



<10 countries / 15 participants>

Commencement of Technical Cooperation with the Ministry of Oil-Iraq

(Overview of the FY2010 Technical Cooperation Survey in Iraq)

1. Special Assistance Program for Iraq

JCCP has provided training to Iraqi participants and has dispatched Japanese experts to conduct training programs in Iraq either as JCCP-initiative programs or member company programs over the years since its establishment, although there were some interruptions due to two wars. With respect to technical cooperation projects, the “Feasibility Study on Emergency Restoration of LPG Bottling Plant in Iraq” and “Comprehensive Study for Restoration Assistance” were implemented in 2003 in support of reconstruction efforts in the country. In December 2009, JCCP extended an invitation to Mr. Iqdam M. R. Hashim Al-Shadeedi, then Deputy Director General, Ministry of Oil-Iraq, to visit Japan, and took the occasion of the visit to sign a memorandum of understanding (MOU) that verified their desire to deepen mutual understanding through JCCP training programs and technical cooperation projects and resume exchanges.

In accordance with the MOU, oil refining companies affiliated with the Ministry of Oil-Iraq and JCCP have launched technical cooperation projects in fiscal 2010, as follows.

2. FY2010 Technical Cooperation Projects

More than ten technical issues were identified among those that the Ministry of Oil-Iraq faces and needs to address. After ranking these issues in order of priority, the implementation of two projects was decided: (1) Study on Technical Support of Introduction of Produced Water Treatment for South Oil Co. (SOC) in Iraq, and (2) Study on Development of Asphalt Industry and Finding New Applications in Iraq. In consideration of the domestic situation in Iraq, the projects were carried



Group photo taken after the reporting meeting:
(The four central men, from left to right) Mr. Jasim M. Hameed, Manager, Technical Department, Training and Development Directorate;
Dr. Kareem A. Alwan, Manager of PRDC;
Mr. Morihiro Yoshida, Managing Director of JCCP; and
Mr. Minoru Horike, General Manager, JCCP Technical Cooperation Dept.

forward by implementing technical conferences in a neighboring country and holding an interim progress meeting in Tokyo in December 2010. An overview of the projects is provided below.

(1) Study on Technical Support of Introduction of Produced Water Treatment for SOC in Iraq

Oilfield-produced water, which is produced in the process of crude oil production, is extremely high in oil content, suspended solids, and salinity. Since it cannot be discharged to rivers without adversely impacting the environment, at present it is discharged and evaporated in an evaporation pond. However, any discharging of produced water to evaporation ponds will be prohibited under a new government policy effective from 2014. Additionally, river water is currently used for injection to the crude oil well in Iraq, but river flows are decreasing, and there will come a time in the future when river water will no longer be available, either. As a countermeasure to these issues, SOC is strongly seeking to re-use produced water as injection water, and JCCP is offering technical assistance in applying Japan's wastewater treatment technologies to the treatment of

oilfield-produced water in Iraq.

[Overview of the project]

- 1) Implementation period: August 1, 2010 – March 31, 2013
- 2) Counterpart: South Oil Company
- 3) Participating companies: Water Reuse Promotion Center; Swing Corporation
- 4) Project goal: To establish a water treatment system for oilfield-produced water and propose a basic design for a commercial treatment facility

In fiscal 2010, samples of oilfield-produced water were obtained, their properties were analyzed, and specifications required for its utilization as injection water were assessed. Then, after an examination of treatment methods using the samples, an appropriate oilfield-produced water treatment system was established. The system would satisfy the specifications of injection water by employing a combination of various treatment processes, including oil removal, oxidation, coagulation, filtration, and sterilization.

(2) Study on Development of Asphalt Industry and Finding New Applications in Iraq

In Iraq, asphalt is currently produced in the north, mid, and south refineries, by blending the bottom oil from the propane deasphalting unit (PDA) that is used for lube oil production with residue oil in the vacuum distillation unit (VDU). Because asphalt quality conforms to the same standard all over the country regardless of the season, the frequent occurrence of pavement defects throughout the country, such as rutting, wear, cracking, and longitudinal unevenness, is becoming a social problem. To remedy this problem, the project aims to transfer to Iraq the asphalt manufacturing, modifying, and paving technologies that Japan has cultivated through the years.

[Overview of the project]

- 1) Implementation period: August 1, 2010 – March 31, 2013
- 2) Counterpart: Iraq National Oil Company
- 3) Participating companies: JX Nippon Research Institute Ltd.; JX Nippon Oil & Energy Corporation; Green Consultant Co., Ltd.
- 4) Project goal: To transfer Japan's asphalt manufacturing, modifying, and paving technologies



*Heated discussions among engineers
(in the spotlight: Mr. Zaydoun K. Kreamid)*

to the manufacturing of pavement asphalt using crude oil in Iraq, and improve the quality of pavement asphalt in Iraq

In fiscal 2010, samples of Iraqi asphalt were obtained, their properties were analyzed through laboratory tests, and specific quality flaws were examined based on indicators of their properties. Additionally, as a result of manufacturing modified asphalt using the samples and evaluating the modified asphalt, it was determined that quality asphalt could be manufactured in Iraq.

3. Summary of the FY2010 Special Assistance Program for Iraq

A reporting meeting for FY2010 study results was held on March 6, 2011 in Istanbul, with the attendance of Dr. Kareem A. Alwan, Manager of PRDC, and Mr. Morihiro Yoshida, Managing Director of JCCP. The Iraqi ministry side reported on various issues and problems in Iraq, and the Japanese side reported on the results of a survey of those issues. Based on this information, the two sides asked and answered questions and engaged in an active exchange of views on activity plans and procedures for the next fiscal year. The meeting closed on a successful note with Dr. Kareem expressing his appreciation for Japan's technical assistance regarding the issues Iraq faces. Plans for fiscal 2011 include the installation of a small pilot plant and the implementation of a full-fledged study based on the results of the FY2010 survey.

JCCP hopes to deepen mutual understanding and friendship between Iraq and Japan through these special assistance programs for Iraq.

<by Takeyoshi Haishima, Technical Cooperation Dept.>

Completion of Phase I of the Technical Cooperation Project on Enhancement of FCC Catalyst Evaluation in Saudi Arabia

A JCCP Technical Cooperation Project on “Enhancement of FCC Catalyst Evaluation in Saudi Arabia” was jointly implemented with King Fahd University of Petroleum & Minerals (KFUPM) over a three-year period beginning in fiscal 2008, in response to a strong request by Saudi Aramco, Saudi Arabia’s state-owned oil company. The goal of the project was to develop KFUPM’s capacity for evaluation and development of catalysts that could be used in fluid catalytic cracking units (FCCs) that many countries in the Middle East have begun to construct as a central equipment in their refineries.

All activities that were initially planned (Phase I) have been completed as summarized below, and the project has entered Phase II.

1. Background to the Project

An FCC unit is an equipment in which powdered catalyst reacts with heavy oil at high temperatures by fluid reaction and breaks the heavy oil feedstock into light fractions to produce more valuable LPG, gasoline, and middle distillates. It is a cracking unit that is widely acknowledged by the oil industry and considered a core equipment in many refineries. In fact, Saudi Aramco has built a high olefin fluid catalytic cracking unit (HOFC) at Rabigh in response to the recent increase in demand for petroleum and petrochemical products, and is also planning or otherwise already building FCC units in some of its export-oriented refineries. Under this situation, Saudi Aramco recognized the urgent need for its refineries to acquire FCC catalyst evaluation and development technologies, and requested KFUPM to play a role in their acquisition. Against this background, JCCP launched a technical cooperation project in fiscal 2008 to develop the capacity for FCC catalyst evaluation and development in KFUPM.

2. Overview

- 1) Implementation period: April 1, 2008 – March 31, 2011 (three years)
- 2) Counterpart: KFUPM
- 3) Participating companies: JX Nippon Research Institute Ltd., JX Nippon Oil & Energy Corporation, JGC Catalysts and Chemicals Ltd.
- 4) Activities: The following activities were implemented toward the development of FCC catalyst evaluation and development technologies at KFUPM.
 - (1) Introduce an advanced cracking evaluation (ACE) unit, the newest type of FCC catalyst evaluation unit available, to KFUPM.
 - (2) Provide training in the operation of the ACE unit and guidance for the analysis of operating data acquired from the ACE unit, as means of transferring FCC catalyst evaluation technology to KFUPM
 - (3) Provide lectures and seminars to KFUPM researchers, and invite engineers to Japan for hands-on training in the procedures and methods of FCC catalyst development

The ACE unit was manufactured in fiscal 2008 and delivered and installed in KFUPM in fiscal 2009. The series of technical assistance activities thereafter consisted of the following.

It is worth noting that, after introduction of the ACE unit to KFUPM, KFUPM researchers have begun engaging in the evaluation of catalysts by operating the ACE unit themselves.

- (1) Prior to introducing the ACE unit to KFUPM, KFUPM researchers were invited to the Research and Development Institute of JX Nippon Oil & Energy Corporation to receive training in the operation and function of the ACE unit using the unit installed in the research institute, as well as training in the evaluation and analysis of FCC catalysts.



ACE training at the Research and Development Institute of JX Nippon Oil & Energy Corporation:
(from the right) Mr. Rahat, Mr. Ramzi, Mr. Yoshihara

- (2) Explanations and instructions were given regarding the pseudo deactivation of FCC catalysts, which is necessary for the evaluation of fresh FCC catalysts, using technology that can accurately simulate the pseudo deactivation of FCC catalysts in the laboratory.
- (3) KFUPM researchers were invited to the Kitakyushu Operation Center of JGC Catalysts and Chemicals Ltd. to study the basic properties of zeolite catalysts and the effect of additives on catalysts through actual examples, and to receive technical training.
- (4) In fiscal 2010, an X-ray diffraction (XRD) unit was installed to allow for structural analysis of zeolite that is necessary for catalyst development, and technical guidance was provided for the structural analysis of zeolite and other technologies relevant to FCC catalyst development.

Through introduction of the ACE unit and XRD unit, operational training of the units, and technical guidance for analyzing data acquired from the evaluation unit,



Article and picture of the project featured in Al-Yaum, a local newspaper

as discussed above, the foundation for FCC catalyst evaluation and development has begun to take shape at KFUPM.

At a project achievement meeting held at KFUPM on February 1, 2011, the KFUPM side gave a report on two studies on the status of FCC unit introduction in the Middle East countries and on FCC catalyst evaluation and structural analysis using the ACE and XRD units. The Japanese side presented the results of an economic assessment of feeding the light cycle oil that is produced in the FCC unit back to the FCC unit.

At the end of the meeting, Dr. Sulaiman S. Al-Khattaf, Director of KFUPM and the responsible authority of the project on the KFUPM side, thanked JCCP for its support and assistance in the project.

3. Observations

As mentioned earlier, this project aimed to establish an R&D system for FCC catalysts within KFUPM by providing technical guidance to KFUPM researchers on the evaluation and development of FCC catalysts to be used in FCC units. The initial goal of the project was considered achieved when KFUPM researchers acquired the necessary technologies for the operation and data analysis of the ACE unit. The unit has quickly become a standard FCC catalyst evaluation unit in many refineries, but when it was introduced for the first time in this project in the Middle East, the local newspaper carried an article about it, and the project garnered strong attention from many relevant institutions.

The project will be ultimately reviewed and evaluated by an Ex-post Evaluation Committee composed of external experts.

As an increase in future demand for polypropylene is anticipated in the coming years, a study on "Development of High Olefin Yield FCC Catalysts" has been launched in fiscal 2010 as Phase II of the project, with the aim of developing a new catalyst that can provide a high yield of olefin from the FCC unit.

Through joint cooperation projects with KFUPM such as this particular project, JCCP hopes and expects to further strengthen and expand ties between Saudi Arabia and Japan.

<by Takeyoshi Haishima, Technical Cooperation Dept.>

Treatment and Utilization of the Oilfield-produced Water in Oman

The Treatment and Utilization of the Oilfield-produced Water in Oman was implemented over a period of four years, from 2007 to fiscal 2010, with the cooperation of Shimizu Corporation.

1. Background

Oilfield-produced water accounts for the largest volume of waste produced in the process of crude oil production. Particularly in Oman, where three to six times more produced water is pumped up from the oilfields compared to the actual volume of oil that is produced, it is one of the country's most serious environmental concerns.

The southern oilfields in Oman produce as much as 300,000 tons of produced water per day. This water is relatively low in salinity, so it could be re-used as irrigation water if its oil content could be reduced. 300,000 tons/day of produced water is an enormous amount of water, corresponding to 1.5 times the volume of water used daily in the capital city of Muscat. Securing and protecting water resources is critical to Oman's growth, as the country is 99% dependent on groundwater and one of the most groundwater-dependent among the Gulf countries, but the continuous use of groundwater at the current rate could deplete the resource.

Under this situation, the said project was launched with the goal of establishing high-efficiency technologies for the treatment of produced water in Oman and conducting a pilot test on the reutilization of the treated water as irrigation water. The effective utilization of produced water would not only help solve the waste issue that accompanies oilfield development, but it would also contribute to Oman's vision of achieving sustainable development, by creating new sources of water.

2. Technical Development

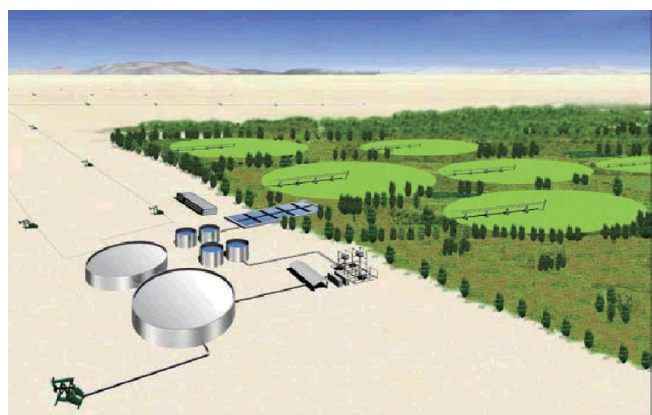
Sultan Qaboos University (SQU), the sole national university in Oman, was JCCP's counterpart in the project.



Commemorative photo taken at the opening ceremony for the pilot plant

Based on surveys of possible water treatment methods carried out from 2007 to 2009, a coagulation and pressurized flotation method that uses microbubbles was proposed as an optimum low-cost, high-efficiency wastewater treatment method, and the system was optimized and simplified for the treatment of oilfield-produced water in Oman.

However, other surveys that were carried out at the same time showed that a number of different issues related to wastewater treatment exist in Oman according to region and oil field. Therefore, a compact, container-sized mobile pilot treatment plant was designed so that it could be utilized to conduct tests at different oil



Conceptual image of the utilization of oilfield-produced water

fields. A test run of the pilot plant was conducted after it was installed in the Mina Al Fahal (MAF) Refinery of Petroleum Development Oman (PDO).

3. Observations

The pilot plant was officially launched at an opening ceremony attended by guests of honor Dr. Mohammed Hamed Saif Al-Rumhi, Minister of Oil & Gas; Mr. Seiji Morimoto, Japanese Ambassador to Oman; Dr. Ali bin Saud Al-Bemani, Vice Chancellor of Sultan Qaboos University; and Mr. Raoul M. Restucci, Managing Director of Petroleum Development Oman LLC, each of whom also delivered a congratulatory speech. Local television and radio broadcasts introduced news of the launching of the pilot plant on the day of the ceremony, and six newspapers in Oman (three English-language and three Arabic) carried articles about it on the following day. Japanese television and newspaper media also covered the event.

The project also produced the following results.

- (1) The operation of the pilot plant at the MAF site demonstrated that oil separation is definitely possible.
- (2) As palm dates are cheap agricultural waste that is

available in abundance in Oman, a carbonization and activation test was conducted using an activated carbon manufacturing device installed in SQU, to enhance the performance of activated carbons made from dates. Additionally, many date-derived activated carbons were manufactured on a test basis to obtain high-performance activated carbons, and their properties and carbonizing conditions were evaluated and analyzed. As a result, it was found that activated carbons made from the trunks of date trees have a two to three-times greater oil adsorption property compared to commercially available activated carbons.

- (3) A test on the effects of salt and boron content in produced water on the growth of feed crops was conducted jointly with the Omani Ministry of Agriculture & Fisheries, and confirmed that while high salinity has an adverse impact on plant growth, boron has no particular impact.

As there are many oilfields in Oman, demonstration tests will hereafter continue to be conducted using the mobile pilot plant in Phase II of the project to help solve the specific issues confronting each oil field.

<by Kenji Ikushima, Technical Cooperation Dept.>



Full view of the mobile pilot plant



Activated carbons made from the trunks of date trees



The trunk of a date tree

Study for Process and Operational Improvement in Mina Al Fahal Refinery of Oman

The Study for Process and Operational Improvement in Mina Al Fahal Refinery of Oman was implemented over a period of four years, from 2007 to fiscal 2010, as a JCCP technical cooperation project with the cooperation of Cosmo Research Institute.

1. Background

Oman is the seventh-largest crude oil supplier to Japan. Situated on the outside of the Strait of Hormuz, it is little affected by conflicts in the Gulf region, and plays an important role in Japan's energy security. Domestically, there has been an increase in demand for oil products accompanying economic growth, and the expansion of crude oil processing capacities has become a pressing issue. At the same time, it is also

becoming increasingly important to take appropriate measures to ensure safe and stable operations, address environmental issues, and improve efficiency. Under this situation, Oman Refineries and Petrochemicals Company (ORPC)*, the sole oil refining company in Oman, requested JCCP's cooperation in the transfer of oil refining technologies to Oman, and thus JCCP and ORPC came to implement the Study for Process and Operational Improvement in Mina Al Fahal Refinery of Oman.

* The company now operates under the name of Oman Oil Refineries and Petroleum Industries Co. (Orpic). It was established by the integration of three companies—Oman Refineries and Petrochemicals Co. (ORPC), Aromatics Oman LLC (AOL), and Oman Polypropylene (OPP).

Chart 1: Improvement guidance record

Theme	2007	2008	2009	2010
Study of low-load operation of the sour water stripper and its energy-saving effect	↔			
Shortening of the startup operation of the diesel oil hydrodesulfurization unit	↔			
Study of issues regarding the increase of gasoline production	↔			
Shortening of the startup operation of the naphtha catalytic reformer	↔	↔		
Operational improvement of the amine-washing unit	↔	↔		
Operational improvement of the sulfur recovery unit		↔		
Reduction of excessive combustion air in the furnace		↔		
Reduction of benzene content in gasoline		↔	↔	
Improvement of the instrument and utility air supply system			↔	
Waste heat recovery from the furnace flue gas			↔	
Capacity increase by the replacement of the trays in the CDU distillation column			↔	↔
Operational improvement of the diesel fuel hydrodesulfurization unit			↔	↔
Operational improvement of the rundown section in the diesel fuel hydrodesulfurization unit				↔
Improvement of corrosion and scaling in the sour water stripper and amine treatment unit				↔
Improvement of the CDU feed train and corrosion control in the CDU overhead system				↔



Meeting with ORPC

2. Overview

The study was implemented by creating an activity plan for each relevant theme by fiscal year through detailed discussions with the ORPC side and by conducting onsite tasks, such as collecting operating data, confirming the operating status of each unit, and interviewing people in charge, together with ORPC personnel respectively assigned to each theme. Such a method was adopted so that the project would not end up simply providing Japan's refining technologies, but so it would draw out the potential of ORPC employees and enable them to address and solve issues on their own in the future through hands-on experience in investigating and solving the root causes of issues.

Process and operational improvement guidance was provided for various main plants, such as the CDU (crude distillation unit), catalytic reformer, and diesel fuel hydrodesulfurization unit, and also included guidance for increasing capacity and operational efficiency through improvement of the operating procedures of each unit. Proposals were also made for the capacity increase of the refinery as a whole through the new construction and expansion of units (see Chart 1: Improvement guidance record).

For instance, in the "Study of low-load operation of the sour water stripper and its energy-saving effect," all units considered sources of sour water were investigated, and the result was used to examine measures for conserving energy by reducing the production of sour water and subsequent measures for achieving stable low-load operation of the sour water stripper. Actual operations today incorporate these measures.

In "Capacity increase through revamping of the

CDU column trays," a simulation was performed using actual operating data of a CDU to study the feasibility of increasing crude oil processing capacity by replacing the CDU column trays to high-performance trays, and a basic design for revamping was proposed. ORPC plans to continue using Chart 1 as a basis for making further considerations.

3. Observations

ORPC showed strong interest in this study at each important juncture. For example, Dr. Adil bin Abdulaziz Al Kindy, CEO, lent his presence to the MOA signing ceremony held prior to launching the study, and the refinery director attended the study meetings and reporting meetings held each fiscal year. Upon completion of the study, the refinery director even presented a letter of appreciation to the Japanese side. The study received high praise from ORPC, with strong requests for its continuation.

The study was of high interest to Japan as well, as indicated by the attendance of the Japanese ambassador to Oman at the MOA signing ceremony.

As per a strong request from ORPC, a new technical cooperation project entitled "Study for Environmental Improvement of Equipment and Operations in Mina Al Fahal Refinery of Oman" is slated to be implemented over a period of three years from fiscal 2011 as a continuation of the study that has just been completed. JCCP will continue to play its part in such technical cooperation projects in Oman with expectations that its cooperation will further strengthen the friendly relationship between Oman and Japan.

<by Toshifumi Amemiya, Technical Cooperation Dept.>

Improvement of Reactor Efficiency at the Esfahan Refinery in Iran

A technical cooperation project on improving reactor efficiency was implemented at Esfahan Oil Refining Company (EORC), a subsidiary of National Iranian Oil Refining & Distribution Company (NIORDC), in fiscal 2008 with the cooperation of Nichiyo Engineering Corporation and JX Nippon Research Institute Ltd., and came to completion at the end of fiscal 2010. It was begun with a survey on the feasibility of increasing the efficiency of a reactor for a hydrocracking unit, and entailed the introduction of Japanese technologies for improvement of the distributor (liquid separator) in the reactor and technologies for the dense loading of regenerated catalysts.

1. Technical Issues Facing Iran's Refineries

Amid trends toward natural gas fuels and cleaner fuel oils, refineries in Iran have been seeking advanced refining technologies such as hydrodesulfurization and hydrocracking technologies to process the surplus of heavy oil they obtain from crude oil produced in the country, and have requested technical cooperation from Japan, particularly with respect to increasing the operational efficiency of existing hydrocracker reactors, which are central to upgrading heavy oil.

Prior to launching the project, a project-finding survey was conducted in fiscal 2007 to assess the condition of the hydrocracker reactor, and discussions were held with the Iranian side on candidate refineries for carrying out

the necessary activities, such as re-designing the relevant facilities, loading catalysts, performing a demonstration operation, and evaluating performance. As a result, the Esfahan Refinery was selected as the counterpart from among six refineries in Iran that have hydrocracker units. The Esfahan Refinery is a large-scale refinery outfitted with two hydrocracker units.

2. Approaches to the Issues

At the Esfahan Refinery, hydrocracking catalysts are regenerated and reloaded into the hydrocracker during regular maintenance every three years. The regenerated catalysts are regenerated once more before they are completely replaced with fresh catalysts. In Iran, the dense loading method is a proven method for loading fresh catalysts, but because regenerated catalysts drop slightly in hardness and tend to crack or be pulverized when using the dense loader, the sock loading method is manually employed. Yet, to increase hydrocracker processing capacity and yield, there has been a strong desire to employ the dense loading method for regenerated catalysts as well.

As Japan's dense loading technology is carefully designed to prevent catalyst pulverization when loading and is also suitable for loading regenerated catalysts, the project proposed to transfer the technology to Iran. At the same time, to prevent creating an uneven catalyst surface in the reactor, it proposed to improve the distributor in the reactor by applying Japan's latest technologies.

In fiscal 2008, engineers from the Esfahan Refinery were invited to Japan, and two drums of regenerated catalysts were transported from Iran, to conduct a catalyst-loading test in Japan using a dense loader. Additionally, the distributor and chimney tray were designed to allow a comparison between the existing parts and the newly designed parts using a cold-flow test unit.

3. Achievements

In April 2010, the final year of the project, two loading machines and six engineers were dispatched to



Catalyst dense loading (inside the reactor)

the Esfahan Refinery during the regular maintenance of the Isomax-1 hydrocrackers, and performed round-the-clock dense loading of regenerated catalysts to three reactors in the refinery, from April 19 to 23. The Japanese engineers and Iranian engineers took on their respective roles, and the loading task proceeded smoothly owing to their coordinated cooperation.

As a result, the catalyst dense loading test at Esfahan cleared the target flatness of the catalyst surface and fully satisfied the desired performance specifications. After the start-up, a performance verification operation was carried out, and a visit to Iran was scheduled in September 2010 to jointly evaluate the dense loading performance, but due to various reasons, the yield data and other data needed for performance evaluation were not able to be obtained. For this reason, operational performance could not be sufficiently evaluated, but the reactors have been operating continuously, and as no problems have emerged to date after roughly six months of recommencing operations since loading the catalysts,



*Engineers who took part in the catalyst dense loading work
(Loading Gr. Room)*

it is assumed that catalyst dense loading is effectively contributing to increasing diesel fuel production at the Esfahan Refinery.

<by Kenji Ikushima, Technical Cooperation Dept.>



Announcement

20th World Petroleum Congress

The 20th World Petroleum Congress will be held this year on December 4, in Doha. Nine Japanese companies and organizations will participate in the event, including JCCP. As part of our publicity activities, we will have a booth, albeit a small one, to introduce JCCP's activities to people who will be attending the event from various oil-producing countries.

The main theme of our exhibition will be, "Deepen the bond with JCCP graduates."

In addition to introducing JCCP's activities, we hope to take the opportunity of this occasion to share and exchange information and views with former JCCP participants at our booth.

If you are planning on attending the World Petroleum Congress, please come visit the JCCP booth. You can find the location of our booth on the WPC website (www.20wpc.com).

We look forward to seeing you again.

Announcement

Please Help Us Update Our Roster

Thank you for reading *JCCP NEWS* as always.

JCCP will reach a significant milestone in its history this autumn.

We will be celebrating JCCP's 30 years of operations, during which more than 20,000 participants have attended JCCP training programs.

In commemorating this achievement, we extend 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 registration 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.

Thank you for your cooperation.

Hisayoshi Tanda
General Manager, Planning & Coordination

Masumi Kitahara (Ms.)
Manager, Planning & Public Relations

Personnel Changes

Training Department

Outgoing Personnel



Shigeyoshi TAKAHASHI



Yasuo TABEL



Yoshiaki UENO

Incoming Personnel



Tetsuo ARII



Masayuki JIMBO

Technical Cooperation Department

Outgoing Personnel



Ayumu MAEKAWA



Nobuyuki SUYAMA



Haruhiko OOSIMA

Incoming Personnel



Hideki NOMURA



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