



JCCP NEWS

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Topics

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FY2007 JCCP Program Seminar



Seminar participants

JCCP held an 8-day Program Seminar (TCJ-1-07) from July 18 to 25, 2007. Unlike regular courses, the program seminar is a special program that invites managerial people from JCCP counterpart departments in national oil companies in oil-producing countries to Japan, to further their understanding of JCCP and hold concrete discussions on future training programs and expert services.

In the past however, the main objectives of the program had not necessarily been fully conveyed to JCCP counterparts in major oil-producing countries. JCCP had even had to put off implementing the yearly program a few times, due to lack of participants. Out of regret of this situation, JCCP further clarified the objectives of the program

and made active efforts to widely convey its significance to relevant countries. As a result, last year JCCP was able to successfully hold the program for the first time in three years. This year's program built upon last year's achievement, and produced additional results, as described below.

1. Objectives of the Seminar

Following last year's Program Seminar, we held this year's seminar with an emphasis on the following objectives.

- (1) To enhance participants' understanding of JCCP activities, and in particular, JCCP policies for FY2008
We first presented JCCP's annual



A participant (from Qatar) giving a presentation



A participant (from Malaysia) giving a presentation

plan for FY2008 regular courses, which has just been formulated in early July, as well as reiterated JCCP's policy to more actively promote Expert Service (ES) and Study Tour (ST) programs to major counterpart countries. Based on the above, we set the stage for concrete discussions on implementing ES/ST programs in FY2008.

(2) To allow participants to experience the essence of a regular course

We conducted the opening ceremony, closing ceremony, administrative guidance, and orientation in the same manner as in an actual regular course, to allow the participants to gain a general idea of what regular course participants go through, and experience the essence of a regular course. We also followed the example of a regular course, and offered lectures on an "Overview of Japan's Oil Industry" and "Japanese-style Human Resource Management," made a visit to a refinery, and incorporated cultural and historical fieldtrips.

(3) Presentations by the participants

We requested all participants to give a presentation that covers an overview of their company, its human resource management (HRM) policies, evaluation of JCCP training programs, requests to JCCP, etc. Through the presentations, we aimed to better understand our counterparts, and to obtain evaluations and requests of JCCP that we would be able to apply toward improving future training programs.

We designed the Program Seminar with the primary goal of accomplishing the above three objectives, all the while keeping in mind the ultimate goals of promoting mutual understanding between the participants and JCCP staff, introducing Japanese society, culture and customs to the participants so that they may further their understanding of Japan, and increasing opportunities for the participants' companies to utilize JCCP programs more actively in the future.

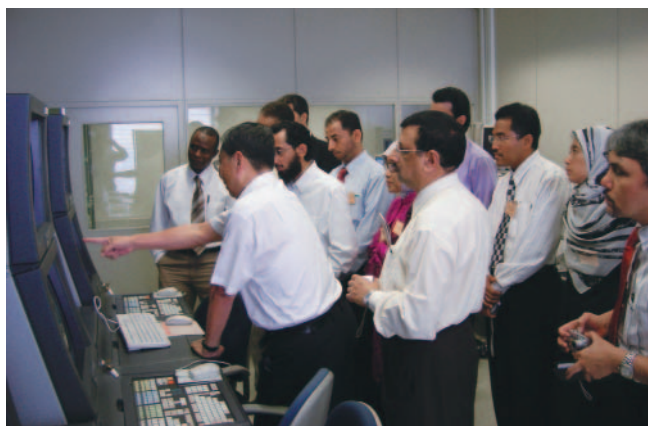
2. Seminar Participants (Total: 14)

Country/Organization	No. of participants
Indonesia (PERTAMINA)	2
Iran (NIORDC)	1
Kuwait (KNPC)	2
Malaysia (PETRONAS)	2
Nigeria (NNPC)	1
Oman (ORC)	1
Qatar (QP)	1
UAE (TAKREER)	1
Saudi Arabia (SAUDI ARAMCO)	3

At an average age of 44.1, the group of participants was composed of key executive personnel of HRM-related departments (JCCP counterpart department) in their respective companies. This year's participants represented 9 major counterpart countries of JCCP activities.

3. Achievements

As described below, the objectives



Tour of JCCP facilities



At the Muroran Refinery of Nippon Oil Refining

of the Program Seminar have been accomplished, and the program has produced results that are beneficial to both JCCP and participating countries.

(1) We have gained the understanding of the participant countries on JCCP's policy to actively promote tailor-made courses (ES/ST programs). The courses will allow JCCP to effectively respond to the specific needs of each country, by directing as much of its limited human and financial resources to major counterpart countries as possible. We have also proposed potential ES/ST programs for implementation in FY2008, and requested each country

to submit concrete requests by the end of November.

(2) The participants broadened their understanding of Japan and JCCP, and built relationships of mutual understanding and trust with the JCCP staff. In fact, many of them felt that they have gained enough knowledge to sufficiently brief employees in their country who are selected to participate in future JCCP programs. We believe that the seminar has cleared the way for participant countries to more fully utilize JCCP training programs in the future.

The program included a visit to

the Nippon Oil Refining Co., Ltd. Muroran Refinery. Members of the refinery gave highly valuable lectures on its system of human resource development, and guided the participants on a tour through the facilities. The participants evaluated the visit highly, as an excellent experience in onsite training.

(3) The corporate climate, organization, and HRM policies of each participant country all differed to some extent, but we have obtained valuable information from the participants' presentations. As we have also obtained their evaluation and requests regarding JCCP training



My Impressions of the Program Seminar

Mr. Hassan Ghani Abdula Majeed
(SAUDI ARAMCO / Saudi Arabia)

Participating in the JCCP program seminar, which brought together 14 participants from 9 different countries, has been a memorable experience. As the Executive Director of JCCP rightly said in his opening remarks, the objective of the seminar is to achieve the "3Es" (Experience, Evaluate and Exchange). Indeed, the seminar has provided us with an excellent opportunity to widen our channels of communication, interact and share knowledge with other participants, and achieve the goals of the seminar.

Over the past 25 years, JCCP has always been at the forefront of building bridges of friendship between Japan and oil-producing nations. It has contributed tremendously to enhancing mutual cooperation between companies from major oil-producing nations and Japan.

Through the program seminar, we have acquired Japan's excellent technical knowledge, as well as gained a glimpse of Japan's rich culture, customs, and traditions, and the warm hospitality, humbleness, and courtesy of the Japanese people.

To ensure each participant enjoys his stay in Japan, the JCCP staff put in enormous efforts to meticulously plan the program to the finest details. The combination of classroom training and field trips provided us with an excellent opportunity to not only enhance our knowledge of JCCP courses, but to also enjoy the unique experience of witnessing Japanese lifestyles and visiting famous historical landmarks in various prefectures in Japan.

Lectures that introduced us to the Japanese oil

industry and Japanese-style HRM were highly interesting and informative, as they provided us with detailed insight into Japan's economy, history, and politics, and its transition to one of the most highly industrialized nations in the world.

The review of the proposed 2008 program schedule and subsequent follow-up discussion were the highlights of the seminar. The discussion session generated valuable questions from the participants, to which the JCCP staff responded with clear, detailed explanations.

Our visit to Nippon Oil Corporation's Muroran Refinery in Hokkaido Prefecture has also given us an excellent opportunity to learn about HR development techniques at the refinery and exchange information directly with the refinery staff. The visit and meetings enhanced our understanding of plant processes and operations.

Field trips to Sapporo and Otaru were an unforgettable experience for each one of us, the memories of which we shall take home to share and cherish.

Most importantly, we had the opportunity to hold formal consultation sessions with the JCCP staff, about training program requirements and our plans to pursue further cooperation with JCCP in organizing various expert services and study tours. The sessions provided a basis for making formal decisions and planning future follow-up actions.

We would like to extend our best wishes to the Executive Director of JCCP and his staff, for welcoming us and making us feel at home, far away from home.

The program seminar has achieved the 3Es, and was a resounding success. *DOMO ARIGATO GOZAIMASHITA.*

activities, we intend to apply what we have learned to improving future activities.

4. Observations

This year's Program Seminar enjoyed the participation of members from 9 major counterpart countries, including 6 from the Middle East (excluding Iraq). They included Saudi Arabia, UAE, Iran, and Oman, which did not send participants to last year's seminar, plus Kuwait and Qatar, from which participants have attended two consecutive years. This was the second Program Seminar to be held under the new approach, which was adopted last year, but it appears that the program is slowly taking root among the major counterpart countries, perhaps partly owing to the fact that JCCP has clarified its intention to hold the program every July as an annual meeting. As a special program designed for JCCP's major counterpart countries, we intend to further enhance the content of the Program Seminar next year, so that it may more deeply take root as a meaningful program.

Lastly, we would like to thank the members of Nippon Oil Refining's Muroran Refinery and other parties concerned, for their support and cooperation in the effective and successful implementation of this Program Seminar. Thank you very much.

<by Koji Hori, Operations Dept.>



My Impressions of the Program Seminar

Ms. Nina Nurlina Pramono

(PERTAMINA / Indonesia)

I have decided to come to Japan to participate in the JCCP program seminar for several reasons. First of all, I wished to thank JCCP for maintaining a strong relationship with PERTAMINA since 1981. Secondly, I wished to personally know and better understand how JCCP has promoted and delivered such successful programs, which have so far been attended by 16,400 people from 53 countries, and have dispatched 4,500 Japanese Experts throughout the world. Furthermore, I wished to also take the opportunity to learn about Japanese people and culture. Specifically, I was curious to know more about the discipline, politeness, and punctuality of the Japanese people, which I have heard so much about, and how they maintain their valuable traditional culture while adopting Western lifestyles at the same time.

On the first day, I was immediately impressed by the way the JCCP management so warmly welcomed us, as we entered the JCCP office on the 58th floor of the Sunshine 60 Building. Everyone was so friendly, that we felt more at home than like strangers in a foreign country. The introduction program involving the JCCP management and all participants from 9 different countries has also strengthened the feeling that we had already met each other before this program.

On the whole, the program was highly efficiently organized, and we learned much from the presentations given by JCCP and relevant member companies. "Japanese-style HRM" was one of the most interesting parts of the program. It was combined with site visits to a refinery and other unique places, and has given us a clear idea of the people and culture of Japan. It also gave us a glimpse of the country's commitment to safety and environment, an example we should all follow. For all that we experienced, I would like to again express my deep appreciation.

The presentations from each delegation have also enriched our knowledge in a relatively short period of time. I personally feel strongly that these presentations should be continued in future program seminars.

Lastly, I would like to thank all JCCP members for their warm hospitality and for offering the opportunity of this successful program. I would also like to say to my dear friends from other countries, "You are all wonderful." I wish all the best to all of you, and hope we meet again. *Insha Allah.*

Topics

Advanced Process Control Seminar Held in Russia

1. Background to the Seminar

Lukoil-Inform and JCCP held a joint seminar (ES-50-07) on Advanced Process Control (APC) from July 2 to 5, 2007, at the head office of Lukoil-

Inform in Moscow.

Russia and JCCP have steadily established friendly relations since the beginning of the 1990s. In recent years, given Japan's increasing interest in Russia and Central Asia as oil

suppliers, JCCP has stepped up its efforts to strengthen relationships with countries in that region. In 2005, it sent a special team to the region, to promote interactions with counterpart organizations.

Toward the end of 2006, Russia (Lukoil-Inform) submitted a request for both Expert Service (ES) and Study Tour (ST) programs, in response to JCCP's call to oil-producing countries for the implementation of ES and ST programs in FY2007. It specifically requested an ES program on "Advanced Process Control," and an ST program on "Refinery Computerization." Lukoil-Inform, a subsidiary of Lukoil, employs approximately 7,000 employees, and undertakes the construction and maintenance of communications facilities, information systems in general, and instrumentation systems, for the entire Group. JCCP agreed to the request, partly because the request presented an opportunity for JCCP to receive the participation of Lukoil-Inform to its programs for the first time. JCCP decided to first hold an ES program in Russia, and has sent JCCP lecturers Messrs. Y. Nito and K. Saegusa to Moscow to implement the seminar with the cooperation of Mr. H. Takatsu from Yokogawa Electric Corporation.

2. Seminar Content

As the seminar was to be held under the main theme of "Advanced Process Control" we designed the program with a focus on the representative type of control method called "Model Predictive Control." As one of the most powerful control methods used today, it has been introduced to many refineries, with significant results. In the seminar, we also covered the soft sensor technology, which is a method for estimating product properties, because



At the seminar venue

product property measurements are indispensable to predictive control. Soft sensors estimate product properties by statistically processing the operating conditions (temperature, feed rate, pressure) of a product, and provide quick estimation results, without dead time. These sensors incorporate a new technology that has only recently come into practical use.

We also included in the seminar an overview of real-time optimizers of control systems. Real-time optimizers seek optimum operating conditions, in response to real-time changes in the operating environment, to maximize controller functions.

Furthermore, the seminar introduced examples of control applications that are actually being used in refineries. Our original intent was to provide an opportunity for direct exchange of views with a development engineer, but the engineer could not accompany us to Russia, due to work-related matters. However, courtesy of the refinery, we were able to borrow the engineer's

presentation manuscript, and presented it as an alternative.

Based on the understanding that optimization of an entire refinery requires advanced use of information, we allotted some time to introducing examples of major information management systems that are currently employed by refineries in Japan. By the same token, we also introduced the "Operator Support System" that is beginning to gain widespread interest among refineries today. In Japan, a large number of experienced operators will retire when they reach mandatory retirement age over the next several years. On the other hand, refinery equipment is increasingly being operated for prolonged hours, and there is little opportunity to conduct irregular operations. The operator support system incorporates the operational expertise of experienced operators, and supports young operators who have yet to acquire experience.

We conducted the seminar according to the following agenda.



Seminar scenes

Day 1:

- 1) Introduction to JCCP
- 2) Overview of Japan's Oil Industry
- 3) Outline of Advanced Process Control

Day 2:

- 1) Outline of Model Predictive Control
- 2) Outline of Real Time Optimizers

Day 3:

- 1) Outline of Soft Sensors
- 2) Outline of Plant Information Management Systems
- 3) Operator Support System

Day 4:

- 1) Example of Advanced Process Control Applications
- 2) Brief description of ST program (training program held in Japan)
- 3) Course review

3. Overview of the Seminar

Prior to commencing the seminar, we paid a courtesy call on the leaders of Lukoil-Inform, and met with Messrs. Alexander Mironov (First Deputy Director) and Oleg Rutskin (Deputy Director). Mr. Rutskin stated that he was placing great expectations on this ES program and the subsequent program that is scheduled to be held in late September. He explained that Lukoil has a grand design to establish an optimal production system, and has modernized its refinery equipment as the first step toward that goal. The next step consists of modernizing its instrumentation and information systems. Mr. Rutskin delivered a speech to the same effect at the opening ceremony of the seminar.

Mr. Alexander Zheludov of the Technological Process and Manufacture Automation Department, our counterpart department at Lukoil-Inform, took charge of coordinating the entire seminar. About 14 to 18 participants consistently assembled from Lukoil-Inform's head office and regional offices throughout Russia, and attended the

seminar with strong interest. Lectures needed to be translated from English to Russian, but thanks to the translator who had extensive refinery experience, the exchange of information proceeded extremely smoothly.

The participants raised many questions concerning model predictive control (MPC) and soft sensors, indicating their strong interest in advanced process control (APC). The focus of their questions ranged from the features of different vendor products, to the connectivity with distributed control systems (DCS), timing of model updates, investment issues, and effects of APC. We later learned that one of the refineries is already implementing an APC introduction project, and another is at the stage of selecting a vendor for APC installation. We understood that questions were concentrated on APC, because APC is currently the primary concern at refineries. On the other hand, since we received few questions concerning information systems, we perceived this to mean that advanced information systems are an issue that will be further addressed in the near future.

At the end of the seminar, all participants responded to a questionnaire, and rated the seminar "useful."

4. Impressions

We have been able to hold this ES program as planned, thanks in large part to Mr. Zheludov's effective management. The participants arrived at each day's program on time, and enabled us to cover all topics that we had planned for the seminar. They listened to our presentations intently, and contributed many insightful questions and comments, which made for an interesting and lively seminar. Although there was the language issue, Lukoil-Inform had arranged for an English/Russian translator for the duration of the program, as mentioned earlier. We understood that the translator, Mr. Michael Avrov, traveled 400 or so



At the entrance to the Lukoil-Inform Head Office

kilometers from Nizhny Novgorod to Moscow, to provide his services. Mr. Avrov was highly knowledgeable about refinery matters, owing to his previous experience as a translator at a refinery. He had good understanding of technical terms to begin with, but he also prepared well for the seminar by reading the presentation manuscripts in advance. He had very few questions concerning technical terms he was unfamiliar with, and judging from what we gathered by observing participant responses, we believe Mr. Avrov did an outstanding job.

For this seminar, International Business Relations (IBR) acted as an intermediary between Lukoil-Inform and JCCP, and helped eliminate language issues and facilitate smooth communications for the implementation of the seminar, with its quick responses. IBR had also arranged for an interpreter for us, provided local transportation, and escorted us to Lukoil-Inform. Consequently, we were able to function well throughout our stay in Russia, without any problem.

This ES program covered a lot of ground in a short amount of time, but everything proceeded smoothly, owing to the support and cooperation of everyone involved in the program. Thank you all very much.

<by Keiichi Saegusa, Training Dept.>

JCCP Conducts a Study Tour on Lubricating Oil Production for Malaysia (PETRONAS)

This year, JCCP has announced its policy to actively push ahead with a new initiative to promote Expert Service (ES) and Study Tour (ST) programs, and has recently implemented the first of its upgraded ST programs. In response to a request from PETRONAS in Malaysia, JCCP conducted a Study Tour in Japan on Lubricating Oil Production (ST-40-07), from August 28 to September 6, 2007. The eight-day program was attended by a group of 13 members from PETRONAS, who are involved in a base oil production project that is currently underway at the Melaka Refinery.



Visit to PETRONAS Japan

1. Background and Course Planning

The Melaka Refinery sells its surplus of oil residue that is produced in its light crude distillation unit as low value-added fuel, and produces lubricating oil by blending imported base oil. However, it has recently introduced a base oil production unit, in an effort to upgrade the surplus oil residue to high value-added lubricating oil. It was under this situation that PETRONAS requested a course on lubricating oil production.

Before implementing the program, training and project managers from PETRONAS visited JCCP to help create the program curriculum. They discussed, and in the end agreed to, various details of the curriculum, and displayed their strong expectations of the program.

2. Participants

PETRONAS originally requested an ST program for a total of 40 participants, divided into several small groups. However, JCCP is currently engaging

in a number of ongoing discussions on ES/ST programs with other countries, and its time and resources are limited. Therefore, JCCP and PETRONAS ultimately agreed to a one-time program for 13 participants. The participants mainly included engineers from the research and analysis, production planning, commissioning, and instrumentation departments of the Melaka Refinery, and engineers from the production planning department in the head office.

The study group, composed of 9 men and 4 women whose average age was 34, was young and energetic. It included 2 “repeaters” who have participated in a regular course in the past, and a few others who have finally been selected to participate in a JCCP training program, after having applied on many occasions. At the opening ceremony, Mr. Abd Rahim Bin Othman, Technical Professional, delivered a speech as leader of the Study Tour group. He spoke with fervor about the group’s strong expectations and enthusiastic

commitment to the program.

3. Overview of the Program

Through lectures and on-site training, we introduced various aspects of lubricating oil in Japan, such as standards, properties, test management methods, and supply/demand trends. We also gave lectures and provided practical training on the characteristics, operations, and management technologies of base oil production units, as well as included visits to the head office, research laboratory, and refinery of various oil-related companies in Japan, to allow the participants to systematically study the roles of each facility.

To cover a large number of topics in the short, intensive program, we began the first day of the program earlier than originally planned, and promptly proceeded to the main aspects of the program from the first day. We shortened the time frame of lectures at JCCP, compared to the lectures given in regular courses, and designed the

program so that participants can gain firsthand knowledge about Japan's oil industry, as well as its present situation of lubricating oil production, through practical training.

(1) Lectures at JCCP

1) Japan's Oil Industry

In this lecture, we explained the structure and energy supply/demand of Japan's oil industry and how it responded to the oil crisis of the 1970s. PETRONAS has recently been privatized, so many participants have commented that the lecture has provided helpful information for the future development of PETRONAS.

2) Lubricating Oil Situation and Standards in Japan

Lubricating oil is generally divided into lubricating oil for automobiles, ships, and industrial-use, but its smaller categories are extremely complex. However, the lecture gave a comprehensive, well-organized explanation of lubricating oil in general, including, for example, the necessity of establishing standards, and met with the participants' approval. The participants also highly evaluated the large collection of standards concerning lubricating oil that was presented as reference.

3) Lubricating Oil Production Facility

This lecture covered base oil production processes in general, which include vacuum distillation, de-asphalting of propane, solvent refining, hydrodesulfurization, solvents, and

catalytic de-waxing. It provided useful information on specific operation and management techniques, based on a lubricating oil production facility constructed and introduced to a certain country in the past.

(2) Practical Training

1) Nippon Oil Corporation

Head Office (Nishi-Shimbashi)

Members of the Nippon Oil Head Office first gave a general introduction of the company, followed by explanations on the roles of the head office and product supply/demand trends. In regard to lubricating oils, they explained basic friction and shear stress in relation to lubricating oil theories, in addition to performance evaluation methods and the use of additives.

The study group learned first-hand that 95% of base oils produced in Japan fall under Group 1, and that Japan handles very little Group 3 base oils, which PETRONAS plans to produce.

2) Lubrizol Japan Ltd. (Kinuura Office, Chita-Taketoyo, Aichi)

The study group visited a major additives producer in Japan and observed a lubricating oil evaluation and analysis equipment, which they do not normally have the chance to see. The participants examined the equipment with strong interest, while absorbing the details that were very carefully explained to them.

3) Nippon Oil Refining Co., Ltd.

Negishi Refinery (Negishi, Yokohama)

The study group next visited the largest refinery in Japan, and studied the flow of activities, from the production of base oil in the base oil production unit, to its delivery.

They spent close to 2 hours touring the refinery and observing the intensive instrument room, field analysis room, shipping facilities, and automated can-filling facility. The participants seemed particularly impressed with the automated can-filling facility, which handles entire series of tasks for multiple products, from the preliminary inspection of cans to filling and delivering them, with just a handful of operators.

4) Nippon Oil Corporation Central Technical Research Laboratory (Honmoku, Yokohama)

On the next day, the study group visited the Central Technical Research Laboratory of Nippon Oil Corporation, where they were introduced to the gas-to-liquids (GTL) technology and other advanced technologies that the laboratory has succeeded in developing, through laboratory-wide R&D efforts. They also received a lecture on the technical trends of automotive and industrial lubricating oils.

The group had already completed the tour of the research buildings during the morning, but they requested another tour of analyzing equipment after the final Q&A session, and displayed an extremely industrious attitude. We received comments concerning their desire to maintain contact with the members of the laboratory and to continue to learn more from them.



Classroom scenes

5) Japan Lubricating Oil Society (JALOS) (Funabashi, Chiba)

On the fifth and final day of practical training, the study group studied management methods of lubricating oil in general at JALOS, as a final wrap-up of practical training.

JALOS promotes “life cycle maintenance” (LCM) activities, which are activities similar to “total productive maintenance” (TPM) activities. Here, oil analysis is indispensable to the maintenance of equipment that uses lubricating oil, and is just as important as blood tests are to human beings. The group received training in various oil sampling and analysis methods.

The group, and particularly those members from analysis departments, seemed especially fascinated with the metal wear-particle analysis by ferrography and the practical training on particle measurement using an optical counter.

4. Introduction to Japanese History and Culture

In a regular course, participants spend a weekend touring the sites of traditional Japanese cities such as Hiroshima and Kyoto, to learn about and experience Japanese culture and history. In this program, however, the group visited Kamakura, a historical and cultural spot nearer to Tokyo, because time was limited, and since we were afraid to overtire the participants. Coming from an Islamic country, some of the participants had reserved responses to Japan’s temples

and shrines, but they appreciated the blooming flowers in the Japanese garden at Hasedera Temple, a temple known for its beautiful flowers year round, and encountered a Japanese-style wedding at the Tsurugaoka Hachimangu Shrine, and invariably admired Japan’s traditions, culture, and the seasonal beauty of nature.

5. Impressions of the Program

The Melaka Refinery produces base oil, but as mentioned earlier, it is striving not only to simply produce base oil, but to improve its profit margin by upgrading oil residues to base oil.

Additionally, since PETRONAS has traditionally produced lubricating oil from imported base oil, the members of the study group already possessed a considerable level of knowledge about lubricating oil, when they attended this program. Yet, in anticipation of the commencement of operations on their new base oil production facility next spring, the participants were full of positive energy, asking questions during lectures, and wholly applying themselves to practical training on analysis and test methods. It seems their enthusiasm rubbed off on their lecturers, who felt they gained a rewarding experience from teaching the participants.

The program spanned a short 10 days. Therefore, according to participants’ responses to a final questionnaire, 8 of the 13 participants felt that the duration was too short, and considered it more realistic to allot at least 21 days. In response to

a question about whether they felt the program would benefit them in the future, 6 participants answered that it would “greatly benefit them,” and 7 answered that it would “certainly benefit them.” Given this evaluation, we believe that the program fully achieved its objectives, and was able to more than satisfy the high-level group of participants. We hope that it will prove to be useful when the Melaka Refinery commences and begins management of operations on its new base oil production facility.

We later received questions from the group, concerning general production planning issues at refineries and head offices, about which we did not have time to sufficiently discuss during the program. We therefore put the questions to the personnel of relevant refineries and head offices by phone, and relayed their responses to the participants. The information greatly exceeded the participants’ expectations, and was highly appreciated.

The Study Tour group was very well-organized, and was composed of members who seemed to be acquainted with each other from before coming to Japan. They were prepared and ready to start each day 15 minutes ahead of schedule, and always behaved as a group when traveling from one site to another. Moreover, when they visited facilities outside JCCP, they adopted the “*toban* system,” where two members each took turns taking head counts when traveling to different locations, delivering a thank-you speech at facilities where they received on-site training, verifying the implementation of the 5S’s, and



At Lubrizol Japan



At the Nippon Oil Corporation Head Office

otherwise did their best to support their JCCP coordinators. Owing to their solidarity, the program proceeded amid an extremely friendly atmosphere.

For 10 days, the group endured the lingering heat and humidity of a typical Japanese summer in September, when temperatures daily continued to exceed 30°C. On their last day, they

even witnessed Typhoon No. 9 make landfall on the Kanto region, before safely returning to Malaysia the following day.

Although JCCP has temporarily suspended the regular course on lubricating oil production since 2005, we expeditiously arranged this Study Tour on lubricating oil in response to a request from PETRONAS. We would

like to extend our deepest gratitude to all the companies who generously received the group and provided practical training at their facilities.

Finally, we would like to end this report on a wish to continue strengthening the friendly relationship between Malaysia and Japan in the future.

<by Tetsuji Kubota, Training Dept.>



My Impressions of the Study Tour

Ms. Atifah Binti Idris

(Manager, PSR-1 & MGB Planning Refinery, Planning Department, PETRONAS / Malaysia)

On behalf of PETRONAS Penapisan (Melaka) Sdn. Bhd. and the participants of the Lubricating Oil Production course, I would like to take this opportunity to express our sincere and deepest appreciation and gratitude to the JCCP management, all staff members, and the relevant parties, for organizing this specially customized program for PETRONAS.

We were impressed with the hospitality and kindness given to us by JCCP and all the companies involved in this program, and with their strong commitment to making the program successful. We also found the Japanese people to be systematic, polite, very helpful, and good at time management.

The course has given us knowledge, techniques, and best practices on lube base oil manufacturing, lubricant production, and testing in Japan. The valuable knowledge is sure to benefit us in preparing ourselves for the operation of our base oil plant and the handling of various products, when the plant comes into commission next year.

We all enjoyed the program very much, and hope to maintain the strong network and relationships that we have built during the study tour.

Personnel Exchange

Intensive Course on Practical Technology for Energy Saving

1. Course Concept

JCCP offers intensive courses as a means of responding to the needs of participants who are unable to leave their workplace for long to participate in a regular course. Intensive courses span about 10 days on average, and focus on carefully-selected topics for which there are strong and advanced needs.

Recently, JCCP implemented an intensive course on “Practical Technology for Energy Saving” (IT-1-07). The course was designed to provide participants with wide-ranging knowledge they need to promote energy conservation in their refineries, by introducing the

latest energy conservation technologies employed in refining plants and boiler utilities in refineries, and by providing practical training on actual energy-saving activities and utility management based on steam-trap inspections, for example, at refineries in Japan.

2. Participants

Initially, we received 12 applications from 8 countries. However, the course was attended by 10 participants from 6 countries, due to the cancellation of 2 participants after our screening process.

The average age of the participants was 41, with 5 participants in their

thirties and 3 in their fifties. They were all active and youthful, and composed an extremely congenial group with disregard to age.

Overview of participants

Country	Organization	Age
Indonesia	PERTAMINA	32
Indonesia	PERTAMINA	35
Iran	NIORDC	30
Iran	NIORDC	32
Libya	NOC	45
Libya	NOC	42
Nigeria	WRPC	50
Nigeria	NNPC	38
Mexico	PEMEX	54
Saudi Arabia	SAUDI ARAMCO	53

3. Course Structure

We divided the course program into roughly two parts. One part featured lectures at JCCP, including lectures given by JCCP lecturers and those given by external lecturers. The other part featured practical training on actual technologies and activities implemented in the field. We designed this part of the course to feature lectures and tours at actual refineries and factories in Japan, so that participants may acquire first-hand knowledge of various technologies in line with the objective of the course.

(1) Training at JCCP

To provide knowledge of practical technologies efficiently, in a short period of time, JCCP lecturers first gave lectures on the overview of the “Japanese Oil Industry” and “Energy Saving at the Refinery,” followed by an in-depth lecture on “Recent Technology for Energy Saving” given by an external lecturer. This part of the program also included practical calculation training in a session on “Exercise of Heat Calculation in Refinery,” and practical training using a process simulator (practice in energy-saving operations of a heating furnace through dynamic simulation of a CDU unit).

① *Japan’s Oil Industry*

This lecture covered various aspects of Japan’s oil industry—i.e., the history and background of Japan’s oil industry, a breakdown and trends of crude oil imports and product demand, the status



At Idemitsu Kosan, Aichi Refinery

of Japan’s oil industry in the world, energy demand today, the trend toward deregulation, and issues confronting oil industries. It placed particular emphasis on Japan’s policies for energy demand/supply balance and energy in general, and on the quality improvement of gasoline and diesel oil, which are issues closely related to the subject of this course.

② *Energy Saving at the Refinery*

This lecture discussed the progress of energy conservation in Japan’s refineries, in reference to many specific examples of energy conservation efforts. It also covered topics on energy conservation outside of refineries, such as Japan’s efforts to address the global warming issue and the unique “top-runner method,” based on energy utilization efficiency. In many countries today, refineries are making independent efforts to systematically promote energy conservation. Therefore, participants held active discussions on specific means and examples of

promoting energy conservation during this lecture.

③ *Recent Technology for Energy Saving (I)*

This lecture provided systematic and specific information on improving heat efficiency by cogeneration, optimizing steam balance levels in refineries by maximizing the characteristics of steam turbines, heat/electric energy balance based on a combined cycle, and energy-saving methods related to the variable voltage, variable frequency (VVVF) inverter and other rotating equipment. It then discussed the application of the high-temperature air combustion technology (HiCOT) to reformers in hydrogen plants, and how they can improve heating furnace efficiency and reduce greenhouse gases.

④ *Exercise of Heat Calculation in Refinery (lectures and practice)*

Generally, refinery engineers tend to depend on computers to perform calculations for various processes.



Lecture session at JCCP (heat balance practice)



At Mitsubishi Heavy Industries,
Yokohama Dockyard & Machinery Works



At TLV International, Kakogawa Head Office

However, in this session, participants practiced manual calculations using basic equations, with the objective of gaining an accurate understanding of the fundamental theories of heat balance and physical balance, which are needed to promote energy conservation in refineries. Specifically, they practiced solving sample problems related to the thermal insulation of pipework in refineries, heat exchangers, and conductive/convective heat transfers around furnaces. Each of the participants came from a different work background, but they diligently spent the whole day applying themselves to the practice.

⑤ *Process simulation training*

In this session, the participants practiced dynamic simulations of a Crude Distillation Unit (CDU) heating furnace, which consumes the largest amount of fuel in refineries. They spent the day studying the energy conservation effects of gradually reducing surplus air and of using an air preheater. Dynamic simulations using a Distributed Control

System (DCS) keyboard offered an experience that came extremely close to operating real equipment. The participants have evaluated the training as an invaluable experience that left an extremely strong impression on them.

⑥ *Recent Technology for Energy Saving (II)*

This lecture provided an overview of pinch technology, which is indispensable for large-scale energy conservation activities and equipment revamping, and the latest information on heat exchangers and towers/vessels for “energy-saving plant design.” Explanations of the latest heat exchanger were given using an actual compact model, and invited many questions from the participants. The lecture also introduced the Independent Water and Power Project (IWPP) that is actively underway in the Middle East countries today, and seawater desalination technologies, providing details of project methods and applied technologies suited to the circumstances and environment or each country/region.

(2) **On-site Training**

① *Mitsubishi Heavy Industries, Ltd. Yokohama Dockyard & Machinery Works and Kanazawa Plant*

The staff of the works facility introduced various technologies relating to boiler facilities, as well as trouble cases and improvement cases, followed by explanations of the trends of such technical improvements, their functions and efficiency, and examples of implementation in Japan and abroad. They also provided a lecture on the steam turbine technology, with details on blade improvements and the latest technologies today. Though the information they presented was highly specialized knowledge, the participants all listened with great interest. In the afternoon, the participants had the opportunity to tour the shop and plant. They appeared extremely impressed, as they normally do not have the chance to see the production site of large boiler equipment inside such a huge and spacious plant.



At Idemitsu Kosan, Aichi Refinery



② *Idemitsu Kosan Co., Ltd.*

Aichi Refinery

After introducing an overview of the refinery, members of the refinery gave a detailed description of their energy conservation promotion organization, its framework, and activity status. Young engineers of the refinery then introduced “case examples of various energy-saving activities” at the production site. The Aichi Refinery actively engages in total production management (TPM) activities, and boasts an extremely organized work environment, which duly impressed the participants. The participants also highly evaluated the extremely detailed and interesting information on energy-saving activities implemented at the refinery.

③ *TLV International, Inc.*

Kakogawa Head Office

The participants visited the head office and factory of TLV International, a steam specialist company, and received presentations on an overview of its operations, the thermodynamic characteristics of steam, and its applications and functions. They also received lectures on the principle and structure of steam traps, their management and maintenance, and condensate recovery. The participants had seemingly never heard such detailed and meticulous explanation of the functions and structure of steam traps, and took advantage of the opportunity to

ask many questions. After the lectures, the TLV side gave a demonstration on the operation of its equipment at the training center located within the head office building. The demonstration facilities were extremely well-developed to provide demonstrations that were easy to understand, just as the lectures were, and were more than appreciated by the participants.

4. Impressions

This intensive course turned out to be an experience-filled event for the participants. Adding to the fact that it was held during the peak of the rainy season, a large-scale typhoon had approached Tokyo and further aggravated the bad weather, and most noteworthy, on July 16 a massive earthquake struck off the coast of Chuetsu, Niigata Prefecture, whose strong tremors were even felt as far away as Tokyo. The participants had been attending a lecture at JCCP headquarters located on the 58th floor of the Sunshine 60 Building in Tokyo, when they suddenly felt the building sway.

The participants were good-natured as a whole, and formed a well-organized group. They were responsive and full of energy during lectures and off-site visits, and avidly exchanged views on various topics with each other throughout the course period.

We designed the course so that the participants could efficiently acquire

the essence of practical technologies in a short period of time, and prepared to provide knowledge, technologies and information that they need to promote energy conservation at their refineries in the future. According to the results of a questionnaire filled in by all participants at the end of the course, 8 participants felt that the course content and level were “very good,” and 2 participants, “good,” indicating that the majority of the participants thought the course satisfactory. They also rated the course coordination and arrangement “excellent.”

Despite our tight schedule, we asked to visit a refinery and manufacturing companies for on-site training, and were warmly welcomed at each site. The participants’ evaluation of the course clearly showed that they sincerely appreciated the generous and considerate hospitality of the facilities. We are also full of gratitude for everyone’s cooperation. We are convinced that the success of this intensive course was made possible by the strong desire and attitude toward learning on the participants’ side, combined with the meticulous preparations and considerations made on the implementing side.

We would like to extend our deepest gratitude to everyone who has helped plan and support this intensive course, for their efforts in bringing it to a successful end. Thank you very much.

<by Yoshiaki Ueno, Training Dept.>

Participant's Voice



Petroleum Marketing and Products Delivery

(TR-9-07: June 26 – July 13, 2007)

Mr. Rawee Boonsinsukh (BCP / Thailand)

First of all, I would like to thank JCCP for the valuable opportunity to attend the TR-9-07 course and to express my impressions of the course. The course embraced a spirit

of professionalism combined with warm hospitality. It provided us with abundant knowledge of the petroleum business, introduced us to various aspects of Japanese

society, and gave us the opportunity to develop networks and exchange business experiences among the JCCP staff and all participants.

The course comprehensively covered downstream petroleum business operations and management in Japan. We studied: the overview of Japan's petroleum industry from JCCP lecturers; best practices in maximizing crude oil value at Nippon Oil Refining's Negishi Refinery; the tank truck loading system at the Nippon Oil Corporation's Ichikawa Depot; state-of-art ordering and distribution planning system at JLS; service station management at Cosmo Oil; and tank truck operations at Niyac Corporation. We also visited JFE Steel Corporation and San-ai Oil's JP-1 Depot, and attended a training session on "Management by Rational Thinking Process."

Lectures on Japan's transition history and HR management, and field trips to historical places in Japan have given us an ample window to learn about Japanese culture and society. We found that the Japanese people have a very unique lifestyle in which modern civilization perfectly harmonizes with nature. We sensed the beauty of this harmony wherever we went in Japan. We believe that many aspects of the Japanese management style and HR management, in particular, are worth adopting in our countries as well.

Most importantly, having spent three weeks together, we shared smiles, laughter, and thoughts with each other, and have created solid relationships during the course.

We also exchanged useful experiences and practices in the industry. We are certain that the experiences and the network of contacts we have gained will benefit our future careers, as well as help strengthen the bonds of friendship among the participants and with JCCP.

We realize that we could not have acquired this precious experience without the kind support of the Executive Director of JCCP and all members of the JCCP staff. We are especially thankful to Messrs. Tabei, Hoshino, and Hayabe, who always put in their best effort and were always there for us, providing exceptionally warm support and hospitality. Even after returning to our countries, our experience in Japan will forever remain etched in our memories. *Domo Arigatogozaimasu.* Thank you very much.



With the Atomic Bomb Dome in the background, in Hiroshima



Safety Management for Refineries

(TR-10-07: June 26 – July 13, 2007)

Mr. Batal M. Al Mutairi (SAUDI ARAMCO / Saudi Arabia)

I am very pleased to have had the opportunity to participate in TR-10-07, Safety Management for Refineries. On behalf of my colleagues, the program participants, I would like to express my sincere gratitude to Mr. Kojima, the Executive Director of JCCP, JCCP lecturers Satake-san and Takahashi-san, and all staff members, for their warm welcome and hospitality extended to us during our memorable stay in Japan.

The preparation and planning that went into the course to deliver a rich experience from the day we arrived in Japan, distinguished this course from all other training events we have ever attended. These preparations effectively bridged the differences in experience and cultural background among the participants, to produce a coherent team and a successful program.

The course was designed to maximize our comprehension of refinery safety and environmental management. Refineries and companies that we visited



At the Japan Energy Corporation Mizushima Refinery

during the program were very well selected from among leading industrial and energy companies in Japan. They prepared for our visit, and provided invaluable information on safety and environment, through lectures and handout materials. We were extremely pleased by their warm welcome and hospitality. These companies included Sampo Japan Insurance Inc., the Japan Energy Corporation Mizushima Refinery, the Toa Oil Co., Ltd. Keihin Refinery, the Idemitsu Kosan Co., Ltd. Chiba Refinery, and Yokogawa Electric Corporation. Again, on behalf of my colleagues, I would like to take this opportunity to extend my sincerest thanks to these companies.

In Japan, we have learned much more than refinery

safety management; we were introduced to the fascinating culture of the Japanese people, a culture of one of the leading nations in the world. We visited shrines, historic sites, and modern shopping centers, and have learned from the Japanese people, dedication, honesty, and the importance of focusing on priorities. Our rich experience has certainly enhanced our understanding of the country, so that we may better strengthen our relationship with Japan in the future.

To our course coordinators, as well as the employees of facilities visited and the people whom we met on the trains and streets, who have contributed to enhancing our understanding of Japan, I would like to say, *Domo Arigato Gozaimashita*.



Practical Technology for Energy Saving

(IT-1-07: July 10 – July 20, 2007)

Mr. Abbas Mohseni Nikoogoftar (NIORDC / Iran)

First of all, I would like to thank JCCP for giving me this opportunity to express my impressions about the course, Japanese culture, and the people of Japan.

The course was extremely meaningful and easy to understand. We have improved our knowledge and have obtained valuable information about the technologies of the refining industry. Some of the new technologies that we have been introduced to included advanced high-temperature air combustion technology, advanced steam turbine technologies, the cogeneration system, and steam traps. We also visited several companies, including Mitsubishi Heavy Industries, Ltd., the Idemitsu Kosan Co., Ltd. Aichi Refinery, and TLV International, Inc. I strongly believe that the new ideas and knowledge we have gained in this course will prove to be highly useful in improving refinery operations in our respective countries.

During our stay in Japan, the weather was mostly rainy or cloudy, but I truly enjoyed participating in the course and traveling to various facilities in the country. Everything we saw and experienced came as a fresh reminder that Japan is one of the most advanced countries in the world.

We also visited a number of unique cities that were simply beautiful and peaceful, and met many people. They were invariably hospitable, kind, and hardworking, and went out of their way to make us feel at home. Due to limited time, we could not visit Hiroshima during the course, but I was reminded of its tragic history while I was in Japan. I had read about it, and had felt deep distress

over it. I think there is great meaning in learning how the Japanese people have survived the terrible incident and overcome the catastrophic damage.

The good memories of the Japanese people and the new knowledge and technologies we have gained will remain in our hearts and minds, never to be forgotten. I would especially like to thank Mr. Yoshiaki Ueno, our course coordinator, and his colleague Mr. Kazuyoshi Kamijyo for their help, hard work, and arrangements they made for us, to make our stay in Japan so comfortable. We sincerely hope to keep in touch with JCCP.

Again, on behalf of my colleagues from IT-01-07, I would like to say thank you to all the JCCP staff.



With the Yokohama Landmark Tower in the background

JCCP Regular Courses Completed in June – September 2007

TR-9-07 Petroleum Marketing and Products Delivery

Period: June 26 – July 13, 2007
No. of participants: 16
Country of participants: Egypt, Indonesia, Iran, Malaysia, Mexico, Nigeria, Saudi Arabia, Thailand, UAE, Yemen



TR-10-07 Safety Management for Refineries

Period: June 26 – July 13, 2007
No. of participants: 16
Country of participants: Brazil, Colombia, Indonesia, Iran, Kuwait, Libya, Mexico, Nigeria, Qatar, Pakistan, Saudi Arabia, UAE, Yemen



TR-11-07 Project Management for Mechanical Engineers

Period: June 26 – July 13, 2007
No. of participants: 15
Country of participants: Iran, Mexico, Nigeria, Oman, Pakistan, Qatar, Saudi Arabia, Thailand, UAE, Yemen



IT-1-07 Practical Technology for Energy Saving

Period: July 10 – July 20, 2007
No. of participants: 10
Country of participants: Indonesia, Iran, Libya, Mexico, Nigeria, Saudi Arabia



TR-12-07 Material Problems and Their Countermeasures

Period: August 21 – September 7, 2007
No. of participants: 14
Country of participants: Indonesia, Kuwait, Libya, Mexico, Qatar, Venezuela, Vietnam, Yemen



TR-13-07 Advanced Field Devices and Control

Period: August 21 – September 7, 2007
No. of participants: 11
Country of participants: Colombia, Kuwait, Malaysia, Qatar, Saudi Arabia, UAE, Vietnam



Total: 82 participants

FY2008 JCCP Course Schedule

In FY2008, JCCP will offer 25 courses, including 21 regular courses (TR) and 4 intensive courses (IT), as follows.

Course No.	Course title	Date
TR-1	Online Analyzer	Apr 3 – Apr 18, 2008
TR-2	Petroleum Marketing	Apr 3 – Apr 22, 2008
TR-3	Upgrading Processes of Heavy Oil	Apr 3 – Apr 22, 2008
TR-4	Essential Petroleum Refining for Process Engineers	May 13 – May 30, 2008
TR-5	Diagnostic Techniques and Maintenance for Rotary Machinery	May 13 – May 30, 2008
TR-6	DCS Fundamentals and Applications	May 27 – Jun 13, 2008
TR-7	Human Resource Management (HRM)	May 27 – Jun 13, 2008
TR-8	Refinery Management	Jun 3 – Jun 17, 2008
TR-9	Safety Management for Refineries	Jun 24 – Jul 11, 2008
TR-10	Project Management for Mechanical Engineers	Jun 24 – Jul 11, 2008
IT-1	Practical Technology for Energy Saving	Jul 8 – Jul 18, 2008
TR-11	Environmental Management for Refineries	Oct 14 – Oct 31, 2008
TR-12	Material Problems and Their Countermeasures	Oct 14 – Oct 31, 2008
TR-13	Advanced Field Devices and Control	Oct 21 – Nov 7, 2008
TR-14	Petroleum Marketing and Products Delivery	Oct 21 – Nov 7, 2008
TR-15	Gas Processing for LNG	Nov 4 – Nov 21, 2008
TR-16	Maintenance Management	Nov 4 – Nov 21, 2008
TR-17	Training Management	Nov 25 – Dec 12, 2008
IT-2	Advanced Technologies for Rotary Machinery –Reliability Enhancement–	Dec 2 – Dec 12, 2008
IT-3	Model Predictive Control	Dec 2 – Dec 12, 2008
TR-18	Quality Management of Refinery Products	Jan 13 – Jan 30, 2009
IT-4	Petroleum Marketing and Physical Distribution	Jan 20 – Jan 30, 2009
TR-19	Energy Saving for Profitability Improvement	Feb 10 – Feb 27, 2009
TR-20	Advanced Inspection Techniques and Diagnostic for Static Equipment in Refineries	Feb 10 – Feb 27, 2009
TR-21	Advanced Process Control on DCS	Feb 10 – Feb 27, 2009

 Marketing, HRM Field	 Maintenance Field	 Process Field	 Instrumentation Field
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Progress of the Project “Tank Sludge Reduction System Application to Crude Oil Terminal in Iran”

This is a technical cooperation project that has been ongoing since FY2005. With the cooperation of Japanese companies and Oil Terminals Company (OTC), a state-run company on the Iran side, we have completed installing project-related facilities, and have begun the test operation to verify the performance of the facilities. In this occasion, we would like to introduce the background, objectives, and present status of the project.

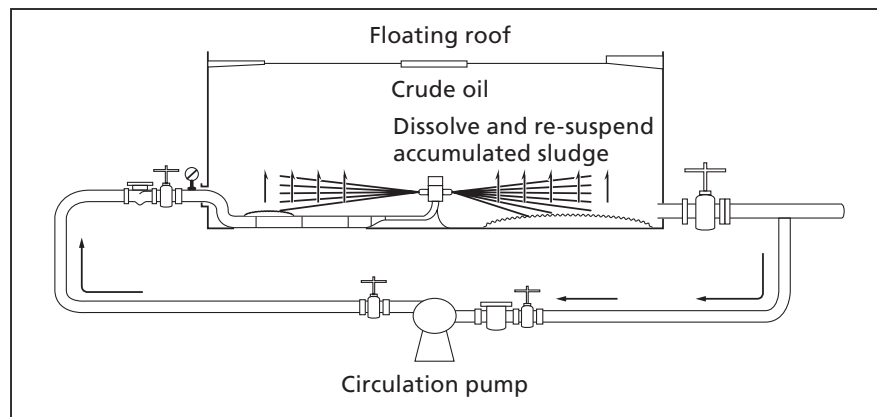


Fig. 1 Conceptual diagram of the SRJ system

1. Background and Objectives

Japan imports approximately 4.2 million b/d of crude oil. Around 15% of the total, corresponding to approximately 590,000 b/d, is imported from Iran (2005). From the viewpoint of Japan’s energy security, Iran is clearly an important exporter of crude oil. Most of Iran’s crude oil is shipped from the crude oil terminal managed by OTC.

OTC, a subsidiary of the National Iranian Oil Company (NIOC) which controls the terminal operation, have been addressing the tank sludge problem hindering crude oil storage operations at the terminal, but had yet to find a fundamental solution to the tank sludge issue.

In response to this situation, JCCP has implemented a technical cooperation project for introducing the submerged

rotating jet (SRJ) system to the shipping terminal. Oil companies in Japan have conventionally been using the SRJ system to reduce tank sludge, with success, and accumulated abundant technical expertise of the system.

2. Introduction of the SRJ System to the Crude Oil Shipping Terminal

We installed the SRJ system to a relevant tank at the terminal as a test basis by the cooperation of OTC.

3. Future Tasks

After completion of the initial preparation for operating the system in FY2006, we have been watching the accumulation of sludge, following

monthly cycle operations. As a result, we have indeed confirmed a reduction in sludge accumulation.

During FY2007, we will transfer the SRJ technology to the Iran side, by examining appropriate operation durations, intervals of running the SRJ, and other aspects of operation management.

<by Wataru Maekawa, Technical Cooperation Dept.>



Crude tank (tank used for the test)



Rotary nozzle



Circulation pump (the pump is mobile)

FY2007 Invitation Program for Researchers from Oil-Producing Countries

Background

The JCCP Invitation Program for researchers from oil-producing countries was initiated in FY1993, to laterally support the success of the JCCP international joint research project on the development of advanced catalysts,

which was launched in FY1992, with King Fahd University of Petroleum and Minerals (KFUPM) in Saudi Arabia and the Kuwait Institute for Scientific Research (KISR) in Kuwait as counterparts. The invitation program aims to offer cooperation and guidance to researchers from counterpart

organizations, in conjunction with joint seminars that are held regularly in oil-producing countries, to provide a forum for information sharing and exchange on catalyst technologies. The ongoing program is sponsored by JCCP and implemented by the Japan Petroleum Institute (JPI).

Overview of the FY2007 Invitation Program

	Organization	Name	Host institution	Period	Theme
1	KFUPM	Dr. Ali Osman Oncel, Assistant Professor	Kyoto University, Disaster Prevention Research Institute Prof. Manabu Hashimoto National Institute of Advanced Industrial Science and Technology, Institute for Geo-Resources and Environment Mr. Osamu Nishizawa, Senior Research Scientist	Jul 2 – Aug 24	Seismic analysis and disaster prevention in oilfield districts in Saudi Arabia
2	KFUPM	Dr. Mohammad Naseem Akhtar, Research Scientist	The University of Kitakyushu, Faculty of Environmental Engineering Prof. Sachio Asaoka	Jul 30 – Sep 7	Study of aromatic compounds production from LPG
3	KACST	Mr. Feras Ahmed Al-Shehri, Assistant Researcher	Shimane University, Department of Material Science Prof. Yasuaki Okamoto Tohoku University, Graduate School of Engineering, Department of Applied Chemistry Prof. Muneyoshi Yamada	Jul 5 – Sep 3	Study of ultra-deep desulfurization catalysts
4	SAUDI ARAMCO	Dr. Ali Mahmoud Al-Somali, Research Scientist	Japan Advanced Institute of Science and Technology, School of Materials Science Prof. Mikio Miyake	Nov 10 – Nov 23 (planned)	Study of hydrocracking catalysts for de-asphaltene oil
5	KISR	Mr. Abdulwahab Al-Barood, Assistant Research Scientist	Japan Energy Corporation, Petroleum Refining Research & Technology Center Mr. Kenichi Matsuda, Director	Jun 28 – Jul 27	Study of ultra-deep desulfurization catalysts
6	KISR	Dr. Abdulazeem Marafi, Associate Research Scientist	Kyushu University Prof. Isao Mochida	Feb 4 – Feb 29, 2008 (planned)	Analysis of impurities in diesel oil
7	UAEU	Dr. Eisa Ali Al Matroushi	Kyoto University, Department of Aeronautics and Astronautics Prof. Takaji Inamuro	Jun 25 – Jul 25	Study of the behavior of liquid droplets and air bubbles in pipes

The international joint research project was successfully completed in FY2004, but the invitation program and seminar have continued. Today, they are highly regarded in oil-producing countries, and constitute one of the major pillars of technical cooperation.

The program was extended to 7 researchers in FY2007. As of September, 5 of the researchers have already completed their study in Japan. Including the 7 researchers selected for the FY2007 program, a total of 82 researchers from oil-producing countries have studied in Japan under the program. In terms of country, 50 researchers have been from Saudi Arabia, 28 from Kuwait, and 4 from the UAE.

FY2007 Program

(1) Overview

Researchers for the FY2007 program were selected from among prospective researchers nominated by the university or research institute to which they belong. The Overseas Cooperation Subcommittee established within JPI (Chairman: Takashi Tatsumi, Professor at Tokyo Institute of Technology; Members: 7 university professors, 5 members from oil companies, and 1 member from an independent administrative institution) examined and discussed the eligibility of the candidates, their research themes, and host institutions, and ultimately selected the 7 researchers. They included 4 from Saudi Arabia (1 from KFUPM,

1 from KACST and 1 from SAUDI ARAMCO), 2 from Kuwait (KISR), and 1 from the UAE (UAE University), and were successively received by their host institutions in Japan beginning in July.

(2) Status of Researchers' Study in Japan

1) KFUPM, Dr. Ali Osman Oncel, Assistant Professor

Dr. Oncel studied factors that influence seismic waveforms when seismic waves pass through the rock stratum in oil and gas layers, by means of model experiments. With his study, he aims to contribute to controlling earthquake damage to oil production and refining facilities, by obtaining data on the development of oil reservoir monitoring techniques using seismic waves, and by estimating seismic wave behaviors.

At Kyoto University, Dr. Oncel conducted a simulation analysis using seismic data from Bahrain and Iran, in addition to research data of the university. At the National Institute of Advanced Industrial Science and Technology, he gathered data through a model experiment.

It so happened that an enormous earthquake hit the Niigata region of Japan while Dr. Oncel was studying in Kyoto. News of the earthquake and serious damage it brought to the region renewed Dr. Oncel's strong recognition of the significance of earthquake countermeasures.

2) KFUPM, Dr. Mohammad Naseem Akhtar, Research Scientist

Dr. Akhtar studied the production of aromatic compounds from propane and other light paraffins, through various combinations of reactions, such as dehydrogenation, reduction, alkylation, and disproportionation. He fully applied himself to his research, to produce as much results as possible during his limited time in Japan. He was so focused that his professor and other members of the department worried about his health.

3) KACST, Mr. Feras Ahmed Al-Shehri, Assistant Researcher

At age 28, Mr. Al-Shehri was young, both in terms of age and experience. His goals of studying in Japan were to acquire catalytic theories for ultra-deep desulfurization of diesel oil, desulfurization processes, and engineering expertise. At Shimane University, he studied the basics of desulfurization catalysts, engaged in catalytic preparation, and measured catalyst properties. At Tohoku University, he conducted a high-pressure experiment on a micro-reactor, using new and used catalysts, and analyzed the data obtained.

Under this invitation program, Mr. Al-Shehri had the opportunity to receive guidance directly from two professors. In the future, as he hopes to obtain a Master's Degree in Japan, we look forward to his becoming a full-fledged researcher in his field and serving as a



Dr. Ali Osman Oncel (second from left)



Dr. M. Naseem Akhtar (third from left) and Prof. Sachio Asaoka (second from right), at the University of Kitakyushu, Asaoka laboratory



Mr. Feras Al-Shehri receiving guidance on micro-reactor operations from Prof. Muneyoshi Yamada, at Tohoku University, Graduate School of Science, Yamada laboratory)



Mr. Abdulwahab Al-Barood (front row, right)

bridge for research cooperation between Japan and Saudi Arabia.

When he first arrived in Japan, Mr. Al-Shehri could not eat Japanese food, and we worried about how he would fare during his 2-month-long stay in Japan. All worries aside, however, he became a big fan of Japanese-style grilled *unagi* eel, once his professor introduced him to Matsue's special *soba* noodles and *unagi* dishes. He became quite the connoisseur of Japanese food, so much that in Sendai, he almost daily enjoyed *miso*-cooked *saba*, or Japanese mackerel, a favorite among the locals. We are extremely grateful to members of both host institutions for their warm support that extended beyond their official capacity.

4) SAUDI ARAMCO, Dr. Ali Mahmoud Al-Somali, Research Scientist

Dr. Al-Somali is scheduled to study in Japan from November 10 to November 23, 2007.

5) KISR, Mr. Abdulwahab Al-Barood, Assistant Research Scientist

As part of the countermeasures for Kuwait's heavy crude, Mr. Al-Barood studied the effects that nitrogen compound levels in stock oil have on desulfurization reactions under the conditions for deep desulfurization of diesel oil, using a micro-reactor. As a result, he found that an increase in

nitrogen compound levels decreases the desulfurization rate, but has little influence on the activation energy.

Mr. Al-Barood has previously studied in Japan under the invitation program in FY1997, at Japan Energy Corporation's Petroleum Refining Research & Technology Center, the same institution as this time around. Previously, he mainly received guidance in the operation and management of a pilot plant, as an assistant researcher. However, 10 years later, the main purpose of his recent visit was to receive guidance on an important research theme related to oil refining. We feel Mr. Al-Barood's development as a researcher is an indication that the program is steadily taking root, and hope he will again gain much from his study in Japan, for further growth in the future.

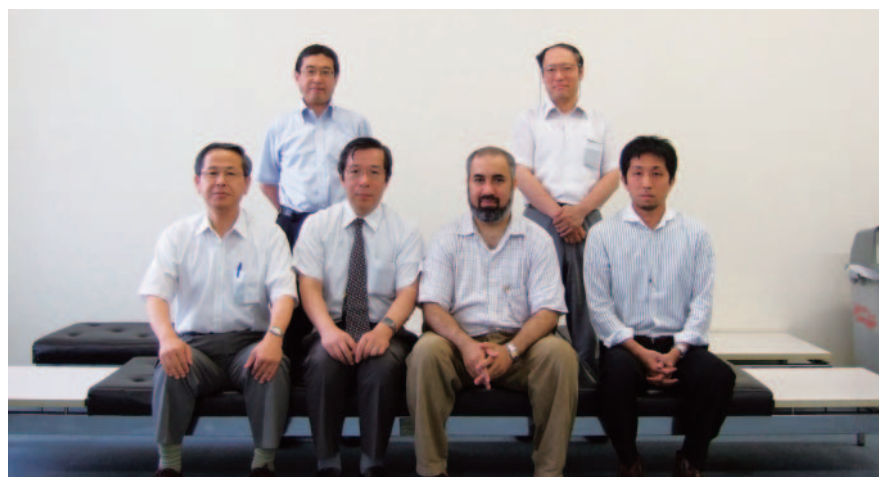
6) KISR, Dr. Abdulazeem Marafi, Associate Research Scientist

Dr. Marafi is scheduled to study in Japan from February 4 to 29, 2008.

7) UAEU, Dr. Eisa Ali Al Matroushi, Assistant Professor

Dr. Matroushi's research theme is expected to contribute to solving important issues relating to phase changes that confront various oil production and refining processes. At Kyoto University, Dr. Matroushi focused on conducting and analyzing various simulations with the goal of elucidating the mutual interaction of liquid droplets and air bubbles inside a vertical tube.

The approach proposed by Dr. Matroushi for the implementation of his study was highly original and



Dr. Eisa Ali Al Matroushi (front row, second from right)

promising, and the attending professor was highly convinced that the study would produce greater results than expected. To promote the development of research in this area, the professor expressed his hopes to maintain a channel of information exchange with Dr. Matroushi, to continue their cooperative relationship.

(3) Summary

The five researchers who have already completed their studies in Japan under the FY2007 invitation program took full advantage of their short stay in Japan to advance their research, under the care and tutelage of their attending professor and research team at their respective host institutions.

This program is made possible by the active support and cooperation of the Overseas Cooperation Subcommittee and Secretariat of JPI in all aspects of planning and implementation. We would like to take this opportunity to thank them for their continuous cooperation. Thank you very much.

<by Kazuhisa Okumura, Technical Cooperation Dept.>

Announcement from JCCP

— The 16th Joint GCC-Japan Environment Symposium —

We are pleased to announce that we will hold the 16th Joint GCC-Japan Environment Symposium (the 4th Joint KFUPM-JCCP Environment Symposium) as follows.

- **Dates:** January 28 & 29, 2008
DAY ONE (Jan. 28) Opening Ceremony & Session
DAY TWO (Jan. 29) Session
- **Venue:** King Fahd University of Petroleum & Minerals (KFUPM) Auditorium
Dhahran, Saudi Arabia
- **Co-Organizer:** King Fahd University of Petroleum & Minerals (KFUPM)
- **Main Theme:** GCC Environment & Sustainable Development
- **Topics:**
 - Sustainable Development for Environment
 - Water Resources Management
- **Contacts:**
 - JCCP Head Office in Tokyo, Japan
Mr. Koichi IO, Deputy General Manager, Technical Cooperation Dept.
e-mail: io@jccp.or.jp
TEL: +81-3-5396-8021 FAX: +81-3-5396-8015
 - JCCP Riyadh Office in Riyadh, Saudi Arabia
Mr. Toshimi KINOSHITA, General Manager
e-mail: kinoshita@jccp.or.jp
TEL: +966-1-462-5121 FAX: +966-1-461-0983
 - JCCP Middle East Office in Abu Dhabi, UAE
Mr. Kazuhiro HIRANO, General Manager
e-mail: hirano@jccp.or.jp
TEL: +971-2-627-4410 FAX: +971-2-626-2166
 - KFUPM in Dhahran, Saudi Arabia
Dr. Nassim Adib Al-Abed, Research Engineer-II
Center for Environment & Water, Research Institute
e-mail: nassim@kfupm.edu.sa
TEL: +966-3-860-2896 FAX +966-3-860-4518

The 26th JCCP International Symposium

JCCP will hold the 26th JCCP International Symposium as follows.

- **Dates:**
 - Opening Ceremony, Keynote Speech, Guest Speeches:
Feb. 6, 2008 (Wed) 2:00 p.m. – 5:40 p.m.
 - Reception: Feb. 6, 2008 (Wed) 6:00 p.m. – 8:00 p.m.
 - Session I: Feb. 7, 2008 (Thu) 9:30 a.m. – 12:00 p.m.
 - Session II: Feb. 7, 2008 (Thu) 1:30 p.m. – 4:00 p.m.

- **Venue:** Palace Hotel (1-1-1 Marunouchi, Chiyoda-ku, Tokyo)

- **Main Theme:** “The Role of the Oil Downstream Sector from the Perspective of Stable Energy Supply — The Necessity and Possibilities of International Collaboration”

- **Sub Themes:**
 - Session I: “Management Issues in the Oil Downstream Sector for Contributing to Globally Stable Supply of Energy”

 - Session II: “Technological Issues in the Oil Downstream Sector for Contributing to Globally Stable Supply of Energy”



Personnel Changes

Outgoing Personnel



Toshio ESUMI
Training Department

Incoming Personnel



Fumihiro TONE
Training Department



Japan Cooperation Center, Petroleum (JCCP)

Headquarters

Sunshine 60 Building 58F, 3-1-1 Higashi-Ikebukuro, Toshima-ku, Tokyo 170-6058, Japan

- | | | |
|------------------------------------|----------------------|----------------------|
| • Administration Department | TEL. +81-3-5396-6000 | FAX. +81-3-5396-6006 |
| • Operations Department | TEL. +81-3-5396-6001 | FAX. +81-3-5396-6006 |
| • Training Department | TEL. +81-3-5396-6909 | FAX. +81-3-5396-6006 |
| • Technical Cooperation Department | TEL. +81-3-5396-8021 | FAX. +81-3-5396-8015 |

Overseas Offices

- | | |
|---|--|
| • Middle East Office
#904, Al-Ghaith Office Tower, Hamdan St.,
P.O. Box 51828, Abu Dhabi, U.A.E.
TEL. +971-2-627-4410 FAX. +971-2-626-2166 | • Riyadh Office
Al-Dahlawi Building, King Fahad Rd., Tahlia St., Olaya,
P.O. Box 61356, Riyadh 11565, Kingdom of Saudi Arabia
TEL. +966-1-462-5121 FAX. +966-1-461-0983 |
|---|--|

URL: <http://www.jccp.or.jp> E-mail: webmaster@jccp.or.jp