

Customized Program in Japan on “Maintenance & Safety Management” for Saudi Aramco



At JCCP:
Mr. Fareed Kamfar (second from right in front row)

1. Background

In recent years, Saudi Arabia has become the largest supplier of crude oil to Japan, supplying as much as 30% of Japan's total crude oil imports, and making Saudi Arabian Oil Company (Saudi Aramco) an extremely strong presence in the world crude oil market.

Last March, an Expert Service program on “Refinery Plant Maintenance” was implemented in Saudi Arabia (Feb. 28 – Mar. 7, 2008), and Mr. Mikio Kojima, then-Executive Director of JCCP,

who had been visiting Saudi Arabia at the time, delivered a speech at the seminar venue. Taking the opportunity of Mr. Kojima's attendance, Mr. Fareed Z. Kamfar, RT Refinery Maintenance Manager, strongly requested an opportunity to observe maintenance & safety management and total productive maintenance (TPM) activities in Japanese refineries. In response to the request, JCCP designed and implemented a program titled “Maintenance & Safety Management by TPM in Japanese Refineries” (CPIJ-20-08), from October 16 to 30, 2008.

2. Overview of the Program

Saudi Aramco is presently seeking to upgrade its facility maintenance technologies, and has launched improvement/reform activities, with an emphasis on safety management and preventive maintenance. Mr. Kamfar therefore wished to observe TPM and other improvement activities, as well as the latest maintenance management technologies in Japanese refineries, to gain a perspective on measures for improving and reforming refinery maintenance management technologies in Saudi Arabia.

The program was designed to mainly cover “safety program,” “total productive maintenance (TPM),” and “maintenance services organizations,” through close examination of relevant initiatives implemented by JCCP member companies participating in the program, in addition to discussions. Unlike conventional courses, it placed emphasis on holding frank discussions with management-level personnel at each company, rather than on classroom lectures. To insure that focused discussions were held, each company prepared for discussions based on a list of questions that had been prepared in advance.

The participants were Mr. Kamfar, acting group leader, Mr. Abdulsalam Ashi, Yanbu Refinery, Maintenance Division Superintendent, and Mr. Nezar Lamfon, Jeddah Refinery, Maintenance Division Superintendent.

3. Program Details

The program featured onsite training at a chemical company and a maintenance company under contract with a Japanese refinery at Mr. Kamfar’s request, in addition to oil companies, engineering companies, and machine & equipment manufacturers. At JCCP Headquarters, a lecture entitled “Maintenance & Safety Management in Japanese Refinery” examined causes and countermeasures to accidents in Japan as an approach to understanding the history of safety & maintenance management, and introduced representative TPM activities that oil refining-related companies in Japan have implemented to date. The lecture also served to put into perspective the significance of the facilities visited.



*At Nippon Petroleum Refining Co., Ltd.,
Muroran Refinery*

(1) Refineries

At Nippon Petroleum Refining Co., Ltd.’s Muroran Refinery, detailed discussions were held on the safety education mechanism of the refinery’s maintenance department and its safety management framework with a contractor employed to undertake daily maintenance activities. At Japan Energy Corporation’s Mizushima Refinery, Mr. Kazuo Yamada, Deputy General Manager, personally described maintenance and TPM activities implemented by the refinery in an easy-to-understand manner, while introducing case examples. With respect to safety management activities, an executive officer gave a detailed account of the status of various initiatives, and explained efforts to achieve “visualization” at the refinery, in reference to concrete examples. The information provided helped establish a general understanding of the status of equipment maintenance management at the Mizushima Refinery. At Idemitsu Kosan Co.,



At Idemitsu Kosan Co., Ltd., Chiba Refinery

Ltd.'s Chiba Refinery, the study group watched the early-morning change of shift, observed safety activities and TBM (Tool Box Meeting) activities, and received an overview of TPM activities in a discussion session attended by Mr. Akira Kitayama, General Manager. The group also visited a company that undertakes daily maintenance management at the Chiba Refinery, and obtained information on the maintenance management system and safety management framework binding the contractor to Idemitsu Kosan's standards.

(2) Chemical company

The group visited the Mizushima Plant of Mitsubishi Chemical Corporation, one of the largest chemical companies in Japan. They gained a general understanding of the company's education system, through hands-on experience in safety management at the safety training center, which was independently established by a cooperation council, and a tour of the T-TEC Center, where new employees regularly receive training.

(3) Equipment manufacturers

At the Muroan Plant of Japan Steel Works, a world-renown manufacturer of pressure vessel materials and equipment, the group received pointers on the maintenance management of pressure vessels, toured the high-pressure vessel production site, and renewed their understanding of the company's scale, high technical expertise, and quality. What most captured the group's attention, however, were the words of greeting the employees

exchange with each other: "Go-anzen ni," meaning "Please be safe." This came as a strong reminder that words of greeting are extremely important in staying consciously aware of safety. At the Haneda Plant of Ebara Corporation, a leading Japanese pump manufacturer, the group received a description of the company's large-pump maintenance service framework in the Middle East, as well as on its engineer training system. Detailed discussions were also held on the order receiving/placement system for spare parts and other components, and on the delivery lead times for new large-pump orders, in addition to other specific topics.

(4) Engineering companies

Visits were made to three leading engineering companies in Japan. Chiyoda Corporation, a contractor for Saudi Aramco's principle refineries, gave a presentation that primarily focused on plant life cycle engineering and work safety. JGC Corporation gave an overview of its overseas O&M (operation & maintenance) status and a detailed description of its maintenance and inspection activities in Japan. Toyo Engineering Corporation delivered a presentation titled "O&M, a View from Safety," which covered its policies for safety management as a contractor and its training system for subcontractors, and illustrated Japanese engineering companies' attitude toward safety. Listening to these presentations, the members of the study group articulated their concern regarding the technical level of contractors in Saudi Arabia and their wish for them to consider receiving training.



At Japan Steel Works, Muroan Plant



At Sompō Japan Risk Management, Inc., Head Office

(5) Insurance company

Based on its extensive knowledge of risk management trends in Japan, Sompo Japan Risk Management, Inc. provided training in basic policies for risk assessment as seen from the perspective of an insurance company and the diverse aspects involved in assessing hazards and other risks, including those in relation to the flow of activities, organization, progress management, cost management, risk management, and change control.

(6) Maintenance companies

At Sankyu Inc., a medium-sized company specializing in maintenance activities, detailed discussions were held on the training system for employees who perform maintenance activities and on specific human resource development programs for employees involved in maintenance. At Shinko Plantech, discussions centered on specific issues in the maintenance and inspection of refinery facilities, and focused particularly on daily maintenance and “Turnaround Maintenance” systems. These discussions were helpful in gaining an accurate understanding of the high level of maintenance technologies in Japan.



At Shinko Plantech, Head Office

4. Evaluation and Impressions

Mr. Kamfar and the other two members of the study group stated that the opportunities to

personally visit representative companies in Japan and discuss various issues with experts in those companies have been extremely beneficial, and that they have fully satisfied their intended objectives. They also voiced their intention of applying their experience in Japan to management practices at Saudi Aramco, and with a renewed awareness, in particular, of the importance of having managers take initiative, they mentioned that they would like manager-level employees of Saudi Aramco to attend similar training, to improve management capabilities in their organization.

This program has been designed considerably differently from conventional customized programs. Toward resolving various issues confronting Saudi Aramco’s maintenance department, it featured detailed discussions with the management of oil-related companies in Japan, as a means of providing a point of reference on how Japanese companies are addressing such issues. We feel that this approach has, in a way, established a foundation for practical training programs in general.

From the designing stage of this program, we paid meticulous attention to details to offer a program that would satisfy the study group from Saudi Aramco, and have selected companies for onsite training that would satisfy the members’ intended objectives, following a series of negotiations. In terms of the specific topics of the program, what was initially a vague idea, gradually began to take shape, again thanks to the generous cooperation from related companies and their help in establishing topics to be discussed at each company. Owing to these efforts and to the study group preparing questions in advance, all of the companies were able to adequately prepare and insure that discussions would not end up being superficial, but would have a definite focus and provide pertinent information, even within a short period of time.

On a final note, JCCP would like to extend its deepest gratitude to everyone who has generously offered their cooperation in the planning and implementation of the program. Thank you very much.

<by Fumihiro Tone, Training Dept.>



My Impressions of the Customized Program in Japan

Mr. Fareed Zainaldeen Kamfar, RT Refinery Maintenance Manager

It has been a tremendously rewarding experience for me and my team to have participated in this program. We were quite moved by the warm and hearty welcome with which JCCP received us. On behalf of Saudi Aramco and the team accompanying me, I would like to thank Mr. Masataka Sase, Executive Director of JCCP, and his staff, for developing and organizing the program.

The visits to various industries and institutions provided us an excellent opportunity to learn about procedures related to TPM and safety practices in Japan's industries. It was indeed a great experience to observe first-hand the intricate details of these activities and how meticulously they are being implemented, as well as the methods employed to achieve excellent quality levels.

We were also impressed with how plant personnel and contractors work in tandem in accepting ownership, responsibility, and accountability for plant maintenance and operation. It is a living example of the application of the TPM concept.

Our visits to Idemitsu Kosan, Nippon Petroleum Refining, Japan Energy's refineries and Mitsubishi Chemical gave us an insight into TPM and safety concepts that are being implemented and practiced in Japan. The discussions we held with various people in Japan Steel Works, Ebara Corporation, JGC Corporation, Chiyoda Corporation, Sompo Japan Risk

Management, Sankyu Corporation, Shinko Plantech, and Toyo Engineering were extremely fruitful, and provided us with valuable information related to this program's objectives, with a focus on HR development and employee well-being.

Over the past 27 years, JCCP has always been at the forefront of building bridges of friendship between Japan and oil-producing nations, and has contributed tremendously to enhancing mutual cooperation between companies in major oil-producing nations and Japan. In these days of energy reliance, JCCP's initiatives have gone a long way in reaching out to oil producers.

On a personal note, about 24 years ago I had the opportunity to attend one of JCCP's programs, and since then I have greatly valued Japanese culture and work practices. I am impressed by the fact that every Japanese worker, irrespective of his level of responsibility in his organization, places "trust before business" and ultimate importance on "maintaining highest quality standards." This speaks loudly of Japan's remarkable development following World War II into one of the most developed and industrialized nations in the world.

In closing, once again I would like to extend our thanks and appreciation for your warm hospitality, graciousness and courtesy during our trip, and look forward to maintaining cooperation between Saudi Aramco and JCCP in the future.

