

"Safety Management for Refinery" Held at Saudi Aramco's Ras Tanura Refinery



Seminar participants

1. Background to the Seminar

Saudi Arabia is the largest crude oil producer in the world. As a country that supplies roughly 26% of Japan's total crude oil imports, it is one of the most important countries holding the key to stabilizing crude oil supplies to Japan.

In response to a survey conducted by JCCP on training needs in major oil-producing countries in the Middle East, we received a request from Saudi Aramco for the implementation of a Customized Program-Overseas (CPO) on safety management in the refinery. We visited the Ras Tanura Refinery last May to discuss the details, concept, and schedule of the program, and implemented the seminar in December, as presented below.

2. Overview of the Seminar

(1) Name of the seminar

JCCP-Saudi Aramco Seminar on Safety Management for Refinery (CPO-23-08)

(2) Seminar schedule

December 13 – 17, 2008 (5 days)

(3) Venue

Ras Tanura Refinery, Saudi Aramco

(4) Lecturers

JCCP Training Department: Yoshiaki Ueno,
Fumihiro Tone

JGC Corporation: Mr. Eigai Hamada

Sompo Japan Risk Management Inc.:
Mr. Susumu Adachi

3. Details of the Seminar

The seminar was held at the Saudi Aramco Training Center at Ras Tanura Refinery, under the following schedule.

Dec. 13th:

Opening ceremony, introduction of the seminar program, introduction of JCCP activities, overview of Japan's oil industry

Dec. 14th:

Safety Management for the Refinery, its Theory and Practice

Refinery Activities for Safety Management

Dec. 15th:

Safe Plant Design Technology and Risk Management

Safe Plant Design Technology and Process Safety Management



Opening address: Mr. Mohammed A. Al-Omaid, then-General Manager, Ras Tanura Refinery



Dec. 16th:

- HSE Risk Assessment and Methods
- Risk Management from the Perspective of a Nonlife Insurance Company
- Risk Analysis and Evaluation Methods in Refineries and Petrochemical Plants

Dec. 17th:

- Comprehensive Q&A, course review, closing ceremony

We designed the seminar with two major objectives in mind. The first was to introduce activities and methods that have been adopted by Japanese companies to establish a safety culture and safe working environment. The other objective was to provide detailed information on risk management methods from the perspective of process safety design.

Saudi Aramco, attaching substantial importance to the seminar, notified and nominated participants not only from the Ras Tanura Refinery but all its

refineries, and ultimately selected 26 participants.

At the opening of the seminar, Mr. Mohammed A. Al-Omaid, then-General Manager, Ras Tanura Refinery, urged the participants to “take full advantage of the opportunity of this JCCP seminar to learn about Japanese-style safety management and methods for establishing a safety culture,” and expressed the significance and his expectations of the seminar.

4. Overview of Lectures

(1) Safety Management for the Refinery, Its Theory and Practice

This lecture provided knowledge of the concept of safety management, the importance of establishing a safety culture, and key points of safety activities. It also introduced safety activities and methods and voluntary small group activities that have emerged from corporate and social awareness of safety in Japan, while showing a video of danger prediction



Lecture scenes



Presentation of the completion certificate



Closing address

activities and physical finger-pointing confirmation activities. The lecture was well-received and appreciated by the participants.

(2) Refinery Activities for Safety Management

This lecture introduced examples of refinery accidents, their causes, and countermeasures. It also explained management methods and specific practices for accident prevention. Everyone showed strong interest, particularly in the description of Total Productive Management (TPM) activities, which are proving extremely effective in Japan's refineries, and had many detailed questions concerning them.

(3) Safe Plant Design Technology and Risk Management

From the perspective of an engineering company, this lecture systematically introduced technical issues relating to equipment design and risk management, and discussed methods and principles that are considered effective in managing plant operations. It specifically covered such topics as plant disaster and countermeasures, safe plant design, safety and risk management, safety management in the United States, and safety and risk evaluation methods (HAZOP, LOPA, and OHR). The lectures on safety and risk management and evaluation methods also provided practical training using actual case examples, and elicited active responses from the participants and encouraged their active

participation in discussions.

(4) Risk Management from the Perspective of a Nonlife Insurance Company

This lecture introduced refinery risk evaluation and assessment in detail, from the perspective of a nonlife insurance company. For example, it discussed what factors a nonlife insurance company focuses on when surveying, analyzing and assessing accident trends and risks in Japanese refineries and petrochemical plants. It also covered risk evaluation methods, the underwriter's point of view, and rate calculation methods, and captured the participants' strong interest, particularly in regard to risk evaluation methods.

5. Evaluation and Impressions of the Seminar

This seminar was a touchstone for JCCP in many respects. To fully satisfy Saudi Aramco's needs, we designed the program with considerable care, particularly in regard to introducing Japan's small group activities, which are commonly believed to be extremely effective in establishing and developing a safety culture. To facilitate understanding of these activities, we included detailed discussions of their theories, theoretical backgrounds, and actual results. The lectures we delivered to fulfill the second objective of the program of providing detailed information on risk management methods

from the perspective of process safety design were also highly evaluated by the participants.

Each day's lecture began at 7:30 a.m. and lasted until 3:30 p.m. with an hour's lunch break in between, but the participants remained so intensely focused on the lectures that we lecturers had also fully concentrated on the seminar, almost oblivious to the time.

On the final day of the seminar, Mr. Fareed Z. Kamfar, then-Maintenance Manager, Ras Tanura Refinery, personally held a meeting with the participants, and later relayed their impressions of the seminar to the JCCP team. Mr. Kamfar happily reported that the participants considered the seminar

one of the most meaningful seminars they have attended, and that they feel they have benefited greatly from it. It was extremely rewarding to us lecturers to receive such high praise. We hope to maintain strong channels of cooperation with Saudi Aramco, so that we may carry over the recent success to further achievements.

Saudi Aramco ran an article on the seminar on its website and in its weekly journal, *The Arabian Sun*, as shown below.

In closing, we would like to extend our deepest appreciation to everyone for their time and cooperation in planning and implementing this seminar.

<by Yoshiaki Ueno, Training Dept.>



Participants pose with JCCP consultants and Ras Tanura Refinery management after the Safety Management for Refineries course

RTR teams up with Japanese

RAS TANURA — Ras Tanura Refinery (RTR) collaborated with Japan Cooperation Center, Petroleum (JCCP) to deliver a course titled "Safety Management for Refineries."

The Dec 13-17 course was held in RTR Training facilities and was attended by 26 participants from Refining, Distribution and Terminal Operations, Safety and Industrial Security, and Southern Area Gas Operations.

The objective was to heighten the safety awareness of the participants and to tap into the safety approaches of the Japanese refining industry as well as

introduce Japanese plant safety design; risk management; and health, safety and environmental risk assessment.

There was an emphasis on different models for plant shutdowns and startups that reduce the load on operators, thus significantly reducing human error.

RTR general manager Mohammed A. Al-Omar as well as RTR department managers opened the event by highlighting the benefits of exchanging ideas with international experts in safety, an area of paramount importance to RTR and Saudi Aramco.



Above is Mohammed A. Al-Omar. At left, JCCP consultant Ueno Yoshiaki presents a certificate to course participant Mohammed Al-Hamadah

Article of the seminar in The Arabian Sun