

Signing Ceremony for the Project on “Mild Hydro-cracking of LCO & Evaluation of Gas Oil HDS Catalysts” in Saudi Arabia

On May 17, 2009, JCCP and King Fahd University of Petroleum and Minerals (KFUPM) held a ceremony for signing a Memorandum of Agreement (MOA) on the joint technical cooperation project, “Mild Hydro-cracking of LCO & Evaluation of Gas Oil HDS Catalysts,” in Saudi Arabia.

The objective of the project is to lay the basic groundwork for the development of mild hydro-cracking technology toward the effective utilization of the surplus of light cycle oil (LCO) that is expected to grow in the future, and to develop a technology for the evaluation of catalysts that are used to produce low-sulfur diesel fuel with a sulfur content of less than 10ppm from Saudi Arabia’s high-sulfur heavy crude oil.

For the first time in a JCCP technical cooperation project, a Japanese university (Kyushu University) has participated as a member of a consortium headed by Nippon Oil Research Institute Co., Ltd.

Dr. Sahel N. Abdul-Jauwad, Vice Rector for Applied Research, and Mr. Katsuo Yokoyama, Managing Director of JCCP, signed the agreement in the ceremony, which was also attended by Mr. Fumio Iwai, Minister, and Mr. Toshiki Nagano, First Secretary, from the Embassy of Japan in Saudi Arabia, and Dr. Isao Mochida, Professor at Kyushu University.

Preceding the signing, Mr. Iwai gave a congratulatory speech in Arabic, and Mr. Yokoyama, Dr. Abdul-Jauwad, and Dr. Mochida each offered a few words of greeting in English. After signing the agreement, Mr. Yokoyama

presented a commemorative gift to Dr. Abdul-Jauwad, and brought the ceremony to a successful close.

The project will be implemented in the following four stages, over a period of three years, from April 1, 2009 to March 31, 2012.

1. Patent and Literature Survey

The latest patents and technical literature relating to the project will be surveyed, to establish a roadmap for the project using the acquired information.

2. Installation of Testing and Analysis Apparatus

The following three types of testing and analysis apparatus will be installed.

- i) Micro-testing unit
- ii) Gas chromatograph with atomic emission detector (GC-AED)



Signing ceremony: Dr. Sahel N. Abdul-Jauwad, Vice Rector for Applied Research (seated right)

iii) High-performance liquid chromatograph (HP-LC)

The micro-testing unit will be used to evaluate catalyst performance. The GC-AED and HP-LC will analyze the feed oils that will be loaded in the testing unit and the oil products derived from the catalyst performance test conducted in the micro-testing unit.

3. Analysis of Gas Oil and Light Cycle Oil (LCO)

Various types of feed samples from Saudi Arabian crude oil will be acquired by distillation and used to produce gas oil. LCO, a by-product of fluid catalytic cracking, will also be used as gas oil feed. These feed samples will be analyzed by a method proposed by Kyushu University. Lastly, they will be loaded in the micro-testing unit to induce a reaction, and the derived desulfurized oil will be analyzed by the same method used to analyze the feed samples.

4. Catalyst Performance Evaluation

Experimental catalysts will be researched and their performance evaluated in the micro-testing unit, in reference to commercial catalysts. Initially, commercial catalysts will be evaluated with gas oil feed and LCO, to gain an understanding of desulfurization trends.

Following the ceremony, the Japanese delegation toured the research facilities at KFUPM, then paid a courtesy call on H.E. Dr. Khaled S. Al-Sultan, Rector of the University. Dr. Al-Sultan explained that, on learning of Kyushu University's participation in the project, he pushed back the boundaries of his university's organization and instructed two up-and-coming young faculty members from the Chemical Engineering Department (Dr. K. Al-Hooshani, Associate Professor, and Dr. M. Al-Daous, Associate Professor) to join the project members on the KFUPM side. More so than previous projects, he said he hopes this project will further evolve in the future as a mutual sharing of intellectual knowledge.



Mr. Yokoyama presenting a commemorative gift to Dr. Sahel N. Abdul-Jauwad, Vice Rector for Applied Research, KFUPM



H.E. Dr. Khaled S. Al-Sultan, Rector of KFUPM, presenting a commemorative gift to Mr. Fumio Iwai, Minister of the Japanese Embassy in Saudi Arabia

After enjoying a pleasant exchange of views, Mr. Yokoyama presented a commemorative gift to Dr. Al-Sultan, who in turn, presented a commemorative gift to Mr. Iwai.

A brief overview of the project was introduced in three local newspapers the following day, based on a press release distributed to the media.

This project marks a milestone as the first JCCP technical cooperation project that includes a university on both the Saudi and Japanese sides. We hope that the successful completion of the project will contribute to the further development of friendly ties between our two countries.

<by Hiroaki Hara, Technical Cooperation Dept.>