



*Refinery Project*

**TEC Awarded Order to Modernize Refinery in Russia**



TEC was awarded a subcontract for modernization of Yaroslavl petroleum refinery (280 kilometers northeast of Moscow) in the Russian Federation by a consortium of Mitsui & Co., Ltd of Japan and Thyssen-Krupp AG of Germany. This contract has been awarded to a consortium of Mitsui & Co., Ltd. of Japan and Thyssen Rhein Stahl Technik GmbH of Germany by JSC "Slavneft Yaroslavlnefteorgsintez" of Russia. TEC has been collaborating with Mitsui & TRT consortium as an engineer through the negotiation stage that results in this award of major portion of the project. This contract awarded to TEC requires the design and supply of facilities, such as a visbreaker (1.5 million-t/y capacity) and hydrocracking equipment (2.1 million-t/y capacity). The plant is scheduled for completion at the beginning of 2005. The region of the former Soviet Union represented for TEC an exciting market with enormous potential. However, after the breakup of the Soviet Union, new orders in Russia had been very sluggish because of the confusion and financial crisis accompanying Russia's to a market economy. TEC intends use this opportunity to enhance its marketing activities in Russia.

*Chemical Project*

**TEC Awarded Construction Project of Production Facilities of Fluoro Resin Plant by Daikin Fluorochemicals (China) Co., Ltd.**



TEC has been awarded a contract to construct the production facilities of a fluoro resin plant planned in Changshu, Jiangsu Province, China, by Daikin Fluorochemicals (China) Co., Ltd., an overseas affiliate of Daikin Industries, Ltd. TEC's scope of work includes engineering, procurement services of equipment and materials, and construction. The plant is scheduled to be completed by the spring of 2003.

This project is positioned as an important factor in the current global businesses of Daikin Industries, who proudly holds high market share in the fluoro chemicals industry worldwide. The aim of placing a production base in China is to enhance cost competitiveness and wider globalization.

This project is the first fluoro resin plant in China financed by foreign funds and after this plant starts full-scale operations, Daikin Fluorochemicals (China) Co., Ltd. will become the largest producer of fluoro resins in China.

The contract was awarded to TEC based on their track record of completing over 80 projects in China and due to the level of trust they have built with Daikin Industries over the years.

### *Petrochemical Project*

## **Ethylene Oxide / Glycol (EOG) Plant Completed in Malaysia — New Safety Record of 20 Million Hours Without Lost Time Accident Achieved**

The EOG Plant for Optimal Glycols (Malaysia) Sdn. Bhd. (hereafter, OPTIMAL) sited in Kertih, Terengganu State on the east coast of Malaysia achieved mechanical completion on 15th August 2001 as a forerunner to the completion of upstream and downstream plants. Operations are now up and running smoothly.

The project was launched on 16th March 1999 by OPTIMAL, a joint venture between The Dow Chemical Company of the U.S. (formerly Union Carbide Corporation) and PETRONAS of Malaysia. The plant has an annual production capacity of 140,000 tons for ethylene oxide (EO), 320,000 tons for mono-ethylene glycol (MEG), and 20,000 tons for diethylene glycol (DEG).

The implementation of the turnkey project based on Dow's basic engineering technology was conducted very efficiently by TEC, making use of its transnational business structure. With regard to safety, the entire OPTIMAL projects, which included TEC, achieved a tremendous safety landmark when it attained a total of 20 million man-hours (TEC achieved 4.9 million man-hours without LTA for EOEG Plant from start of construction to mechanical completion) without Lost Time Accident (LTA). This surpassed the record set five years earlier in a project TEC also participated in and is a new record for safety in Malaysia.

Project Completion



### *Oil & Gas Project*

## **The large-sized LNG Project for India is Going Smoothly**

At the end of 2000, TEC was awarded a contract by Petronet LNG Ltd. at Dahej in India, a joint venture between gas authority of India Ltd., Indian oil corporation, Bharat Petroleum Corporation Ltd., an oil and natural gas corporation, for a LNG import terminal (maximum capacity of 5.0 million t/y LNG), with an international consortium led by Ishikawajima-Harima Heavy Industries Company (IHI) of Japan and consisted of Toyo Engineering India Ltd. (TEIL), Ballast Nedam International B.V of the Netherlands, Mitsui & Co, Ltd. and Itochu Corporation of Japan.

This is the first time for TEC to participate in a LNG import terminal project and TEC in collaboration with TEIL, handle detailed design, the procurement of equipment and materials and construction of LNG import terminal facilities except LNG tank systems and marine systems. The whole project is proceeding smoothly by TEIL's initiative under TEC's transnational business structure and will be completed on schedule in May 2004.

Project Under Way

