

TOYO/MODEC Cooperate with PETROBRAS for Verification Tests of Small- and Medium-scale GTL

March 4, 2010

Toyo Engineering Corporation
MODEC, Inc.

Toyo Engineering Corporation (TOYO, Yutaka Yamada, President and Chief Executive Officer) and MODEC, Inc. (MODEC, Kenji Yamada, Chairman and Chief Executive Officer), which have been working together since November 2007 on the development of small- and medium-scale GTL, concluded a cooperation agreement with Petroleo Brasileiro S.A. (PETROBRAS, José Sergio Gabrielli, President and CEO) to construct the verification facility.

The verification plant of the new GTL process uses the microchannel reactor, the basic patent of which is held by Velocys Inc., US (Velocys, Tom Hickey, President and Managing Director), and will be constructed within the Petrobras refinery, located in Fortaleza, Ceara, Brazil. Construction is due to finish at the beginning of 2011 when the verification operation will take place, and data will be collected for designing commercial plants. The new GTL process will enter the phase of commercialization by the end of 2011. Petrobras will cooperate with the verification test in order to increase oil production by liquefying gas produced from the offshore crude oil production and natural gas in gas fields located in remote areas within Brazil through the GTL. In addition, the microchannel reactor is produced with the cooperation of Kobe Steel, Ltd. (Hiroshi Sato, President and CEO).

TOYO is an engineering company with achievements in the fields of petroleum processing and petrochemical chemistry plant construction. MODEC is a leading international company in the development of offshore oil and gas fields. Both companies place this development as part of a strategic alliance to promote product development by integrating the technologies of both companies in the development of the GTL process, which is particularly advantageous for offshore applications, and to develop new markets. To this end, the companies started the project cooperatively with each other in November 2007.

With the increase in demands of the GTL applications to oil field gas and small- and middle-scale gas fields, and with product development having advanced to a new phase, we aim to complete the commercialization process by moving the plan forward by one year. After the verification tests have been completed successfully, it is envisaged that a small-scale GTL – as the first commercial plant - to be mounted on FPSO (Floating Production, Storage and Offloading) for processing oil field gas produced from offshore oil development operations, will be used.

Currently more than 3,000 tcf (trillion cubic feet) of natural gas remains undeveloped or is unavailable due to lack of means to deliver it to global markets. The GTL process that we are aiming to commercialize effectively uses unused natural gas and oil field gas that is released into the atmosphere or processed through combustion. This process also contributes to managing environmental issues by reducing emissions of global greenhouse gases.

< Contacts > Mr. Hirofumi Kawagoshi, Corporate Communications Division,
Toyo Engineering Corporation
TEL: +81-47-454-1113

