MOSCAD Maintains Gas Flow in Thailand

by Pichayon Veshasarn, Unocal Thailand, Ltd.

Unocal 76 is an international petroleum company with many offshore gas production platforms in Thailand.

Motorola's MOSCAD system was brought in to solve the problems inherent in controlling and monitoring dozens of working gas wellhead platforms.

The Challenge

The highly competitive petroleum production industry requires efficiency at all levels. Once the well is sunk and pumping begins on a continuous basis, all personnel leave and the site works independently. Offshore unmanned platforms present a special problem of access for routine maintenance, monitoring and control.

Unocal 76 has many offshore wells in Thailand, producing gas on a continuous basis. The distances between the production platforms and the central office in Bangkok defined the need for an efficient yet flexible SCADA (Supervisory Control and Data Acquisition) system. Motorola's MOSCAD system, combined with extensive microwave communications experience made Motorola the logical choice.

The Solution

To provide monitoring and control for the offshore rigs, Motorola designed a system in which each Secondary Control Center (SCC) controls 4-5 rigs. Five SCC's are linked to the Master Control Center (MCC) which, in turn, is linked, via satellite, to the offices in Bangkok.

The Remote Terminal Units (RTU's) on each platform monitor numerous functions of the rig, including fire pump control, generator status, instrument gas supply, launcher position, sump tank level, flowlines and intruder alarm. Data is transmitted to the SCC via a radio and microwave link. MOSCAD is programmed to read gas flow per the American Gas Association Standard AGA3.

The MCC receives data into its IBM PC unit, which is connected to a wall-mounted MIMIC Panel for analog status and readings. The central computer is run using IGC/M and FIX DMACS software and provides a powerful data acquisition control and display package.

Although the system is used primarily for monitoring, it is fully equipped with Tool Box remote diagnostics, allowing for the automatic introduction of changes in local processing, via the communication links. This means that data picked up by the sensors can be used directly to monitor the situation existing on the rig. Alarms can be handled automatically, without wasting valuable time in sending personnel to the actual site.

The Result

- Greater efficiency in financial and personnel management. Visits to the site and the wasted travel is reduced. Due to automatic response capabilities, many situation which previously required on-site intervention are prevented.
- Automatic safety and environmental control. Immediate response to alarms can greatly diminish the environmental impact and damage, as well as to minimize the financial loss due to halted production.
- Simplified operation. The MOSCAD SCADA system provides graphic presentation of data, allowing fast and easy manipulation of massive amounts of data. Monitoring of simultaneous operations, means greater productivity.
- Flexible and individualized solution to a complex situation. MOSCAD allows the customer to purchase exactly the system he requires. Additional elements can be added at a later time, according to budget or operational considerations.

MOSCAD – the pipeline to efficient remote monitoring and control.