

Production Automation at the Cantarell Field, in Mexico

Sergio Renovato-Carrión and **Alberto Toledano-Casazza**. *Pemex Exploracion y Produccion, Calle 31 No. 117, Col. Cuauhtemoc, Cd. del Carmen, Camp, 24180, Mexico, phone: 938 381 1200, srenovato@pep.pemex.com*

Back in 1999, PEMEX Exploration & Production initiated production process automation at several of its major facilities at the Cantarell Field, in the Bay of Campeche.

Six of its offshore complexes (Akal-C, Akal-J, Akal-G, Akal-B, Akal-L, and Nohoch-A) were selected as part of the program. Distributed Control Systems will make it possible to perform process and auxiliary systems tasks in the different types of platforms, i.e., drilling, production, compression and living quarters. This will allow to carry out daily operation in an efficient and safe manner, through online real-time control and monitoring, thus improving the overall safety levels to better protect personnel, the environment and facilities, all this while increasing production performance.

The program considers the development and implementation of optimization software for gas lift operations, material balance for gas and oil at each production complex and at field level. Automation will also make it possible to monitor, on a continuous basis, various systems, like emergency shut down of operations under certain conditions.

As part of the plan, an Operations Center was designed and built in Ciudad el Carmen, Campeche. Vital information will be gathered at this site via radio signaling to monitor the performance of facilities and will be available for management decisions. Finally, PEMEX will train operators and maintenance personnel through specific process simulators developed for each one of its facilities offshore and installed in the Training Center, also designed and built in Carmen; allowing PEMEX to increase personnel performance while at the same time monitor their progress and knowledge while safety simulating new or better ways to efficiently increase production.
