OFFSHORE '86

# Hard times spawn improved technology

With offshore drilling down nearly 62% for the U.S. and almost 18% for the rest of the world in terms of rigs running, one might expect that engineering and equipment developments should also be on the wane. However, the opposite is the case as operators scramble to maximize efficiency. This year's special report on marine oil and gas activity discusses technological and operating trends occurring around the world.

## Offshore gas field is put onstream in record time

**10-second summary**

While drilling was underway on two wells, a concrete barge and production facilities were being constructed and readied for installation. As a result, the operator was able to put the Gulf of Mexico field on production only five months after the first well was spudded.

SEAGULL ENERGY E&P INC. has established what it believes to be a record with the startup of its Eugene Island Block 45 (OCS-G 3991) platform about 20 miles offshore Louisiana. Seagull's first well on the block was spudded in December, and first sales from the field took place in May the following year. During the five months from spud to startup, the following events took place:

- Second well was drilled
- Both wells were completed (one singly, one dually and both gravel-packed)
- Small four-pile well protector fabricated and installed

**Seagull Energy E&P Inc.**'s Eugene Island Block 45 production facilities are nominally rated for 20 MMscfd, but have handled up to 25 MMscfd and 60 bcpd. Production equipment was installed on the steel deck at ground level and then lifted atop the barge.

• Concrete barge/steel deck production platform fabricated and installed

• A 20 MMscfd (nominal) production facility fabricated and installed.

If the brevity of the elapsed time between spud and first sales is not a record, it is certainly worth noting. Even more notable is the payout of the project in less than one year (actually more on the order of nine months). Total expenditures on the project including drilling and completion of the wells, were approximately $6 million. Since startup, sales have been as high as 25 MMscfd with 60 bcpd. Platform production now averages 24 MMscfd and 55 bcpd.

**Drilling and completion activity** took place from Dec. 30 (spud date) to Feb. 29 the following year. Allard-Frazer Operating Co. acted as Seagull's agent in drilling and completion planning and also implementation of those plans. The rig Rowan *New Orleans* was used to drill and complete both wells. The first was a straight hole to 8,400 ft. The rig, just back from the Persian Gulf, managed to continue operating during a record cold winter. Once the well was logged, 7⅝-in. casing was run and cemented. The well was temporarily abandoned and the *New Orleans* skidded 7½ ft to the location of Seagull's second well. This was a directional hole to 10,600 ft MD, 10,360 ft TVD. Again, 7⅝-in. casing was run on this well and it was temporarily abandoned. Drilling operations were complete on Feb. 4.

Both wells were then completed. A cement bond log was run on the first well while the rig was drilling the second well. A skid-mounted wireline unit was placed on the pipe racks to better facilitate running logs. This move allowed evaluation of the cement job before beginning completion operations and also helped with more timely completion planning. All zones completed required gravel packing due to their extremely unconsolidated nature. The *New Orleans* was released on the last day of February.

**Production facilities.** In the meantime, Production Management Companies, Inc., (of New Orleans) had been contracted to fabricate and install the well protector, production platform and production facilities. Allard-Frazer Operating continued to serve as Seagull's agent in the facilities construction. The well protector was a simple four-pile protector/boat landing, and the production platform took the shape of a concrete barge (see photograph). Facilities were fabricated and hooked up on a steel deck that was then lifted and set on top of the barge. This process allowed hookup of the vessels and interconnect piping on the ground rather than having hookup crews negotiate the steel skeleton of the deck 18 to 20 ft in the air. Production Management believes this action along with several others allowed them to meet Seagull's tight delivery requirements.

To further augment delivery schedules, Seagull included a bonus/penalty clause in the contract for construction of the facility. If Seagull's required delivery date was not met, PMC was to have paid Seagull a penalty amount for each day the delivery date was exceeded. On the other hand, for each day earlier than delivery date that the facility was delivered, Seagull was to pay PMC a bonus. The latter rather than the former proved to be the case.

Seagull says it is pleased with the facility. Concrete structures are gaining wider acceptance for use in open Gulf of Mexico waters. Ease and quickness of construction are major benefits along with the quickest and surest salvage operations presently available. Though initially somewhat hesitant about the structure's applicability in open Gulf of Mexico waters, Seagull was convinced by PMC personnel's track record and their readiness to man the structure on a contract pumping basis. Additionally, the structure has proved its seaworthiness by successfully weathering all types of storms, including hurricanes. ■