ENERGY NEWS AND NOTES

Diving Below The Ocean's Surface In Search Of Fuel

(NAPSA)—The world's energy producers are expending a lot of brain power to come up with new ways to meet the planet's growing need for fuel.

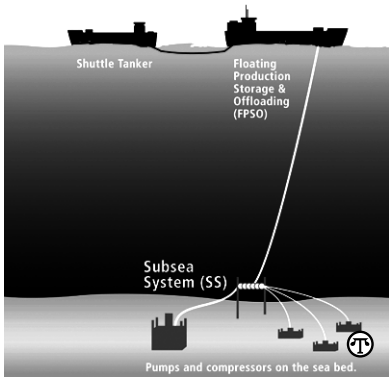
For example, a number of strategies are employed to help maximize the amount of oil and gas that can be extracted from a particular well. That's because, over the years, the natural pressure in a well decreases, so it becomes a challenge to maintain production. The challenge is even more intense when the well is located nearly two miles under the ocean's surface.

That's the situation facing producers in places like West Africa and Brazil, where undersea fields increasingly require artificial "lift" to get the oil and gas from the sea floor to tankers or production platforms at the surface. In most cases, the "lift" is supplied by electrically powered pumps located on the sea floor near the well.

These are large-scale installations consuming between 300 and 7,000 kW of electrical energy and operating at speeds as high as 6,000 rpm. That's what it takes to move up to 500,000 barrels of oil a day from the sea floor.

The problem is that flow requirements are not constant, which means the pumping system must be controllable over a wide range to react to changing conditions. The traditional solution is to use a variable speed motor, but that introduces a whole range of new challenges because of the amount of electrical equipment required to support such a system.

Not only are the systems complex, but the placement is difficult as well since it has to be done by divers or robots depending on the depth. All of these factors have driven the industry's search for a simpler, more efficient way to move the oil and gas.



A lot of ingenuity goes into drilling for oil and gas below the ocean's surface.

The latest and best solution uses a constant-speed electric motor driving the pump through a hydrodynamic variable speed drive built by Voith Turbo of York, Pa. Because the motor operates at constant speed, the electrical requirements are very simple and the whole motor-drive-pump package is very compact with few external connections.

While hydrodynamic speed controls are widely used—the automatic transmission in your car has one, for instance—putting one two miles underwater required a lot of careful engineering. Voith Turbo modified the entire external structure of the drive to withstand the pressures and operating conditions. The latest models deliver up to 10,000 kW to keep the oil flowing from the world's deepest subsea wells.

To learn more, visit the Web site at www.voithturbo.com.