

## ***ExxonMobil Shifts Import Focus To US Northeast***

ExxonMobil's proposed BlueOcean Energy terminal off New Jersey is winning accolades from politicians desperate to derail a rival venture in New York's Long Island Sound. It has also attracted attention from producers interested in accessing the premium-priced market around New Jersey and New York. While officials have cited West Africa as a potential supply source, the targeted onstream date in the middle of the next decade would make the Floating Storage and Regasification Unit an ideal candidate for a "post-pause" mega train in Qatar. West Africa hasn't figured in ExxonMobil's project slate since it exited Angola LNG early last year. But it has substantial reserves in Nigeria and has flirted on and off with building an LNG plant based on gas from its Oso condensate field. Nor has BlueOcean gone unnoticed in Russia, where Gazprom recently floated the possibility of a swap with the US firm. The idea, which would involve exchanging gas from the ExxonMobil-led Sakhalin 1 project in Russia's Far East for supplies from Gazprom's Shtokman or Baltic LNG projects, is certainly intriguing – if very preliminary. "At a minimum, it shows that Gazprom has taken note of BlueOcean Energy," notes one observer.

Siting a terminal in the environmentally conscious northeast is not easy and BlueOcean faces a long and potentially grueling permitting process. Given these challenges, ExxonMobil's immediate focus is on getting the \$1 billion plus project off the ground and building credibility. "Ultimately, we will link this project up with supply. But the lead time for developing a terminal on the East Coast is as long or longer than the lead time for developing new supply," notes an official. A lot more study work is required, and it will take at least a year before the company is even ready to file its permit applications. Because it is planned for federal waters, the project will need a Deepwater Port license from the Department of Transportation's Maritime Administration. While the DOT will take the lead in reviewing the project, the connecting pipeline and onshore infrastructure will require a certificate of public convenience from the Federal Energy Regulatory Commission. Other federal entities like the Army Corp of Engineers, the National Oceanic and Atmospheric Administration and the Environmental Protection Agency will also have their say, as will a host of state and local agencies.

**FSRU and LNG Carrier**



Source: BlueOcean Energy

Detailed surveys are necessary to select a specific site to anchor the FSRU, although ExxonMobil is concentrating its search on a 150-foot deep area 20 miles off the New Jersey coast. An offshore reconnaissance program is being launched to help narrow down the list of potential sites, and NOAA has provided important wave and wind data from its extensive system of weather buoys in the area. Other studies on ocean conditions, the optimal pipeline route to shore, ship traffic patterns and security issues will all factor into the decision on where to site the terminal. The current design calls for the construction of a steel hull patterned on the Kizomba-A Floating Production, Storage and Offloading vessel deployed on Angola's oil block 15. But it will be larger with a length overall of 1,100 feet and a width of about 200 feet. It will also rise some 98 feet above the water line and have four football fields worth of deck area. Both the Kizomba-A and Kizomba-B FPSOs were built by Hyundai Heavy Industries and the ship builder is in a strong position to win this business, although the other two big Korean yards are also contenders.

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No less than 16 chains will be used to tether the terminal to the ocean floor. An internal turret with a catenary mooring system will allow the structure to weather vane, rotating around to find the optimal angle to the wind and waves. This will provide a greater range of “dockability” with the LNG carriers coming in from overseas, which are expected to arrive every two to three days. Just one berth is envisaged, capable of handling conventionally sized tankers and Qflex vessels of about 216,000 m<sup>3</sup>. The possibility of extending this limit to include Qmax designs up to 265,000 m<sup>3</sup> is also being studied. Ships calling at the facility will be purpose-built with specially constructed tanks able to withstand harsh offshore conditions and partial fill states without sloshing. ExxonMobil is looking at the potential for accommodating a wider range of ships that aren’t specially strengthened, but the weather restrictions for berthing at the terminal are likely to be different for these tankers than for the purpose-built vessels.

The unloading system draws on ExxonMobil’s experience with Adriatic LNG, the gravity-based terminal off the Italian coast it is building with Qatar Petroleum and Edison. Five extended capability loading arms are envisaged to accommodate the motion between the terminal and the incoming ships. This could be substantial, as sea conditions off New Jersey can be quite rough year-round but particularly in the winter. BlueOcean is designed as a baseload facility and the company has carried out a number of studies to ensure that it can provide a high degree of availability to bring the tankers in, moor them along side, offload their cargo and then release them. The double-hulled structure is to be outfitted with five specially designed storage tanks totaling 320,000 cubic meters. ExxonMobil has not gone into the details of the containment system materials, other than to say the prismatic tanks will be based on an industry design rather than its own proprietary technology.

Gas-fired regasification equipment is to be installed on the deck, and a closed loop system will be employed to warm the LNG back to its gaseous state. A mixture of water and glycol will be used as an intermediate fluid. Ratable sendout of 1.2 Bcf/d is envisaged, rising to 1.4 Bcf/d when the facility is operating in peak mode. Four flexible risers will connect the turret to the subsea pipeline to shore, which will have a diameter of 32 to 42 inches depending on the terminal’s sendout pressure. ExxonMobil is required to evaluate a wide range of potential export routes for this pipeline including possibly making landfall at Raritan Bay, an industrial area with good links to local transmission infrastructure as well as other long-distance pipelines servicing New Jersey and the wider northeast market. Transco operates the closest interstate pipeline, followed by Texas Eastern and Algonquin. ExxonMobil has already met with these pipeline operators to advise them about its project and discuss possible interconnects.

Until now the super major has concentrated its import efforts on the Gulf Coast, notably Texas where it is building the 2.1 Bcf/d Golden Pass terminal with Qatar Petroleum and ConocoPhillips. Three other projects proposed for Vista del Sol near Corpus Christi, offshore Louisiana and Alabama’s Mobile Bay have either been withdrawn or sold to other developers. “This decade was for projects in the Gulf Coast, the northeast is for the next decade,” explains an insider. New Jersey itself is a significant gas user, consuming about 1.7 Bcf/d, while demand in New York adds another 3 Bcf/d. The entire northeast market including New England uses about 7.8 Bcf/d, which should rise to 9 Bcf/d by the time this project starts up. Whether the gas will displace supplies coming in by pipeline from the Gulf Coast will depend on the time of year and how the market evolves over the next eight to nine years. But ExxonMobil has put a lot of effort into finding a connection point that can be used to satisfy incremental demand rather than simply blocking deliveries from other regions. It also recognizes that New Jersey and other nearby states are at the end of 1,500 to 2,000-mile pipeline networks and are therefore vulnerable to supply disruptions from hurricanes and other mishaps.

ExxonMobil is clearly hoping to avoid some of the opposition faced by rival projects in the area, including the proposed Broadwater terminal planned by Shell and TransCanada in Long Island Sound. Broadwater scored a major victory earlier this month when FERC issued a generally favorable Final Environmental Impact Statement on the project. But Connecticut governor Jodi Rell has vowed to fight the decision “every step of the way” and the state’s attorney general has come out publicly in favor of BlueOcean as an obvious alternative to Broadwater. Of course, this venture would be located in New York waters and Connecticut’s increasingly strident war of words will have little impact if Governor Eliot Spitzer weighs in with his support. So far the governor has not taken a public position on the project, although the New York Department of State is required to decide whether Broadwater is consistent with the state’s coastal management plan by February 12.