

Partnering with Kuwait

By **EDWARD SCOTT**

SENIOR VICE PRESIDENT – DEVELOPMENT, EXCELERATE ENERGY LP



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Edward Scott is the SVP of Excelsite Energy's Development Group. He previously worked as a technical consultant for the company with primary responsibilities for oversight of the ship construction program at DSME, as well as the design, fabrication, installation and commissioning of the Gulf Gateway® Deep Water Port. Previous industry experience includes the development of a Capital Projects Group for ENSCO International and developing complex and technical solutions to industry demands for highly capable and reliable gas E&P assets.

The summer of 2007 saw higher than usual temperatures in Kuwait, with thermometers regular peaking to 45 degrees centigrade. The result was a surge in electricity demand as homes and offices ran their air conditioning units day and night. This increased energy use prompted outages, highlighting the need for increased power production, and a cleaner, cheaper burning fuel than valuable, export-revenue crude oil.

Recognizing the opportunity to provide a safe, environmentally friendly, and sustainable solution to its growing energy needs, the Government of HH Sabah Al-Ahmad Al-Jaber Al-Sabah decided to convert the Mina Al-Ahmadi South Jetty, about 40 kilometres south of the capital of Kuwait City, into the country's first LNG import terminal. Working in partnership with the Kuwait National Petroleum Company (KNPC), Excelsite Energy was selected to design and construct the Mina Al-Ahmadi GasPort®. The agreement was signed on March 31st, 2008 with KNPC and the facility entered service on August 27th, 2009 and received its first commercial delivery of LNG on August 30th, 2009.

The jointly-developed Mina Al-Ahmadi GasPort allows delivery of more than 500 million cubic feet of natural gas per day to Kuwait. GasPort technology is the dockside floating LNG receiving terminal concept pioneered by Excelsite Energy. The company's first GasPort at Teesside in the United Kingdom was commissioned in February 2007, while a second facility located in Bahia Blanca, Argentina, entered service in June 2008. A fourth facility in Escobar, Argentina, was commissioned in May 2011. These facilities are designed to accommodate the proprietary technology of the company's specialized Energy Bridge™ Regasification Vessel (EBRV®) fleet.

At the Mina Al-Ahmadi GasPort Facility, an EBRV is docked alongside a newly constructed jetty where it is connected to the onshore facility that feeds natural gas directly into Kuwait's gas distribution network. LNG cargoes are supplied to the EBRV via conventional LNG carriers utilizing a fixed across-the-dock cryogenic ship-to-ship transfer system with LNG transfer rates between the LNGC and the EBRV in excess of 5000 m³/hour through two cryogenic liquid transfer arms.

Excelsite Energy can connect LNG suppliers and customers in a way that minimizes costs for both while maximizing the value of each delivery. Excelsite Energy's fleet of state-of-the-art, environmentally friendly, EBRVs compliment the company's downstream investments in dockside GasPorts and deepwater port Gateways®.

Rapid turnaround

Construction of the facility lasted approximately 20 months. The capital cost for the project, \$200 million, involved extensive refurbishments and enhancements planned for the existing jetty facilities, and were completed at less than one quarter of the cost of that of a land based facility of similar capacity while allowing for seasonal flexibility or reliable year round baseload service as may be required.

KNPC selected the Mina Al-Ahmadi location as ideal to quickly allow for the imports needed to bring LNG to Kuwait. The reduced capital costs and shorter development and construction timelines as compared to conventional onshore LNG facilities demonstrate the advantages that GasPort facilities provide. These advantages enabled Excelsite Energy to quickly and competitively add to a growing network of import solutions around the world.

With the added benefit of seasonal flexibility and the resultant cost savings, Excelsite Energy's partnership with KNPC on this project was a natural fit. This combination of expertise, innovation, and strategic physical assets give the company the equivalent of a flexible, global "pipeline" that can transport LNG from virtually any point in the world.

By replacing fuel oil as the primary energy source with natural gas, Kuwait is benefiting from considerable emissions reductions due to the cleaner burning properties of natural gas and by replacing more expensive fuel oil with less expensive natural gas, Kuwait has saved money. In turn, by refining and selling the fuel oil, Kuwait is able to profit from the use of natural gas by selling oil that would have been burned for indigenous energy consumption. Estimates suggest that during its five-year life, the Mina Al Ahmadi GasPort will save KNPC more than \$1.4 billion dollars by using crude oil for export income rather than power generation.

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