Shell GTL Agrees to Be OTS (UniSim) Reference

CUSTOMER REFERENCE LETTER

Customer: Shell GTL

The Shell Pearl GTL facilities are located in Ras Laffan City, which is located 85km north of Doha the capital of Qatar. The Project is divided into onshore and offshore locations.

Onshore consists of a two-train Gas to Liquid plant, which produces approximately 140,000 bbl per day of liquid synthetic products and was constructed in two Phases. Phase 1 consists of Train 1 and common equipment and Phase 2 consists of Train 2 and additional common equipment. Offshore consists of a production facility that produces gas through two not normally manned wellhead platforms with no processing facilities. The platforms also had a phased installation. Each platform has a separate 30" pipeline to shore.

The Pearl GTL project is very large and complex. The process is comprised of many individual process units and areas that may appear at first sight to be quite self-contained. However, the overall process is very integrated and inter-dependent.

The UniSim Multi-Purpose Dynamic Simulator (MPDS) has been designed for long-term use throughout the life-cycle of the plant. To date the MPDS has been used for the following:

- Engineering studies during EPC Phase for detailed verification of engineering design
- Flawless Start-up Test of complex process control schemes, instrument safeguarding, and Operations (trip) scenarios.
- Testing/verification of commissioning and start-up procedures using simulator
- Pre-design all aspects of plant operation including operation under advanced process control
- Periodic refresher training and testing
- Certifying operators for competence
- Project related HMI training
- APC development
- Special Studies – e.g. optimise operation when parts of plant are down, operating margins, reliability etc.

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