

The pressurised LNG from the booster pumps is routed to three Intermediate Fluid Vaporisers (IFV) of the Tri-Ex type. The LNG shall be vaporized in a cyclic process with propane as the intermediate fluid. In the first heat exchanger, the LNG shall be vaporized against propane vapour, which shall condense. A second heat exchanger shall vaporize the condensed propane with the heat of the seawater. In a third heat exchanger, the natural gas shall be superheated with seawater. During normal operation, three vaporisers shall be on line simultaneously. Each vaporiser shall have a design capacity of 150 tonnes of LNG per hour, giving a peak Gas redelivery capacity for the Terminal of 450 tonnes per hour. Below the normal designed operating send out capacity the Terminal is designed to have a “stand by modus” which allows the Terminal to stay at operating temperature with a low unflexible send out of about 10 tonnes per hour. The Terminal has a permitted regasification capacity of no greater than 3.75 Bcm/year.

v) Wobbe Index Correction

If the quality of the LNG does not meet the the Grid's minimum quality requirements due to imitations on the Gross Calorific Value and the Wobbe Index, nitrogen shall injected at low pressure into the recondenser gas inlet. Nitrogen is generated by an *ad hoc* nitrogen generation unit. The Wobbe Index correction system is sized to produce up to 10,400 Sm³/h of nitrogen.

vi) Exporting Gas within the Gas Quality Specification into the SRG grid

After vaporisation, Gas shall be routed to a fiscal metering station, which includes ultrasonic flow metering ramps and a high pressure protection system (HIPPS). Downstream of the HIPPS, the redelivered Gas is routed to a subsea pipeline via a turret and two flexible risers. The turret is equipped with a swivel which allows 360° Terminal rotation. A subsea safety isolation valve (SSIV) station is installed at the connection between the risers and the export pipeline, which allows for isolating the pipeline from the risers in case of emergency, with umbilical control from the Terminal.

vii) Utilities

Two new steam generators supplement the steam plant in the engine room. Additional turbo generators steam exhaust lines connect into the new cover/steam inlet on top of the main condenser. The original steam plant has two dual-fuel steam boilers that may burn either fuel Gas (BOG from the LNG tanks or gas from the vaporisers) or marine gas oil. Each boiler has a steam output capacity of 55 t/h of superheated steam at 62 bar g and 510°C.

The Terminal generates its own power using steam turbo generators and shall not import electrical power from the onshore national electricity grid. The electric power generating plant, installed in the engine room area, consists of three 3.35 MW generating sets (two steam turbo generators and one diesel driven generator set), which shall be used as a backup auxiliary system. An additional set of two new 10 MW steam turbo generators shall be used as the main power generation source.

viii) Safety and control system

The LNG regasification plant is controlled remotely by the centralised control room with an automatic system. This system is divided into two (2) subsystems:

- Distributed control system (DCS) the function of which is the acquisition, processing and regulation of the plant process and monitoring parameters;
- Emergency shutdown system (ESD) the function of which is to carry out the sequences to start up, stop and block the plant equipment and to automatically put the plant into a predefined safe mode in the event of an emergency.