

World First: Hamworthy Combustion successfully fire GCU in Korea

Latest News

First boiloff gas firing of a Hamworthy Combustion gas combustion unit



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Components of the HC's test rig demonstration GCU arriving at the Poole research centre for assembly

The first boiloff gas firing of a shipboard Hamworthy Combustion Engineering (HC) AMOxsafe gas combustion unit (GCU) was achieved on 21 August 2007 as part of gas trials on the 216,000m³ Al Qattara prior to delivery of the vessel by shipbuilder Hyundai Heavy Industries (HHI) in the coming weeks.

Al Qattara is one of two so-called Q-flex size LNG ships that HHI is building for OSG. Samsung Heavy industries is building two similar-sized ships for the same owner. HC has provided the GCUs for all four of the OSG newbuildings. The OSG ships, along with four 210,000m³ Q-flex ships that Daewoo Shipbuilding & Marine Engineering is building for Pronav, will form an eight-vessel fleet for service in the carriage of LNG over a period of 25 years from the new Qatargas II Train 4 liquefaction plant at Ras Laffan to the South Hook LNG import terminal at Milford Haven in the UK. The three shipyards are due to deliver all eight Q-flex ships between October 2007 and January 2008.

Qatar Gas Transport Company (Nakilat) has an ownership stake in all eight vessels and they are the largest LNG ships ever built. The choice of a twin slow-speed diesel engine propulsion system for each of the ships, in combination of an onboard reliquefaction plant to treat cargo boiloff gas (BOG), necessitates the provision of a GCU for each ship. This device enables cargo BOG to be burned should the reliquefaction plant be inoperable for any reason.

HC reports that the gas firing of the AMOxsafe GCU onboard *Al Qattara* was achieved at the first attempt, under automatic control, during tank cooling down procedures at the Incheon LNG import terminal. The gas firing was achieved under "free flow" conditions, without any BOG compressors in operation.

"We were able to apply over 40 years experience with incinerators and air heaters in the seamless development of the vertical AMOxsafe GCU for the marine market," states Richard Price, sales director for Hamworthy Combustion. "AMOxsafe is the world's only GCU which has been tested up to 5.6 tonnes/hour (t/h) at full load; this has been done at our UK research centre in Poole.

"We utilised our experience with burner equipment on steam-propelled LNGCs, our understanding of the cyclical nature of LNG boil-off rates and our involvement with land-based equipment in the development of the all-metal AMOxsafe GCU. The solution dispenses with the maintenance-unfriendly refractory requirement and eliminates objects that could be prone to failure from the flame path."