



Abu Dhabi Gas Liquefaction Company Ltd (ADGAS)

Project overview

ADGAS operates three LNG trains. Gas supplied from the surrounding Umm Shaif, Zakum and Bunduq fields operated by ADMA-OPCO is exported on a fleet of carrier ships. The largest customer for the LNG is Tokyo Electric Power Company (TEPCO) with which ADGAS has a long-term supply agreement.

Concerned about the integrity of its mechanical plant assets, ADGAS engaged Edif ERA to provide technical information to support its run, repair or replace decisions.

Inspection and fitness-for-service study for over 100 critical assets to Liquefied Natural Gas (LNG) operator ADGAS

The client

Abu Dhabi Gas Liquefaction Company Ltd (ADGAS) produces and exports Liquefied Natural Gas (LNG) from its offshore Das Island facility, located in the Persian Gulf, 160km north-west of Abu Dhabi. Formed in the 1970s, and part of the Abu Dhabi National Oil Company (ADNOC) family of companies, ADGAS shares operation of Das Island with Abu Dhabi Marine Operating Company (ADMA-OPCO).

Client benefits

Our risk-based assessments enabled ADGAS to reduce their costs and operational down time by prioritising their investment decisions for maintenance, replacement and repair of their assets.

The challenge

As part of an ongoing objective for continued, safe and reliable operation of their LNG facilities, ADGAS commissioned one of the most extensive inspection and fitness for service studies of its type on more than 100 items of static mechanical plant operating in sour-gas service. Equipment under study included pressure vessels, fired heaters, columns and pipework. Edif ERA was awarded the second and third phases of this programme, a combined value of almost £2 million, with work carried out during planned shutdowns over approximately three years.

Our approach

We provided an on-site team to project manage and provide technical direction to the non-destructive testing and collecting of data for input into subsequent engineering assessments. These assessments were performed by our technical team in the UK.

- Project management, including client and sub-contract interface
- Fitness for service assessment to API 579 for HIC and SWC cracking
- Remaining life assessment
- Re-rating support for continued, safe operation of plant
- Guidance for run, repair or replacement of assets, as required
- Future inspection and re-assessment guidance
- Risk ranking of assets using a Bayesian Belief Network (BBN) tool developed as part of the study

The conclusion

The project was delivered on time and to budget with a comprehensive report that was presented to senior ADGAS representatives. The results of our study were used to develop and prioritise our client's investment plans for the next 5 years ensuring that expensive capital assets and operational down time was only incurred where absolutely necessary.

Work for ADGAS was followed by two contracts for ADMA-OPCO, the first being a risk ranking exercise undertaken on more than 300 assets on its offshore and Das Island facilities, the second involving inspection and fitness for service of those items of equipment considered at elevated levels of operational risk.



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