



AIRSIDE REVAMP—LNG CASE STUDY

PROPANE CONDENSER REVAMP



The production of LNG in liquefaction plants is limited by the output pressure of the propane compressor. This is directly linked to the efficiency of the propane condenser, desuperheater and sub-cooler. The performance of these air coolers decreases greatly with the ambient temperature.

In 2010, Kelvion Thermal Services completed an audit on an LNG plant located in South East Asia. After reviewing the performance test and mechanical settings, Kelvion Thermal Services concluded that the only solution to increase the units performance was to make the following changes as part of the revamp:

- New higher load motors,
- Higher efficiency fans,
- Optimise the transmission.

This work was carried out at the customer’s site in 2010.

Results:

The revamp completed by Kelvion Thermal Services allowed both better control of the compressor outlet pressure despite temperature variations, as well as an increase in LNG outlet production by 14%.

Key figures:

- Production before revamp: 1050 M3/h
- Production after revamp: 1200 M3/h

	Gain in heat ex- change %
Propane Desuperheater	9%
Propane Condenser	15%
Propane Sub-Cooler	12%