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SOLAR IMPULSE EFFICIENT SOLUTION LABEL

case study

Petrochemical Plant in China Saves €140k by Boosting Compressor Load Capacity

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Problem

The NDE Radial bearing temperature of a MAN Turbo K-4101 air separation compressor progressively rose from 85°C to a peak of 128°C. Despite the implementation of two bleed and feed processes (35 drums and subsequently 10 drums), these measures failed to substantially reduce the temperatures.

Solution

DECON™, introduced into the system at a 5% treat rate, was employed to regulate temperatures and mitigate deposits contributing to insulation and elevated temperatures.

Results

After DECON was added, bearing temperatures exhibited an immediate decrease from 102°C to 95°C. In the initial 24-hour span, temperatures fluctuated within a range of 95-102°C, with occasional peaks at 120°C.

Total Saved

€140K

Client:	Major Petrochemical Plant
Country:	China
Application:	Gas Turbine Driven Centrifugal Compressor
Cost savings:	€140,000 over 10 years
Oil savings:	9,000 liters
CO2e kg saved:	64,433 CO2e kg over 10 years
Solution:	DECON

Consequent to two oxygen inlet increments (0.5 tons each) and speed elevations of 150rpm, post-first increase temperatures stabilized between 98-109°C, and post-second increase, temperatures remained within 98-112°C.

A third load increment, involving a speed rise of 120rpm, maintained temperatures in the range of 98-115°C. The average journal temperature stayed below 110°C, well below the critical pre-DECON temperature of 128°C. Notably, O-rings remained unaffected by the introduction of DECON.

DEPOSITS ON THE BEARING: