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On the Cover. Riyadh's 2000 MW PP12 combined cycle plant in Saudi Arabia powered by GE 7F.05 gas turbines, *page 4*

2 Project development and industry news

MHPS 250 kW hybrid fuel cell, Duke Energy 2900 MW new capacity, China LNG-fueled 1075 MW combined cycle, 9HA German CHP plant, Saudi 600MW solar-CCGT project, 495MW M501J CC project

14 Gearing up for CO₂ power cycle systems

Toshiba has almost completed the detailed design of a turbine that will use CO₂ as its working fluid to operate at high net efficiency with 100% capture

20 EV burner design: part-load NO_x cut 40%

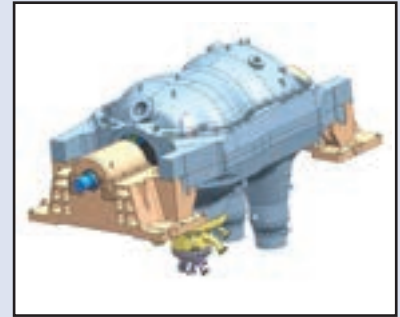
Alstom has installed its new NO_x-reducing premix burner, the EV-Alpha, on a GT13D combined heat and power unit where it has cut emissions by more than 40%

24 Corrosion and oxidation resistant coatings

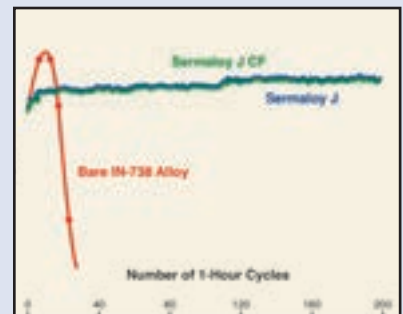
Chromium-free coatings for compressor and turbine components are entering in-service field test validation on gas turbines operating under severe environmental conditions

28 Thermal diagnostics prepares to go offline

New 'thermal history' coatings enable R&D engineers to scan and precisely measure the max surface temperatures that parts have been exposed to during thermal testing

**Oxy-plant**

New Allam Cycle combines gas and steam turbine technologies for gas-fired plants with 59% net efficiency and 100% carbon capture, *page 14*

**CF qualified**

Chrome-free ceramic coatings for hot gas path parts protection are direct replacements for traditional coatings soon to be outlawed, *page 24*

**Indelible data**

Thermal history coatings can record and store max component surface temperatures for offline digital read-out retrieval, *page 28*

