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Combined Cycle Gas Turbine Problems

When things go wrong: identifying combined cycle problem ...

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work? Combined Cycle Gas Turbine Problems In many combined cycle plants around the world the

benefits of advanced gas turbine technology have not been fully realised due to problems with

compressors, combustors, transition pieces, blades and vanes. Meherwan P Boyce, who has been

in the turbomachinery business for 44 years, reviews the problem areas. The new generation of

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identifying combined cycle problem ...Cycling a combined cycle plant places additional stresses on

all equipment, but the impacts extend beyond the gas turbine and heat recovery steam generator.

Plant owners and managers are beginning...Reducing Cycling Damage to Combined Cycle Steam

Turbines A combined cycle power plant is an assembly of heat engines that work in tandem from

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when compared with reciprocating engines of the same speed. However the high frequency noise

from the compressor is objectionable. 3. High temperatures impose severe restriction on the

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Turbine Cycle) The thermodynamic analysis of the combined cycles shows that it is as important to

optimize the steam cycle as the heat recovery steam generator (HRSG), and thus its effectiveness

epsilon. The difficulties arise because the problem is highly constrained and there may be conflict

between these two objectives. A page of this portal presents this issue. Combined cycles - Mines

ParisTech Gas turbine improvements lead to a number of power plants where fuels (usually coal)

are gasified with a viscous feedstock and the gas is cleaned and used in a combined cycle gas

turbine power plants. Such power plants generally have higher capital cost, higher operating cost,

and lower availability than conventional combustion and steam cycle power plants on the same

fuel. Combined Cycle Gas Turbine Power Plant - an overview ... This gas turbine is used in 60Hz

power generation service. Fig. 4. Siemens V84.3A, 60Hz gas turbine. Note partial hybrid burner (24

burners) ring Fig. 5. The basic gas turbine cycle (Source: The Aircraft Engine Book, Rolls Royce UK)

The basic gas turbine cycle is illustrated (PV and T-s diagrams) in Figure 5. GAS TURBINES IN

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Turbine for Power Production The turbine entry temperature in a gas turbine (Brayton) cycle is

considerably higher than the peak steam temperature. Depending on the compression ratio of the

gas turbine, the turbine exhaust temperature may be high enough to permit efficient generation of

steam using the "waste heat" from the gas turbine. 8 . 7 Combined Cycles in Stationary Gas

Turbine for Power ... This combination is described as a Combined Cycle Gas Turbine (CCGT). When

environmental damage to trees and land was linked to sulfur dioxide (SO₂) emissions from the coal

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For startup, or 'open cycle' operation of the gas turbine alone, the steam turbine can be

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