Abstract

Title:
The FlameSheet™ Combustor: A (R)evolution in Combustion Technology for Power Generation Gas Turbines

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Abstract Text:

A novel retrofittable combustion system, with operational flexibility characteristics aligned to changing power generation market needs, has been introduced. The FlameSheet™ combustor employs a 2-in-1 combustor concept. At high loads, both combustors are used, with the outer combustor flame structure looking like an annular “sheet of flame” around the inner combustor. At low loads, only the inner combustor is used. Leveraging patented mixing principles, the inner combustor operates with excellent stability & remains sufficiently hot at very low loads to consume CO, providing an up to 30% GT operating load range increase with single digit NOx & CO. Turndown is achievable on a reduced low load firing curve, enabling extended turndown that protects the HRSG. FlameSheet™, designed to operate up to 32K FH's between inspections, is ideal for LNG or alternate fuel operation with up to a 3x increase in MWI operational range. Results from the 1st year of 7F commercial operation will be shared.