

Gas Turbine World

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On the cover Advanced IGCC demo plant. Mitsubishi 250MW IGCC technologies promise cost-competitive, high-efficiency, environmentally sound generation on various feed stock including PRB coal



Edwardsport plant Construction of 630MW IGCC plant in Knox County, Indiana could start later this year with commercial startup in early 2012, designed around GE gasifier and Fr 7FB gas turbines, page 14

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Uncertainty over carbon regulations and steeply escalating capital costs have culled weak deals to leave a short list of IGCC and polygeneration projects strong enough to survive

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Uncertainty over carbon regulations and steeply escalating capital costs have culled weak deals to leave a short list of IGCC and polygeneration projects strong enough to survive

20 Project insurance breaking new ground

Merging of chemical process and utility practices for design and operation of IGCC power plants poses challenges for developers and insurers who are entering new territory

23 Built-in vs. bolt-on capture capability

Original plant designs that include a shift reactor provide true ‘capture capability’ for painless transition to CO2 capture operation without cost and downtime of a retrofit

28 Shrinking coal gasifier size and cost

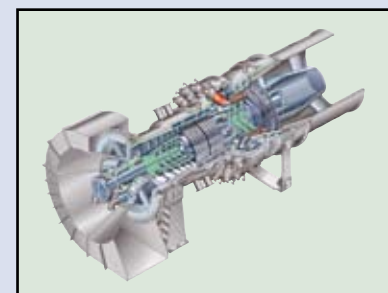
An 18 tpd high-temp, high-pressure gasifier 90% the size and 50% the cost of conventional units to be tested next year for design of a commercial 400 tpd demo plant

34 Separating pure oxygen from hot air

Gas turbine engineers are working with ion transport membrane oxygen R&D engineers on how to best integrate the technology into an optimized IGCC plant design



Compact gasifier High temperature rapid-mix and rapid-burn process design, about 90 percent smaller and half the cost of conventional gasifiers, is scheduled for validation testing by the Gas Technology Institute, page 29



GT integration Project engineers are studying performance and cost tradeoffs of fully and partially integrated versus independent stand-alone ITM oxygen production for optimized plant designs, page 35