

GTAnalysis Inc. Power Generation Market Update., Bradenton, Florida July 27, 2022

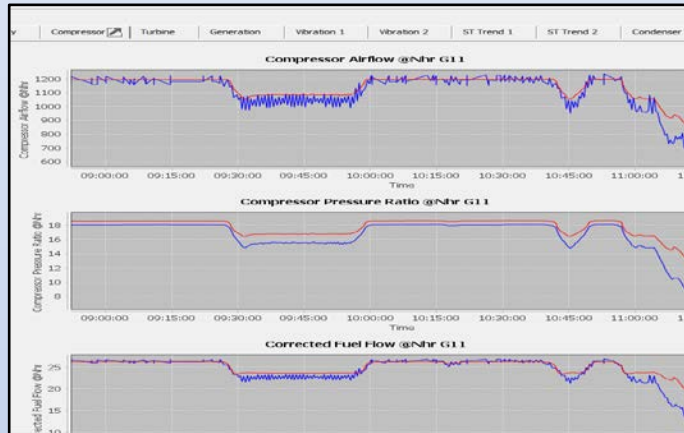
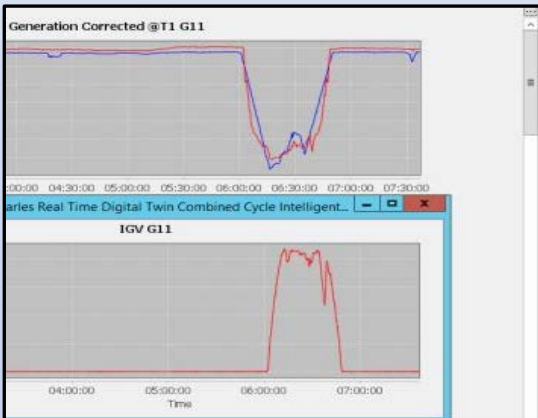
GTAnalysis is pleased to announce fielding its third generation of Digital Twin Thermodynamic models. The full combined cycle covers gas turbines, HRSGs, Steam turbine and condensers. All models are high fidelity-first principals, full operational range capable that are used stand alone to predict performance operation and integrated into our Real-Time IntelligentAnalyzer monitoring and diagnostic system.

Using digital twins allows for accurate predictions across all load ranges of operation. This includes with any inlet or power augmentation in service operation. And under AGC control.

Commonly discovered issues are underfired turbines losing generation and revenue. Overfired turbines causing parts life loss. Compressor fouling causing loss of airflow and efficiency. Gas path Blade liberations indications. HRSG degradation and Steam turbine efficiency loss. The Digital Twin models are readily available for days ahead dispatch and long term fuel consumption purchase.

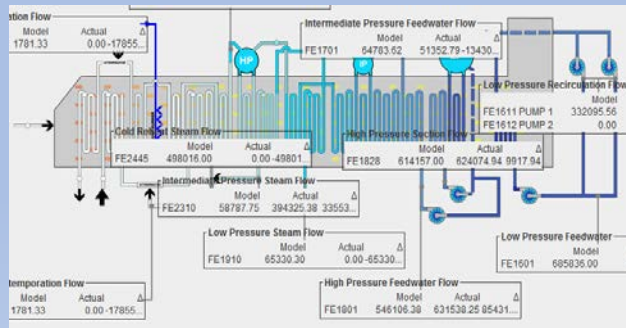
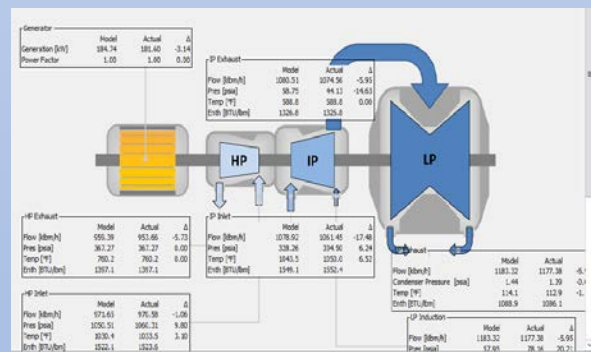
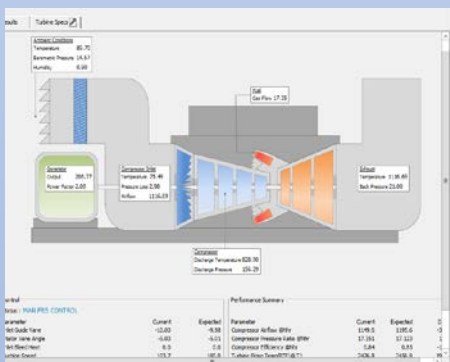
Examples below show the digital twins in service under AGC control on the grid and MBC control.

Below a digital twin gas turbine (red) verifying sudden decrease in generation (blue) is expected. MB Control.



Digital Twins can be a staff multiplier in your plant. The complexity of operation in today plants using automated grid control often means numerous operational control movements. To plant staff it is nearly impossible to know whether the plant performance has shifted negatively. Employing Digital Twins is the only efficient method to track performance and ensure operational integrity.

Monitoring and Diagnostics using Digital Twins in Combined Cycle Plants is the only way to go! Correction Curves Do Not Work!



GTANALYSIS is an analytical consulting firm operating in the power industry for over 35 years. The primary focus of the company is improving generation and efficiency.