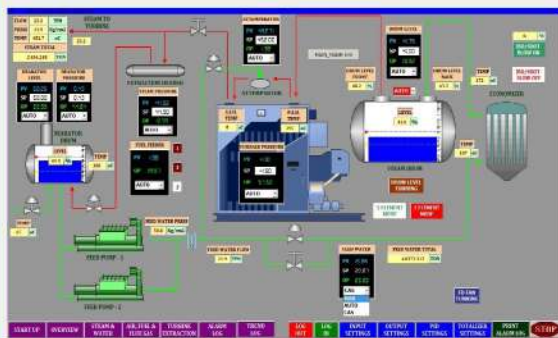


BCEOPT - BOILER CONTROL EFFICIENCY OPTIMIZATION SYSTEM



BCEOPT- (Boiler Combustion Efficiency Optimization & Performance Tracking) is an intelligent control and monitoring solution aimed at maximizing boiler efficiency, reducing Fuel usage, and lowering emissions. It integrates advanced algorithms, real-time data analysis, and automated control to ensure stable operation, optimize performance, and support cost-effective, reliable, and environmentally sustainable power plant operations.



CONCEPT

- Optimizes Boiler fuel-to-air ratio for consistent combustion efficiency.
- Continuously monitors key parameters to maintain stable Boiler operation.
- Minimizes emissions by controlling excess air in combustion process.
- Enhances equipment life by reducing thermal and mechanical stress.
- Provides actionable reports supporting predictive maintenance and cost efficiency.

COMBUSTION CONTROL

- Uses Model-Based Predictive Control (MPC) instead of traditional pressure- or load-based fuel control.
- Eliminates need for Load-vs-Fuel graphs and manual Fuel-to-Air ratio adjustments.
- Continuously evaluates Boiler parameters against a predictive model for optimal control.
- Regulates Air feeding based on Load, Fuel needs, and O₂ measurement.
- Achieves 1.0-1.5% fuel savings with full combustion control implementation.

