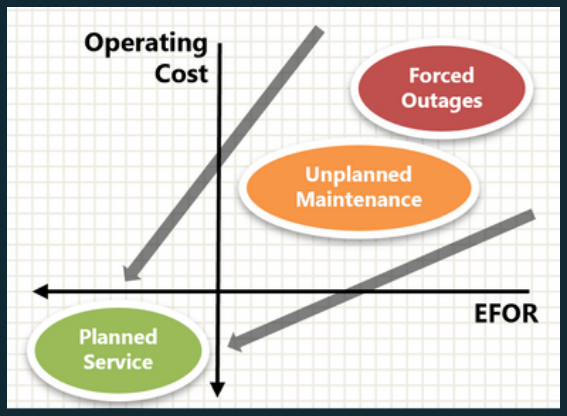
EthosEnergy

PHD Advance
Complete plant health diagnostics

Continually track and monitor your entire fleet, allowing you to minimize outages, increase output and reliability, and providing you total assurance



Performing regular maintenance and quickly responding to alarm conditions improves effective forced outage rate, EFOR.

But there is a more sophisticated way to reduce EFOR even further. An advanced tool that we call PHD Advance, which continuously scans for abnormal signals, effectively finding forced outages before they happen.

Cutting-edge AI neural models are created for every analog point. Comparing model predictions to current data identifies outliers (alerts) before alarm or trip conditions occur.

Tracking is provided for every alert with the cloud-based tools. Technical experts validate, diagnose, and suggest actions for each alert.

Prior to the AI models going online, EthosEnergy prepares an audit of plant thermal performance. Comparison of current operation to OEM and industry expectations identifies underperforming systems.

Addressing performance issues first allows the neural models to be built from a strong performance point.

Key Features

- **Continuous Monitoring**
- **Advanced AI Neural Models Identify Abnormal Situations (Alerts)**
- **Alert Tracking & Management**
- **Cloud Based**
- **Secure Access for Unlimited Users**

Applications

- **Simple & Combined Cycle**
- **Power Generation or Compression**
- **Balance of Plant**

*site features currenty in development

ethosenergy.com enquiries@ethosenergygroup.com

EXPERT SUPPORT

Once the plant data is connected, PHD Advance will begin learning and identify abnormal situations. As every alert is entered into the issue management system, EthosEnergy experts work with the plant to resolve it.

Initially, this list of alerts will be high as latent issues are identified. Regular meetings between EthosEnergy and the plant promotes closure of issues and improved operations.

To get started, EthosEnergy works with plant IT to connect the existing historian to PHD's cloud storage. Starting actions include:

- Audit of available plant data with recommendations to improve analysis
- Baseline thermal performance audit with gap analysis
- AI model configuration and learning

PHD Advance then generates alerts automatically, adding them to the integral issue tracking system. The secure web access can be configured for unlimited users to view live performance and track / update alerts.

RETURN ON INVESTMENT

PHD Advance can yield a measurable return on investment for the plant. EthosEnergy can review your forced outage data and current performance to show how PHD Advance pays for itself.

Once PHD Advance is monitoring the plant, EthosEnergy can quickly provide PHD Analytics:

- Event Audits
- Dispatch Optimization
- Root Cause Analysis

AI TECHNOLOGY

PHD Advance identifies abnormal signals by comparing real-time data to a neural network model. Every analog tag in the historian is made available to the AI.

EthosEnergy engineers initially configure the model to recognize the major operating states of the plant. PHD's AI automatically learns relationships and sensitivities to develop a predictive model for each tag.