Operations & Maintenance Services
A Comprehensive Set of Tools to Drive Efficiency, Reliability and Safety
Utilities are in the middle of a significant shift in the Energy Markets. Increased renewables, distributed assets, aging infrastructure and work force and increasing regulatory requirements combine to create real challenges in balancing reliability and financial performance.

Black & Veatch provides long-term Operations and Maintenance (O&M) services to ensure our clients get the most from their investments, well into the future.

We provide O&M Services for:
- Coal Fired Units
- Gas Turbines
- Combined Heat and Power
- Reciprocating Engines
- Renewable Energy

**Plant Life Assessments**

Engineering assessments and economic review of assets to optimize O&M practices and capital spending.
- Asset Review
- Economic Evaluation
- Engineering Evaluation of Remaining Life
- Maintenance Practices
- Critical Inventory

**Condition Assessment Studies**

Component level condition assessments and failure analysis to improve reliability, efficiency and safety.
- High Energy Piping
- Deaerator Heater/Storage Tank
- Turbine Rotor/Blades/Diaphragms
- High Voltage Motors/Generators

**Take Your O&M to the Next Level!**

**Maximize ROI**

Get the most out of your capital and O&M investments by optimizing reliability, efficiency and safety.

**Energy Market Flexibility**

Make your assets ready to take advantage of market conditions.

**Balance Reliability with Flexibility**

Allow clients to have assets that are both agile and reliable.

**Accelerate Change**

Provide an easily adoptable basis for change and restructuring.

**Enhance Safety**

Ensure that maintenance practices are aligned with industry best practice to enhance safety.

**Improve Day-to-Day Operation and Maintenance Decision-Making**

Simplify and improve asset management with the use of ASSET360® and our Remote Monitoring services.
Benchmarking
With the use of proprietary software and access to extensive industry databases allow utilities to benchmark current performance.

- Performance Benchmarking
  - O&M
  - Capital Costs
- Process Benchmarking
- Resource Planning

Data Driven O&M (Remote Monitoring)
Advanced data analytics to detect impeding failures and improve operational efficiency.

- Predict
- Alert
- Diagnosis
- Resolve
- Powered by ASSET360®

Outage Management
Utilize our extensive planning, construction, and commissioning experience to plan and manage outage activities.

- Process Assessment
- Outage Readiness
- Schedule Control
- Budget Control

Reliability Assessments
Systematically identify components or processes that impact unit reliability and availability.

- Reliability Analysis (FMEA, HAZOP and RAM Modeling)
- Market Value Assessment
- Reliability Program Development
- Cycling Assessment

Operation & Maintenance Training Programs
Leverage Black & Veatch’s best practices and expertise in plant design, construction and operations to provide customized training services.

- Plant Operator Systems Training (PSOT)
- Heat Rate Training Program
- Power Generation Industry Fundamentals Program
- Operating Procedures Development
Recent Projects

**Benchmarking Analyses**
**El Paso Power & Light**
Black & Veatch assessed the experience level and job activities of key plant roles and identified opportunities to improve productivity by comparing them to industry benchmarks. The analysis included comparison of plant staffing to industry peers, and plant procedures to industry standards.

**Life Assessment Studies**
**Grand Haven Board of Light & Power**
Black & Veatch assessed the remaining life of critical plant equipment and provided an opinion on the continued safe operation and condition of critical plant equipment. Black & Veatch provided high level cost estimates for recommended safety and life extension projects.

**Asset360® Remote Monitoring & Diagnostics**
**Minnesota Power**
A customer since 2008, Minnesota Power is relying on Black & Veatch's Remote Monitoring Services to monitor assets around the clock and inform them of emerging issues before critical failures occur.

**Outage Management**
**Eskom Outage Management Improvement Project**
Black & Veatch provided Eskom with on-site Outage Management Program review, process improvement recommendations, project controls support and training to a diverse, experienced and multi-cultural organization. The Outage Management Program Improvement Project targeted pre-outage planning, budgeting, outage execution, quality control, project controls and post outage review and close-out.