



Industrial & Institutional Client Services

Providing our clients with global experience and local resources to create innovative solutions for their energy, water, industrial process, operations & maintenance, and sustainability needs.

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Black & Veatch is a leading global engineering, consulting and construction provider. We work closely with clients to deliver solutions regardless of project size or location.

OUR SOLUTIONS INCLUDE

- **Energy Sustainability:** CHP, boilers, engines, fuel cells, renewables and microgrids
- **Water Sustainability:** Industrial water treatment and use management
- **Industry 4.0 (IIOT):** Adaptive Planning and Asset Management services using ASSET360®, our cloud-based analytics platform that improves day-to-day decision-making
- **Business Case, Financing and Turnkey Solutions:** Trusted name recognition with financiers, construction contractors and original equipment manufacturers
- **Facilities Engineering and Retrofits:** Well-equipped to design, construct and commission new projects while maintaining critical operations

INDUSTRIES WE SERVE

- Biomass Facilities
- Colleges, Universities & Hospitals
- Data Centers
- District Heating
- Fertilizer Plants
- Food/Beverage
- Heavy Manufacturing
- Metals & Mining
- Military Campuses
- Petrochemicals & Chemicals
- Pulp & Paper
- Tech Companies



OUR SERVICES

COMBINED HEAT & POWER

Strategic Planning, Feasibility Studies, Detailed Design, Financing, EPC Services, Operations Support

- District Heating and Central Plants
- Packaged Power and Heat Solutions
- Tri-Generation (Power, Heat, Chilled Water)
- Digester Gas and Biogas Systems

RENEWABLES AND DISTRIBUTED ENERGY

Strategic Planning, Feasibility Studies, Detailed Design, Financing, EPC Services, Operations Support

- Solar, wind, battery storage and biomass
- Microgrids and Controls Integration
- Mission Critical Facilities
- Stand-By Generation and Resiliency Solutions

ASSET MANAGEMENT / PERFORMANCE MANAGEMENT

Improving the performance of existing manufacturing and power generation assets

Monitoring & Diagnostics

- ASSET360® data analytics
- Remote Performance Monitoring
- Public Kiosks and Web Pages

Performance Engineering

- Performance Consulting and Assessment
- Performance Testing
- Plant Optimization

O&M Services

- Maintenance and Reliability Improvement
- O&M Assessment
- Equipment Failure Root Cause Analysis
- Turbine Generator Vibration Analysis
- Outage/Turnover Management
- Plant Life Assessment
- Reliability Analysis
- Plant Operator Systems Training
- Operating Procedures Development

FACILITIES ENGINEERING

Feasibility Studies, Conceptual Design, Detailed Design, Procurement Support, Construction Support

Control

- Instrumentation / Controls
- Distributed Control Systems Upgrades

Electrical

- Power System Studies
- Arc Flash Hazard
- Black Start
- Protective Relaying

Mechanical

- Cycle Heat Rejection and Equipment Cooling
- Fire Protection
- Fuel Gas / Fuel Oil Supply
- High Energy Piping
- Steam Generators/HRSGs
- Steam Turbine Generators
- Boiler Feedwater and Feedwater Heaters
- Materials Application and Selection

Civil-Site

- Geotechnical Investigations
- Sub and Super Structures

INDUSTRIAL WATER & WASTEWATER

Feasibility Studies, Detailed Design, Permitting Support, EPC

- Water supply selection and review
- Water management and reuse plans
- Optimization of water and wastewater treatment processes and operations
- Zero Liquid Discharge/Discharge Compliance

ENVIRONMENTAL

Addressing environmental regulatory compliance and permitting requirements for new and existing facilities

- Project Development, Planning and Permitting
- Air Quality Control
- Environmental Science
- Compliance Planning and Analysis

RECENT EXPERIENCE



Colleges & Universities

Michigan State University, T.B. Simon Power Plant East Lansing, Michigan

The T.B. Simon Power Plant is a 99.3 MW cogeneration facility operated by Michigan State University (MSU). Serving as Engineer-of-Record, Black & Veatch has designed, engineered and constructed a variety of projects for MSU, including campus integration of distributed generation options and Smart Grid technologies.



Medical Campus

Buffalo Niagara Medical Campus - Roswell Park Comprehensive Cancer Center Buffalo, New York

Black & Veatch is designing and assessing the financial and energy efficiency impacts of a community microgrid for a 120-acre campus comprised of several medical institutions and research centers. The core of the microgrid is an intelligent 5 MW CHP solution.



Industrial Wastewater

Koch Enid Water Treatment Project Enid, Oklahoma

After performing technical evaluations and developing preliminary process designs, Black & Veatch designed a water treatment system that receives tertiary wastewater from the city's wastewater treatment plant, and treats it for reuse within the fertilizer plant.



Facilities Engineering

Spirit AeroSystems Arc Flash Model Expansion Wichita, Kansas

Performing a fault current reduction study of the auxiliary electric system, and quantifying the potential arc flash hazards on all of the electrical buses. The facility has over 200 substations and thousands of breakers modeled in over 30 models. Black & Veatch leveraged our ASSET360® platform to capture the constantly changing manufacturing operations, as well as developed an app on the platform to allow the Spirit employees to quickly find the most current relevant arc flash data ensuring a safer work environment.

BUILDING A CULTURE OF SAFETY



With a proven track record of delivering projects safely, on schedule and within budget, we attribute our excellent safety record to a company-wide mindset of People Matter Most. Black & Veatch's safety performance metrics are available upon request.

Black & Veatch

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