



OPERATING ASSETS

Outage Management Solutions

Black & Veatch strategizes and manages the entire outage process to ensure reliability and performance of your assets.



BLACK & VEATCH

Outage management is a key part of leveraging your facility's operations and maintenance program to balance output and economic value. Black & Veatch serves as your main point of accountability, identifying ways to safely execute outages with minimal disruptions to operations and revenue generation. We offer unmatched in-house expertise including mechanical and electrical engineering, instrument controls, transformers, generators, and control systems. Black & Veatch's culture of collaboration facilitates tight logistical coordination with your facilities managers; we can either build improvements into your existing outage management plan or provide fully comprehensive outage management services from start to finish.

Why is outage management so important?

Developing, adapting, and communicating an integrated outage management plan is fundamental to strategic timing of essential maintenance work and getting your plant back to generating revenue.

We tailor our proven solutions to your facility's unique circumstances, capabilities and objectives.



Process Assessments Black & Veatch benchmarks your outage management processes and provides detailed recommendations on how to achieve your desired standards.



Outage Preparedness We determine preparations needed based on your outage timeline, advising your staff on how to manage workloads including coordination with subcontractors.



Schedule and Cost Control Our team provides fully integrated schedule and cost tracking tools including pre-, during, and post-outage activities throughout the management process.



Our experts guide you through every phase of the outage lifecycle.

Our team kicks off our outage management services significantly ahead of time. The graphic below outlines a typical outage lifecycle which we use as a starting point to plan our tailored solutions. Committed to continuous improvement, we encourage feedback throughout the outage management process.

Months before outage																		Outage Execution	Months after outage				
18+	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2		1	1	2	3	4
Strategic Planning and Setup			Work Scope Development							Planning and Scheduling					Optimization and Mobilization				Post Outage Review and Feedback				
<ul style="list-style-type: none">• Establish outage team• Provide engineering knowledge and asset management services• Initiate long lead procurement			<ul style="list-style-type: none">• Validate scope with stakeholders• Create work scope documents• Perform maintenance review• Obtain master scope sign-off• Release initial engineering scope to outage team• Procure subcontractors and suppliers							<ul style="list-style-type: none">• Develop detailed schedule and work plan• Validate plan and reconcile targets• Review initial cost and schedule baseline• Review and establish execution baseline planning• Coordinate subcontractor and supplier schedules					<ul style="list-style-type: none">• Perform constructability and readiness reviews• Optimize plans• Mobilize equipment and personnel• Finalize execution plan and contract				<ul style="list-style-type: none">• Facilitate demobilization• Conduct final reporting and financial closure• Document lessons learned and evaluation• Perform project close-out				

Our comprehensive outage management plans go above and beyond.



Issue Management Black & Veatch collects, communicates, prioritizes, and monitors outage issue resolution. Our clear dashboard visuals provide easy-to-understand and actionable reports.



Meeting Coordination Managing your time through outages can be challenging. Our team steps in to coordinate meetings to ensure they stay on track, funneling relevant information to the right personnel.



Change Control The dynamics of an outage require that any change, no matter how insignificant, is managed quickly and decisively. Black & Veatch facilitates timely decision making to balance technical needs with economic impacts.



Post-Outage Reviews Our team closes the loop on the outage lifecycle by adapting our processes based on lessons learned to enhance performance. We analyze metrics and encourage all stakeholders to share their insights to build the most effective outage management organization possible.



CASE STUDY

Public Utility Outage Management Process Improvements

An electricity public utility hired Black & Veatch to perform an on-site outage management program review. Our team provided process improvement recommendations, project controls support, and training for their experienced multi-cultural organization. We facilitated pre-outage planning, budgeting, quality control, outage execution, close-out, and a post-outage review.

CASE STUDY

Power Plant Major Rehabilitation Outage

Black & Veatch planned and managed a rehabilitation outage for a 695 MW coal-fired power plant to replace major equipment affecting unit reliability. We collaborated with key stakeholders to implement a comprehensive outage schedule and designate specific roles and responsibilities. Our team also established a control center to facilitate daily communications regarding the outage progress, emerging risks, and issue mitigation. Black & Veatch completed the outage safely, on schedule, and within budget while achieving all performance objectives.



Learn more about Black & Veatch's outage management expertise at bv.com/operating-solutions.