



FACILITY SOLUTIONS
Mission Critical
Operations & Maintenance





Your Trusted Resource for Mission Critical Facility Solutions

Unplanned downtime can cause work disruption and loss of productivity. In business-critical scenarios, it can cost a company millions of dollars a day in lost sales. In the worst cases, operational failures can harm organizations, compromise public and national security, or even result in injury or death. This is when an environment is considered mission critical, and it demands continuous power and system availability.

Whether your organization is a global data center, government site, industrial facility, or communications center, you need to be proactive and ensure your business equipment and systems are always up and running. At the same time, you still need to control costs and resources.

The most efficient and cost-effective way to manage your mission critical infrastructure is to partner with a trusted leader in mission critical facility services with a dedicated focus on self-performance. Ideally, it should be one who offers customized, manufacturer-agnostic solutions that enable a hyper-focus on achieving more uptime.

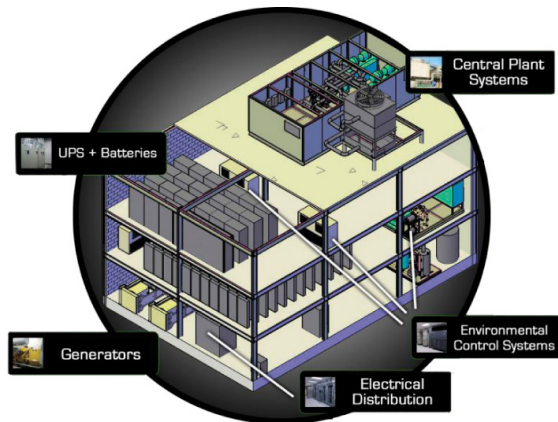
Maximize Uptime, Minimize Downtime

ABM's Mission Critical infrastructure services portfolio helps:

- Prevent power outages and system failures before they happen
- Reduce downtime if an incident does occur
- Mitigate risk and neutralize costs and consequences of unplanned downtime
- Ensure quality, safety, and government compliance
- Reduce maintenance costs and lower overhead
- Enhance security and data protection
- Increase equipment efficiency, availability, and longevity
- Reduce energy use and costs



With more than 30 years of experience, a seasoned team of professionals, and customizable technical services, ABM is the most reliable provider of mission critical facility solutions and management in the industry. Our center of excellence is dedicated to keeping your technical operations hubs running efficiently around the clock, so you can focus on running your business.



Services Include:

Operation & Maintenance

- Structured services
- Managed services
- Facility operations

Specialized Technical Services

- Facilities project management
- QA/QC/QI/TQM
- Facility energy assessments
- CFD modeling
- Mission critical infrastructure, operational readiness, and best practices assessment
- Change management

Customizable Self-Performed Services for Peak Efficiency 24/7/365

At ABM, we service the equipment that supports your mission critical environment, such as cooling, primary and backup power, life-safety systems, and monitoring controls. If needed, we can customize solutions specifically to the unique needs of your building.

Through our self-performance capabilities, we offer the most comprehensive maintenance and 24-hour emergency services. You can feel confident that the people in your building meet our high standards for team member excellence.

Operation, Maintenance, and Management

ABM will ensure that all your critical facilities remain operational and functional. Our experienced specialists will keep your facility operating at the industry's highest standards. Our in-house mechanical and electrical technicians have extensive experience working in mission critical environments and understand the complexities involved in the planned maintenance processes of your critical infrastructure.

We will work within your procedures or, if necessary, develop new Methods of Procedure (MOPs), outage plans, Emergency Operations Procedures (EOPs), and Standard Operating Procedures (SOPs) for your mechanical, electrical, and fire protection systems. Our technicians will use these procedures to perform the maintenance tasks as recommended by the manufacturer of the equipment and approved by the customer.

Our database captures each piece of equipment individually and tracks complete equipment service and maintenance history. This allows us to provide the customer detailed service and history reports for their entire mechanical and electrical plants. The information contained in our database allows us to track trends and offer life cycle analysis for your critical systems.

Additionally, ABM is OEM (Original Equipment Manufacturer) agnostic. We service all makes and models and are not beholden to any particular manufacturer should you need new equipment. We always pick the equipment that will bring the best performance and reliability to your facility.

Integrated Facility Services

At ABM, we manage all the equipment that supports your mission critical environment and ensure that your systems operate at peak efficiency 24/7. Our capability includes management of:

Mechanical:

- Chiller plants
- High density cooling systems
- Process loop systems
- CRAC units
- Cooling towers
- Free cooling systems
- Leak detection
- Rooftop units
- Make-up air units
- Air handlers
- Humidification systems
- Controls
- Pumps
- Frequency drives

Electrical:

- Switchgear and electrical testing
- Generators
- UPS systems
- Battery systems
- Automatic transfer systems
- Static switches
- Power distribution units
- Remote power panels
- Monitoring systems
- Control systems
- EPO systems
- SCADA

Fire Protection:

- Fire alarm systems
- Wet/dry sprinkler systems
- VESDA
- Pre-action systems
- Dry agent systems

Levels of Service

	Structured Services	Managed Services	Facility Operations
Single point of contact for all maintenance services	✓	✓	✓
Preventive maintenance (PM) contract management	✓	✓	✓
PM follow-up maintenance coordination	✓	✓	✓
Self-performed or vendor management preventive or corrective maintenance	✓	✓	✓
Emergency Service response managed by our NOC	✓	✓	✓
Field Service Reports (FSRs) provided for all work performed	✓	✓	✓
Document Mgt. System (DMS)	✓	✓	✓
Annual Business Review (ABR)	✓	✓	✓
On-site vendor supervision preventive maintenance	✓	✓	✓
Change Management		✓	✓
Quarterly Business Review (QBR)		✓	✓
Comprehensive coverage		Optional	Optional
Client portal management		Optional	✓
Life cycle analysis		Optional	✓
Dedicated on-site personnel			✓
Daily facility walk-through			✓
Regulatory awareness monitoring (EPA, OSHA, etc.)			✓
On-site equipment status and alarm monitoring			✓
Site efficiency monitoring and optimization recommendations			✓

Structured Services

A service to help you efficiently provision, coordinate, and deliver seamless service execution across all critical infrastructure disciplines, using in-house, OEM, and third-party maintenance partners.

Managed Services

An on-site mission critical support service that enforces strict change management protocols during the times when your facility is exposed to the greatest amount of risk.

Facility Operations

A specialized on-site Operations and Maintenance management program that has been created to meet the demanding requirements of your mission critical facility environment.

Specialized Technical Services

In world-class critical facilities, Specialized Technical Services are required on a regular basis. Our trusted and proven services exceed industry standards and can be mobilized nationwide in a fast-paced timeframe to meet your demanding requirements.

Facility Project Management

ABM will also manage any of your installation projects from start to finish with minimal disruptions to your facility. With decades of experience, ABM is the premier solution for your project management.

QA/QC/QI/TQM

ABM offers full mechanical and electrical QA/QC services for your mission critical construction project. Our in-house quality assurance experts have over fifty years of combined data center construction, operation, and maintenance experience. We can support your project to ensure the mechanical and electrical systems are installed as per specifications, design documents, and manufacturer's recommendations.

QA – Quality Assurance

- Process and procedural development
- Document review and approval
- Innovative solutions

QI – Quality Improvement

- Failure analysis
- Continuous improvement
- Success stories

QC – Quality Control

- Field or site implementation of the approved document
- Ongoing quality checks
- Continuing quality inspections

TQM – Total Quality Management

- Ensures that all parties are engaged in the process
- Ensures that every step is followed as required
- Mandates that requested improvements are implemented in a timely manner



Facility energy assessments

ABM will use state-of-the-art metrics that are approved by the Department of Energy and Lawrence Berkley National Laboratory to measure a facility's energy use such as:

- PUE – Power Utilization Efficiency
- DCiE – Data Center Infrastructure Efficiency
- RTI – Return Temperature Index
- RCI – Rack Cooling Index

CFD modeling

ABM will perform an assessment of your facility in order to identify any problem areas within your data center. This assessment will include:

- Inspection and analysis of the current infrastructure systems to include unit operation, equipment conditions, and energy consumption
- Perform airflow analysis to include under-floor static pressure, the volume of air delivered into the space, as well as the temperature difference of the supply and return air (ΔT)
- Create a Computational Fluid Dynamics (CFD) simulation of the facility's current environment
- Infrared scanning of the facility performed by a certified thermographer
- Record current facility configuration and rack architecture

ABM can also prepare an Energy Assessment report that will include current Power Utilization Effectiveness (PUE) as well as detailed data to include electrical load balance, individual circuit locations, and energy consumption.

Mission critical infrastructure, operational readiness, and best practice assessments

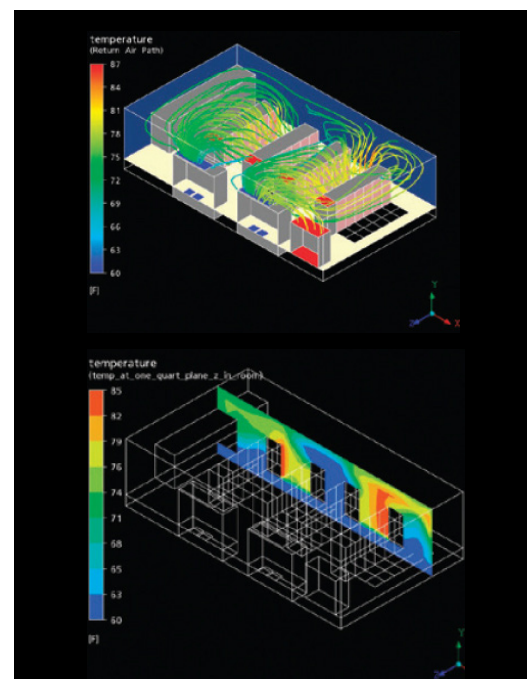
ABM will come onsite and assess the current facility operations team on how well they are operating their mission critical facility, identifying the strengths and weaknesses of the procedures and how the systems are functioning.

Best practices are utilized from industry-leading companies such as Uptime Institute, Green Grid, TIA, ASHRAE, and OSHA. These companies set standards for optimum data center efficiency and operation.

Change Management – Development of MOPs, SOPs, and EOPs

Change Management is an essential function for mission critical facilities. The documents include but are not limited to:

- Method of Procedures (MOPs)
- Standard Operating Procedures (SOPs)
- Emergency Operating Procedures (EOPs)
- Level Of Risk (LOR)
- Administrative Procedures (APs)
- These procedures need to be governed by a separate Quality Systems (QS) Team

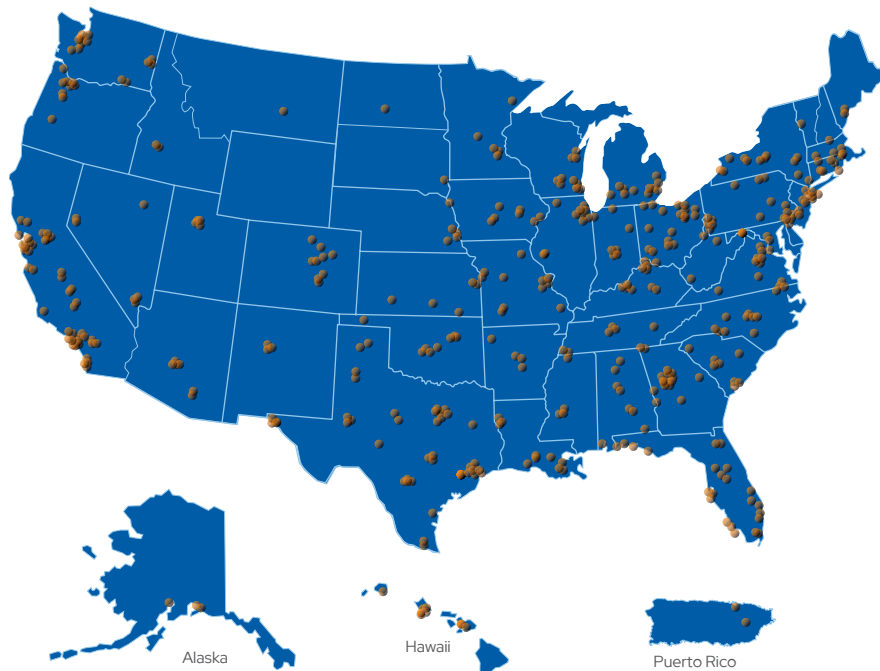


Mission Critical Solutions

ABM leads the industry in mission critical facility maintenance, managing nearly 30 million square feet of data center facilities for hundreds of clients across North America. We provide data center facilities management and mission critical facilities management services for a variety of clients, including:

- Collocation data centers
- Financial and insurance companies
- Governments and universities
- Healthcare companies
- High-tech and cloud computing companies
- Life science and pharmaceutical companies
- Manufacturers
- Transportation companies

We have the technology, team, and specialized expertise to deliver the right data center maintenance solutions for your specific data center needs.



FACILITY ENGINEERING & INFRASTRUCTURE SOLUTIONS

ABM drives possibility through facility, engineering, and infrastructure solutions across a wide range of industries. Our diverse, inclusive teams work together to advance a healthier, more sustainable, ever-changing world. Under our care, systems perform, businesses prosper, and occupants thrive. Every day, over 100,000 of us work together with our clients to care for the people, places, and spaces important to you. We are making spaces smarter, modernizing infrastructure, and transforming facilities to become more resilient.

Driving possibility, together.

LEARN MORE AT [ABM.com/Mission-Critical](https://www.abm.com/Mission-Critical)
OR BY CALLING 866.624.1520