



CriticalWave™

Energy Solutions

Cummins Dealer Number: A01LX

UEI: CDNZQM3VZFQ4 | CAGE: 0JRW6 | DUNS Number: 119439846



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Capability Statement

Company Overview

CriticalWave Energy Solutions LLC (CWES) is a Service-Disabled Veteran-Owned Small Business (SDVOSB) specializing in mission-critical power infrastructure for data centers, federal agencies, and high-reliability environments.

We deliver integrated engineering, third-party testing, and commissioning solutions that ensure system reliability, regulatory compliance, and continuous operational uptime across complex electrical environments.

Acting as a prime integrator, CriticalWave unifies engineering, OEM coordination, independent testing, and field execution under a single accountable structure. This eliminates fragmented delivery and reduces risk during construction, commissioning, and lifecycle sustainment of critical power systems.

Our team brings proven experience supporting global DoD operations and large-scale data center projects, with deep expertise in generators, UPS systems, switchgear, ATS, and medium- and low-voltage distribution systems.

As an authorized Cummins dealer (A01LX), we maintain direct access to OEM equipment, technical support, and validation standards, ensuring alignment with manufacturer requirements while maintaining execution flexibility in the field.

Through our structured, PMO-driven delivery model, CriticalWave ensures efficient coordination, technical accuracy, and mission-ready performance across all phases of infrastructure deployment and sustainment.

CriticalWave enables owners, developers, and federal agencies to deploy and sustain resilient, high-performance power infrastructure where failure is not an option.

Our Differentiators

Mission-Critical Execution Expertise

- ❖ Proven experience supporting global DoD operations and data center infrastructure where uptime is non-negotiable. CriticalWave delivers disciplined execution across engineering, commissioning, and sustainment of power systems supporting continuous operations.

Integrated Prime Delivery Model

- ❖ Unlike traditional subcontractors, CriticalWave operates as a prime integrator, aligning engineering, OEMs, testing, and field execution under a single accountable structure—reducing coordination gaps, delays, and execution risk.

Specialized in Testing & Commissioning

- ❖ Focused expertise in independent third-party testing, system validation, and commissioning of generators, UPS systems, ATS, and switchgear, ensuring systems are fully operational, compliant, and ready for mission-critical use.

Data Center & High-Reliability Focus

- ❖ Experience supporting Tier II–IV data center environments, with a strong understanding of redundancy, uptime requirements, and performance validation necessary for continuous operations.

Rapid Response & Operational Readiness

- ❖ 24/7 availability with the ability to rapidly deploy for diagnostics, troubleshooting, and system restoration—minimizing downtime and maintaining operational continuity in high-demand environments.

OEM-Aligned Technical Expertise

- ❖ Direct alignment with leading manufacturers including Cummins, Eaton, Caterpillar, GE, and Schneider Electric, ensuring all work meets OEM standards, performance requirements, and warranty compliance.

Security & Compliance Advantage

- ❖ Led by personnel with Top Secret / SCI experience, supporting secure and sensitive environments including SCIF infrastructure, with strict adherence to NFPA, OSHA, and federal compliance standards.

SDVOSB Advantage

- ❖ Service-Disabled Veteran-Owned Small Business providing federal agencies and prime contractors with a trusted, mission-focused partner aligned with set-aside requirements and small business participation goals.

CriticalWave delivers technical depth, integrated execution, and mission-critical focus required to support complex infrastructure projects where performance, reliability, and accountability are essential.



Core Capabilities

CriticalWave Energy Solutions delivers full-spectrum support for mission-critical power infrastructure, with specialized capabilities in engineering, testing, commissioning, and lifecycle sustainment.

We specialize in the commissioning, testing, and validation of Tier II–IV data center power infrastructure.

➤ **Engineering & Power System Analysis**

- Electrical engineering design and infrastructure assessments
- Site surveys and existing condition evaluations
- Arc flash, coordination, and short-circuit studies
- Harmonic analysis and power quality assessments
- Load modeling and system optimization

➤ **Independent Testing & Commissioning**

- Third-party testing, inspection, and validation of electrical systems
- Commissioning and start-up of generators, UPS, ATS, and switchgear
- Functional and integrated systems testing (FPT / IST)
- Performance validation and acceptance testing support
- OEM-aligned system verification and compliance checks

➤ **Mission-Critical Systems Support**

- Medium- and low-voltage power distribution systems
- Generator systems (diesel, paralleling, backup power)
- UPS systems and redundancy validation
- Automatic Transfer Switches (ATS) and switchgear integration
- SCADA and control system integration

➤ **Maintenance & Lifecycle Sustainment**

- Preventive and corrective maintenance programs
- Load bank testing and diagnostics
- System troubleshooting and failure analysis
- Equipment lifecycle assessments and upgrade planning
- Reliability-centered maintenance (RCM) strategies

➤ **Pre-Construction & Project Development**

CriticalWave Energy Solutions expands its support beyond engineering and execution by providing pre-construction, project development, and construction management capabilities through its strategic partner network. This enables clients to engage early in the project lifecycle, from opportunity identification through project delivery.

- Identification of new market and project opportunities, including alignment with qualified construction and engineering partners



- Owner engagement and capability briefings to support relationship development and project positioning
- RFP acquisition, analysis, and risk assessment
- Review of design documents to identify potential performance, constructability, and cost impacts
- Site visits, pre-bid meetings, and coordination with construction stakeholders
- Proposal and budget development support, including drafting, cost input, and final review
- Post-submission engagement, including value engineering and client coordination
- Construction management support ranging from transition planning to full project oversight

Mission-Critical Experience / Past Performance

CriticalWave Energy Solutions brings proven experience supporting mission-critical power systems across global defense operations and large-scale data center infrastructure projects. Our team has successfully delivered engineering, testing, commissioning, and lifecycle sustainment in environments where uptime, reliability, and compliance are essential.

➤ **INSCOM G4 – Worldwide Maintenance Program (WW-Gen)**

Global | DoD Mission-Critical Infrastructure

- Supported 20+ global mission-critical facilities across multiple regions
- Managed preventive maintenance and sustainment of generators, UPS, ATS, and switchgear systems
- Conducted site surveys, engineering assessments, and lifecycle replacement planning
- Delivered troubleshooting, diagnostics, and system restoration in high-tempo operational environments
- Maintained high system reliability and operational readiness across all supported sites

➤ **Southwest Asia Operations (Iraq, Kuwait, Syria, Saudi Arabia, Jordan, Qatar)**

Forward-Deployed Mission-Critical Power Systems

- Led installation, maintenance, and sustainment of generator systems in austere and high-risk environments
- Supported continuous power operations for critical infrastructure and secure facilities
- Performed load bank testing, system diagnostics, and fault resolution under operational constraints
- Maintained power availability for mission-essential operations with zero tolerance for downtime

➤ **Overseas High-Voltage & Power Generation Systems (Kuwait)**

Medium- & High-Voltage Infrastructure

- Operated and maintained power systems ranging from 3 kW to 1000 kW+
- Supported high-voltage systems (up to 11kV) and complex distribution networks
- Performed testing, commissioning, and maintenance across multiple OEM platforms (Cummins, Caterpillar, Kohler, Perkins)
- Executed load testing, inspections, and system validation in demanding environments

➤ **Secure Infrastructure & SCIF Environments**

Sensitive Compartmented Information Facilities

- Installed, modified, and tested power systems in secure and controlled environments
- Ensured compliance with strict security, safety, and operational standards
- Supported mission-critical infrastructure requiring continuous uptime and controlled access

➤ **Data Center Infrastructure – McGough Construction (Ongoing)**

Hyperscale / Mission-Critical Data Center



- Supporting commissioning and testing of generators, UPS systems, ATS, and switchgear
- Validating system performance, redundancy, and operational readiness
- Coordinating with engineering teams, subcontractors, and commissioning agents
- Ensuring compliance with design specifications, code requirements, and uptime standards
- Contributing to delivery of high-reliability infrastructure supporting continuous operations

Integrated Delivery Model & Strategic Partnerships

CriticalWave Energy Solutions delivers mission-critical infrastructure through a fully integrated delivery model that aligns engineering, OEM support, independent testing, and field execution under a single, accountable framework.

Rather than relying on fragmented subcontracting approaches, CriticalWave operates as a prime integrator, ensuring all partners, systems, and project phases are coordinated through a structured Project Management Office (PMO). This approach reduces execution risk, improves communication, and accelerates project delivery across complex environments.

➤ **Integrated Execution Approach**

- Centralized project leadership through a PMO-driven structure
- Seamless coordination between engineering, OEMs, testing teams, and field personnel
- Unified scheduling, risk management, and quality control across all phases
- Streamlined communication with a single point of accountability for clients
- Alignment with mission-critical uptime, compliance, and performance requirements

➤ **Strategic Partner Ecosystem**

CriticalWave leverages a network of trusted, high-performance partners to enhance execution capability while maintaining full program control:

- Eaton – OEM engineering support for UPS systems, switchgear, and advanced power distribution
- Cummins – Generator systems, OEM technical validation, and equipment support
- Potomac Testing – Independent third-party testing, commissioning, and system validation
- DASH Technologies – Field execution, installation support, and system verification
- Grace Consulting & Construction Services (GCCS) – Business development, pre-construction planning, proposal development, and construction management support across complex infrastructure projects
- NUARI (Norwich University Applied Research Institutes) – Cybersecurity compliance, CMMC readiness, and secure infrastructure support

➤ **Value to Clients**

- Single Point of Accountability – Eliminates coordination gaps between multiple vendors
- Reduced Risk – Integrated oversight ensures alignment across engineering, testing, and execution
- Faster Delivery – Streamlined workflows and coordinated teams accelerate project timelines
- OEM-Aligned Execution – Direct integration with manufacturers ensures compliance and performance
- Scalable Capability – Ability to support small projects through large-scale, multi-partner programs

CriticalWave bridges the gap between engineering, testing, OEM coordination, and execution, delivering a cohesive, mission-ready solution where reliability and performance cannot be compromised.