

Generator & Power System Testing Services

An independent reference for verifying standby power and distribution performance to international standards



Field testing of generator sets and the power systems they supply, carried out to international performance and safety standards

When the mains supply fails, a generator and its switchgear must start, take the load and hold it, reliably, every time. A set that runs smoothly with no load can still fail under real demand, and transfer or protection faults can leave critical loads exposed. Independent testing is the only way to confirm that a standby power system will perform when it is called upon.

▪ What testing detects

Systematic testing reveals problems before an outage exposes them:

- Generators that cannot hold their rated load
- Slow or failed automatic transfer (ATS)
- Unstable voltage and frequency under load
- Excess harmonics and poor power quality
- Overheating windings, bearings and connections
- Protection devices that mis-operate or fail

▪ Why independent testing matters

A verified power system gives operators the assurance to:

- Confirm the set delivers its rated capacity
- Trust the system to carry critical loads
- Avoid unplanned downtime and lost production
- Extend equipment life through correct upkeep
- Meet safety, insurance and code obligations
- Plan maintenance and replacement on evidence

A standby power system is only proven once it has carried full load under test, before the outage, not during it



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Scope of Services

Generator and power-system testing carried out by Mizan follows the performance and test methods of ISO 8528 and NFPA 110, so that results are accurate, repeatable and defensible.

- **Generator set testing**
 - Load-bank testing at rated and step loads
 - Voltage, frequency and governor stability checks
 - Start-up, run-up and shutdown sequence testing
 - Winding, bearing and connection thermography
- **Power system testing**
 - Automatic transfer switch (ATS) changeover testing
 - Switchgear, protection and breaker verification
 - Power quality and harmonic measurement
 - Earthing and insulation resistance checks
- **Applications**
 - Hospitals and critical healthcare facilities
 - Data centres and telecom sites
 - Industrial plants and process facilities
 - Commercial buildings and emergency systems
 - Substations and utility infrastructure

Technical Reports to ISO, IEC & NFPA Standards

In preparing test reports, Mizan applies a documentation and analysis methodology aligned with ISO 8528, IEC 60034, IEEE 115 and NFPA 110, ensuring results that are clear, traceable and dependable for decision-making.

The technical reports issued by Mizan include the following:

- Measured load capacity and performance against ratings to ISO 8528
- Voltage, frequency and transient response under step loads
- Automatic transfer timing assessed against NFPA 110 requirements
- Power quality and harmonic results compared with IEEE 519 limits
- The location and likely cause of every non-conformity recorded
- Clear, prioritised recommendations for repair and maintenance



Field measurement verifies generator output and protection against rated values

Dependable standby power begins with a system proven under load



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