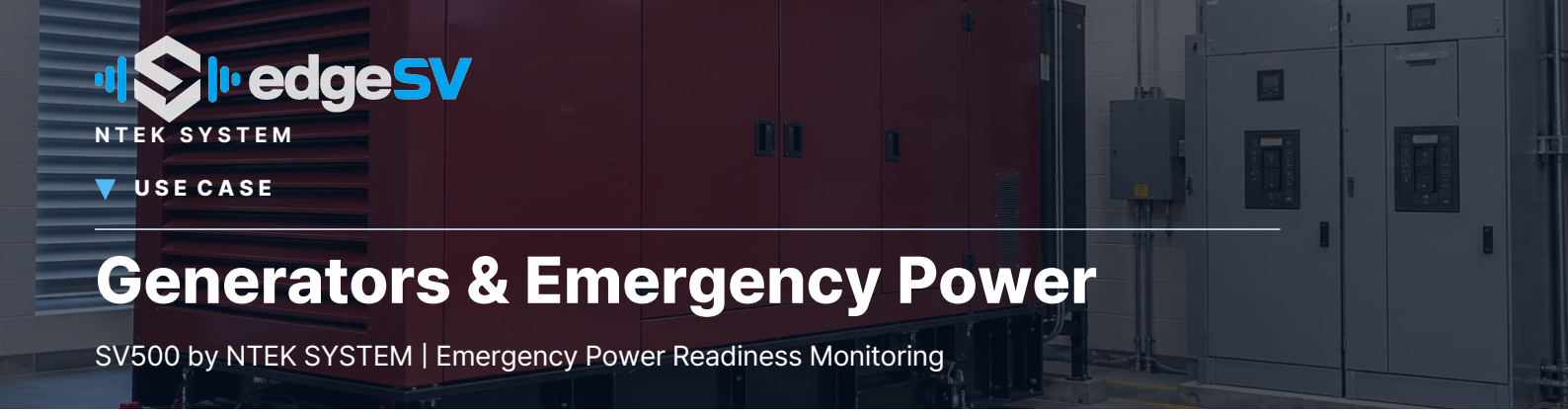


edgeSV
NTEK SYSTEM

USE CASE

Generators & Emergency Power

SV500 by NTEK SYSTEM | Emergency Power Readiness Monitoring

OVERVIEW

Emergency power runs so rarely that its condition under real load is hard to build up. SV500 records voltage, current and frequency during tests and real-load runs so changes between tests can be compared.

PROBLEM

It is hard to know whether emergency power will run when needed.

Key challenges:

- **Rarely running equipment** — Because it seldom runs, condition changes are easy to miss on walk-around inspections.
- **Start failure risk** — Failing to start at the critical moment is the main risk, so behavior during runs must be recorded.

EXPECTED OUTCOMES

Assess emergency power readiness from test-run records.

Expected benefits:

- **Readiness assessment** — Compare start-up and load response under the same conditions at each test.
- **Greater response confidence** — Accumulated records give a basis to anticipate behavior in a real outage.
- **Maintenance priorities** — Compare health grades across equipment on one common basis.

TARGET EQUIPMENT

Generator feeder | Generator & drivetrain | ATS-linked circuit

SOLUTION

SV500 records the electrical behavior of the generator while it runs.

How SV500 diagnoses:

- **Behavior at start-up** — Records voltage build-up, frequency stabilization time and load sharing, and flags runs that differ most from earlier ones.
- **Load-step transients** — Logs voltage dip and recovery time and inrush current at load pick-up and transfer to pick out runs for governor/AVR review.
- **Power quality issues** — Records voltage/frequency swings, imbalance and harmonics, separating utility from generator power; transfers are logged as separate events.
- **Adaptive thresholds** — Machine learning learns each asset's normal condition and judges its status with load-dependent adaptive thresholds, rather than fixed limits.
- **Web dashboard and integration** — Check diagnostic status in real time on the device's built-in web dashboard without a site visit, and connect to higher-level systems such as BMS or SCADA over Modbus TCP/RTU. Additional interfaces such as MQTT depend on the project configuration.

Operational Impact of edgeSV

Continuous monitoring and early detection support availability, maintenance and energy efficiency.

20~40%	10~25%	5~15%	10~20%
Reduction in unplanned downtime	Maintenance cost savings	Energy savings	Longer equipment life

Illustrative ranges, not verified SV500 results. Actual outcomes depend on site conditions and corrective actions; PoC validation is required.

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