Five Features Distinguish ASCO Test Reports

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
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<tr>
<td>Data Logging</td>
<td>ASCO Test Reports include their own dedicated data logger to capture all the information that’s required and none that’s not.</td>
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<td>Data Compilation</td>
<td>They gather data from controllers on gensets, automatic transfer switches and, when they are part of the emergency power system, power control systems.</td>
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<td>Data Interpretation</td>
<td>ASCO Test Reports interpret the data to determine pass/fail for the range of required parameters called for by NFPA 99 and 110.</td>
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<td>Data Archiving</td>
<td>The automated reports also archive the data for external and internal audits. Data can be recalled and combined into single or multiple reports to show trends.</td>
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<tr>
<td>Data Distribution</td>
<td>Reports can be printed, emailed and posted to secure Web sites for review and analysis.</td>
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ASCO Test Reports Help Business-Critical Operations Satisfy Requirements for Testing Emergency Power Systems

Ideal for Hospitals, Data Centers, Other Critical Facilities

It takes a lot of testing and data to meet NFPA¹, NEC² and JCAHO³ requirements for on-site power systems.

It can be time-consuming and costly. You need to record, store, analyze and report data on system operation, load profiling and even peak shaving.

How do you manage this responsibility? With in-house personnel using clipboards and stopwatches to gather data? By renting multiple ammeters to record data that must then be manually processed? By out-sourcing the work?

A Better, Automated Way
Imagine a better way. ASCO Test Reports automate the manual, time-consuming data logging required by...

- NFPA 99 and 110 for exercising emergency power systems,
- NEC 220.87 for documenting actual on-site power demand load, and
- JCAHO requirements for helping ensure reliable power for life safety loads.

ASCO Test Reports are all it takes to enable facilities and engineering personnel to produce documents in a format that meet data requirements.

Now, you can automatically log, compile, interpret, archive and distribute all relevant report data with the press of a single button, or upon an actual utility failure.

Capture a Range of Genset, Transfer Switch Data
ASCO Test Reports capture engine-generator and automatic transfer switch operational parameters accurately and precisely.

Parameters such as percent of load, compared to 30 percent of genset nameplate rating, or engine exhaust temperature. Duration and frequency of testing. A long list of time delays. Voltage and amperage for each phase. And automatic transfer switch transfer and re-transfer times. All with the legendary reliability of ASCO technology and support.

Accurate Load Profiling, Efficient Peak Shaving
Besides capturing genset and automatic transfer switch data, ASCO Test Reports can record data on an on-site power system's actual demand load for 30 days or more.

Having accurate and up-to-date load profiles helps assure on-site power systems have the capacity to satisfy demand on all branches.

Load profiles of the entire facility also are helpful. They enable a building to be operated more efficiently, and are important for peak shaving programs.

With the amount of data that is required to be captured, the chance for human error always exists. What hangs in the balance is whether inspectors approve the records. And what happens if they don’t.

Why leave something so important to chance? ASCO Test Reports comprise a series of graphs, charts and tables. They show operational parameters throughout a test and even 24/7 normal operation.

They streamline compliance with recordkeeping requirements, save time and data storage space.

Whether your emergency power system has a single genset or multiple paralleled gensets, ASCO Test Reports can produce documents that help facilitate compliance...quickly and easily.

1. National Fire Protection Association, NFPA 99 (Health Care Facilities) and NFPA 110 (Standard for Emergency and Standby Power Systems)

2. National Electrical Code Article 220.87

3. Joint Commission on Accreditation of Healthcare Organizations
Configure ASCO Test Reports to Your Emergency Power System

ASCO Test Reports can be integrated into virtually any on-site power SCADA* system. They also can be configured independently and provide complete reporting capabilities on their own.

ASCO Test Reports include software, ASCO Engine Gateways, and a 72E Ethernet connectivity module at the controller and power manager interface for automatic transfer switches.

ASCO Test Reports use the same communications paths as the automatic transfer switches and gensets. They can be operated from virtually any computer screen remotely, or at the power system. Report criteria and performance thresholds can be set by the operator. They also can be included as part of almost any power control system.

* Supervisory Control and Data Acquisition
High-Value Applications for ASCO Test Reports

Scheduled, full-system tests — Create accurate, precise reports formatted according to NFPA monthly exercising logs. This facilitates compliance with NFPA 99 and 110.

Subset of a partial test (a transfer switch, for example) — Test operational integrity of selected power system equipment, or even components.

Actual power outages — Automatically log data during actual power outages to help meet exercising requirements when complete manual data logging may not be possible or accurate.

Diagnostic and predictive data analysis — Use data as a diagnostic tool to determine the cause of operational issues and as a predictive tool for maintenance and failure analysis.

ASCO Test Reports Produces Complete Reports

ASCO Test Reports can trigger event logging, respond to spontaneous events and produce a complete document. They also initiate tests through automatic transfer switches and get data directly from generators and transfer switches.

Device List identifies gensets and automatic transfer switches, and shows test period and days since last test.

Automatic Transfer Switches Summary reports such operational parameters as transfer times, control mode, load shed and test results.

Generator Engine Summary chart and graph show a range of performance parameters for each engine, including exhaust temperature.

Generator Load Summary chart and graph show a range of performance parameters for each generator, including percent load, compared to 30 percent of nameplate kW rating.
ASCO Test Reports Parallel a Range of Reporting Codes and Standards

Reports Facilitate Compliance with NFPA 99 and 110 Standards and JCAHO Standards

ASCO Test Reports are formatted according to NFPA and JCAHO recordkeeping requirements.

Monthly Testing
Emergency power systems “shall be exercised under load at least monthly.” In fact, all emergency power system components ought to be exercised automatically. It makes sense, then, to log and process test data automatically using a capability such as ASCO Test Reports.

Peak Load Shaving
“If the generator set is used for standby power or for peak load shaving, such use shall be recorded and shall be permitted to be substituted for scheduled operations and testing of the generator set, providing the same record as required by 8.3.4.”

Recordkeeping is required and ought to be produced with an automated system. Complete and accurate data logging of this type of operation, when it lasts at least 30 minutes, can be used instead of a scheduled exercise.

Frequency and Test Length
Monthly testing lasting at least 30 minutes shall be operated “under operating temperature conditions and at not less than 30 percent of the EPS nameplate kW rating” or “loading that maintains the minimum exhaust gas temperatures as recommended by the manufacturer.”

Gathering accurate data over the length of the test is critical to identifying engine condition and whether it will “pass” its exercise.

Date and Time of Test
“The date and time of day for required testing shall be decided by the owner, based on facility operations.”

The credibility of automated documents such as ASCO Test Reports shows that power system exercising, in fact, occurred on schedule, avoiding penalties for not meeting requirements.

Equivalent Loads (load banks)
“Equivalent loads used for testing shall be automatically replaced with the emergency loads in case of failure of the primary source.”

In these instances, ASCO Test Reports will log the data and produce a report automatically, if total operation is at least 30 minutes long.

For Diesel-Powered EPSs Only – Load Run/Banks
“Diesel-powered EPS installations that do not meet the requirements” need to be exercised monthly and annually with additional loads and for two continuous hours.

The data capturing requirements for this type of annual test can be daunting. An automated report helps ensure accuracy and saves considerable man-hours in gathering and processing the data.

Cold Starts
“Load tests of generator sets (EPSs) shall include complete cold starts.”

An automated report accurately logs starting temperature and the time required to transfer from normal to the emergency source.
ASCO Test Reports can be the recordkeeping tool of choice for facilities and engineering personnel responsible for complying with NFPA 99 and 110, JCAHO and NEC Article 220.87 requirements.

For more information on ASCO Test Reports, including how to configure them for your emergency power system, call 800-800-ASCO, or email CustomerCare@asco.com.