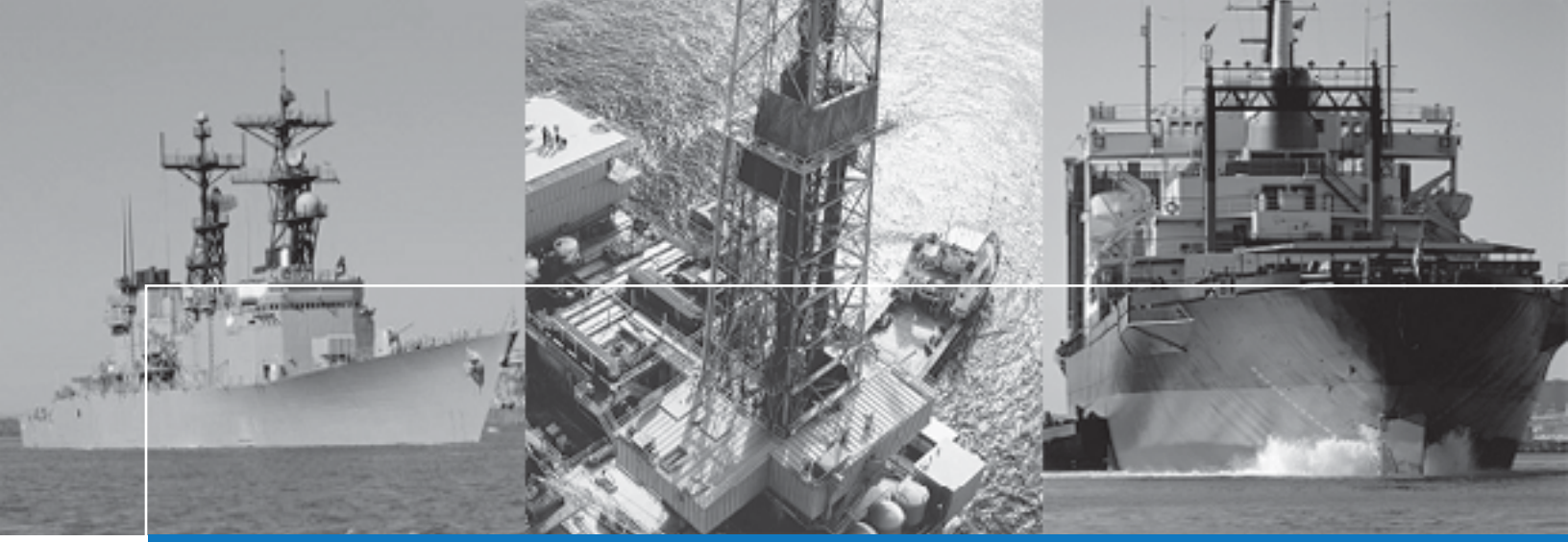

Marine Grade
SPD

The Problem – Downtime, Degradation and Disruption of Electrical Equipment

Electrical and electronic equipment plays an important role in virtually every marine application today. Unmanaged power quality results in equipment failure, process disruption and reduced equipment life. A transient free electrical environment does not exist. Loads turning on and off, generator systems and even electronic and electrical loads themselves can cause power disturbances.

The Solution – Surge Protective Device

Surgeprotect these vital pieces of equipment and minimize downtime. A SPD provides the highest return on investment of any piece of power quality equipment and should be the first step in managing power quality. SPD is easy to install and requires no regular maintenance.

The Marine Environment

Not every SPD will stand up in a marine environment. High vibration, mechanical shock, and corrosive materials can wreak havoc on equipment not designed for marine applications. The MG Series of TVSS has been specifically designed and tested for a marine environment. Eaton's MG Series TVSS is ABS Type Approved.

Features, Functions and Benefits

General Features

- ANSI/IEEE C62.41 Location Categories — B and C
- Warranty — 20-Year Free Replacement
- Unit Listings — UL1449 Second Edition, cUL, UL
- 1283 Filter
- ABS Type Approval
- Manufacturer Qualifications — ISO 9001:1994 Quality
- System Certification BSI FM 30833

Mechanical and Electrical Features

- Enclosure — Powder Coated Steel, weatherproof; NEMA Type 4 (IP66), exceeds NEMA 12, 13 and 3R ratings
- Mounting — Internally threaded conduit fitting and multi-point mounting feet
- Connection — All connections: box terminal, #14-1/0 wire size
- Operating Temperature — -40°F (-40°C) to +185°F (+85°C)

Documented Return On Investment

Numerous detailed studies, performed by the US Navy, have shown a return on investment ranging from four to six months. Similar returns have also been documented for other marine applications.

PROTECTOR

CORPORATE HEADQUARTERS
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http://www.apowersystems.com

Proven Return On Investment

The correct installation of a high quality SPD in the correct location of an electrical system provides an excellent return on investment. The benefits of SPD installation include:

- Increased equipment life
- Reduced maintenance labor hours
- Reduced repair and parts costs
- Improved operation and process reliability
- Reduced downtime

Many times production losses, quality degradation, and equipment breakdown is misinterpreted as unavoidable business costs, when in fact they are easily and economically preventable events. These events are very manageable with the installation of the proper SPD system.

Case Study – US Navy

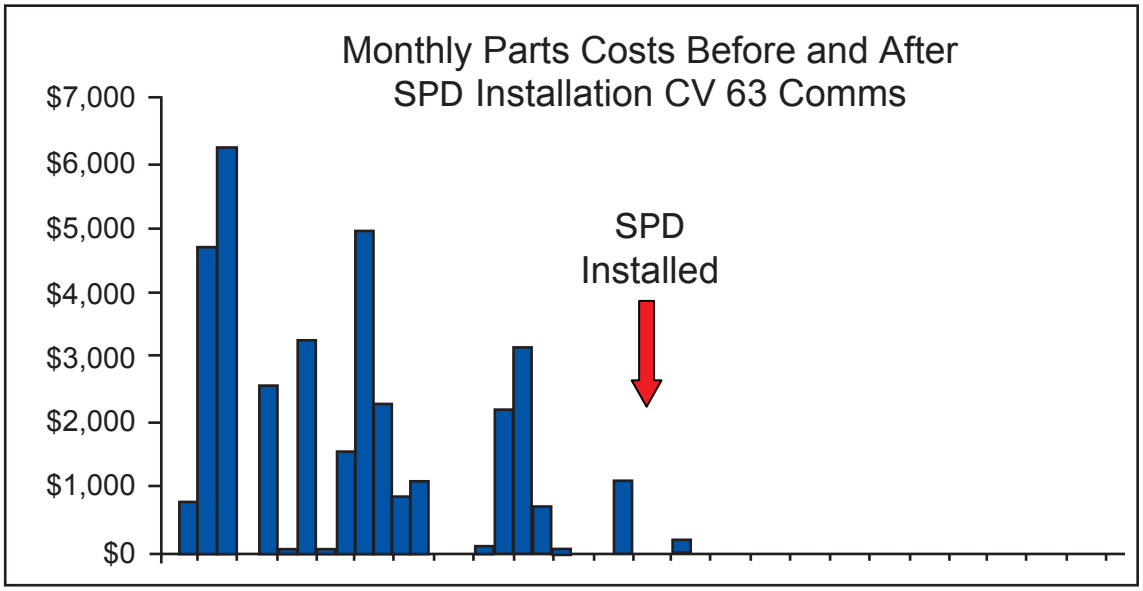
The US Navy meticulously documented maintenance costs on electrical systems before and after SPD installation. Both parts cost and labor hours were recorded.

Please note that this study only took into account reduced parts and maintenance hour costs and did not assign a dollar value to the other benefits realized from increased uptime and equipment availability. The benefits from increased uptime and equipment availability are in addition to the results shown below in the chart and table.

Replacement parts costs, which averaged over above $10,000 per year before SPD installation, dropped to zero after SPD installation.

Man-hours of maintenance dropped 84–96% after the installation of SPD.

The MG Series of SPD has been specifically designed and tested for a marine environment. Similar replacement parts and maintenance man-hour reduction has been obtained with numerous other installations in a variety of applications.



	CV 63 HF COMMS	CV 64 NATO
Cost Effectiveness	$8,532,000	$51,364,800
Payback Period	0.29 years	0.50 years
Return on Investment	17,341.46%	9,942.86%
Average Maintenance Hours (Before SPD Installation)	124.8 hours	142.8 hours
Averate Maintenance Hours (After SPD Installation)	4.8 hours	22.8 hours
Annual Maintenance Hours Savings	120.0 hours	120.0 hours

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