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Dan,

Here is a quick synopsis of my recent job using Phaseback solutions to restore system balance and provide arc-flash prevention.

The site is a commercial maritime vessel used in the off-shore industry. It is heavily dependent on ungrounded voltage systems for service continuity. You can consider this a true, "No-Break" system, which means these voltage systems MUST tolerate phase grounds without danger to personnel, AND WITHOUT allowing loss of control system authority due to the inherent danger to operating equipment and operating personnel. Two arc-flash events occurred recently while electrical workers were in the process of operating large circuit breakers. In each incident, the same breaker failed explosively, initiating the events. Several workers were injured, one seriously.

A total of four Phaseback units were purchased and installed; two on 690v systems and two on 480v systems. The Principle project electrical engineer (from Europe) enthusiastically endorsed my selection, agreeing that if the unit will stabilize the system voltages, then arc-flash events cannot occur. We proved this by installing one 690v unit, and then forcing a ground on one phase. The grounded phase voltage only dropped 2 volts! At this point, four more Phaseback units were purchased for a second vessel of the same design.

A large part of this task was to demonstrate to the ship crew that it was now safe to operate the equipment. The demonstration of Phaseback capabilities did this.

During the remainder of this job, Phaseback saved us two additional times. A large, 2.5MVA VSD system twice suffered catastrophic failure and subsequent grounding of a DC link snubber resistor (375kW). When this happened, since the VSD is powered from the 690v system, the DC went to the ship's hull and we believe this was the cause of the earlier arc-flashes. The Phaseback was damaged in these events, but was repaired, and credited with preventing possibly major damage to the equipment and injury to personnel.

Thanks, and you have a great product!

Mike McClelland

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