

Applied Energy Customer Case Study 1. Catastrophic **ACTS of GOD**

A Michigan based Automotive component machining plant with CNC, PLC, VFD spindle and servo drives as well as traditional transfer machines had (3) catastrophic power outages due to lightning and heavy rainfall leaking through the roof onto the buss duct and bus plugs of the 480 volt power distribution system. The 600 volt 1,600 amp substation breaker tripped for short circuit exceeding 10,000 amps (instantaneous trip set a 6x breaker setting), 20 ft. of buss was destroyed and on another occasion a bus plug door blew off and was never found. Lightning struck a transformer in the facilities main substation causing a power outage and substantial equipment damage.



The facility was protected by **AFPT** with **Phaseback VSGR**. Historically, these **ACTS of GOD**, Lightning and Arc Flash events would require 1. Control equipment replacement, 2. Program reloading, and 3. Resetting errors in most all drives in the facility. Restoring production would require many hours of work and much cost replacing equipment. With **AFPT**, with **Phaseback VSGR**, in place, when the power system components were replaced and the power turned back on, there was no damage to any control equipment in the facility, not even one program was scrambled in any PLC, CNC, Servo or VFD drive. The machinery started back up and was put back into production.

Although **ACTS of GOD** cannot be prevented, there is plenty of good news here, as this facility gained all of the benefits of the **AFPT**, Arc Flash Preventing Transformers with **Phaseback VSGR**.

1. Arc Flash / Fault Prevention – it worked!
2. Voltage Spikes / High Voltages Eliminated!
3. Phase Voltage to Ground Imbalance Corrected!
4. Phase Loss from High Imped. Grounds Fixed!
5. Phase Angle Differential Maintained!
6. Phase Voltage Instability Corrected!
7. Harmonics Removed!
8. Voltage Wave Form Distortion Corrected!
9. Noisy Ground Reference / Frequency Corrected!
10. Arcing Ground Faults Corrected and Indicated via Alarm!
11. Operational Efficiency by Reducing kW and Ground Current. They saved money!

We can provide the same protection for your facility. www.phaseback.com.

Save Lives and Save Money! Take our challenge!

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