



A Michigan Manufacturing Company had a Problem with downtime, caused by equipment malfunction. The study determined that Drives and Controls were faulting, due to Voltage imbalance (single phase sags).

Action item: Phaseback VSGR was installed which solved the problems.

Results: Efficiency, reliability, and safety remain significantly improved.

Every electric power system can be made reliable, reducing unplanned downtime, by removing those elements contributing to poor Power Quality.

For a Quality Power System these problems need to be corrected:

1. **Voltage instability**, *will contribute to unplanned downtime & operational cost.*
2. **Unequal voltages**, *will cause equipment faults & inefficiency. Downtime.*
3. **Voltage harmonics**, *will cause control malfunction, nuisance tripping. Downtime.*
4. **Unequal, Voltage vectors**, *will cause control problems lost setup. Downtime.*
5. **Voltage spikes**, *Will cause equipment failure and worse. Downtime.*
6. **Inefficient operation**, *Reduces profitability, by increasing energy cost.*
7. **Arc Flash Danger**, *working in Dangerous live situations. Risk Death, downtime & cost.*

Phaseback VSGR is the only device that will solve all of these conditions when connected to the power system.

Install Phaseback VSGR on every Transformer!

Most Arc Flash risks, caused by Flash-overs are eliminated. When single phase ground faults are not allowed to develop, experts estimate 85% of Arc Flash events are prevented.

Phaseback VSGR works hand in glove with the Electrical Relay /Protection scheme & personnel safety training, to provide the safest possible electrical system.

When designed with VSGR & other key components, the electrical system will be Safe, Efficient, Economical & Reliable, for Optimum Uptime.