

VDRT TESTING

VOLTAGE DIP RIDE THROUGH TESTING



What is 'Voltage Dip Ride Through' Testing?

A voltage dip ride through is a test performed on remote power systems in order to verify the functionality of the system. That is, if a significant voltage dip were to occur as a result of a fault, would all of the critical equipment continue to operate?

What the voltage dip ride through test looks like

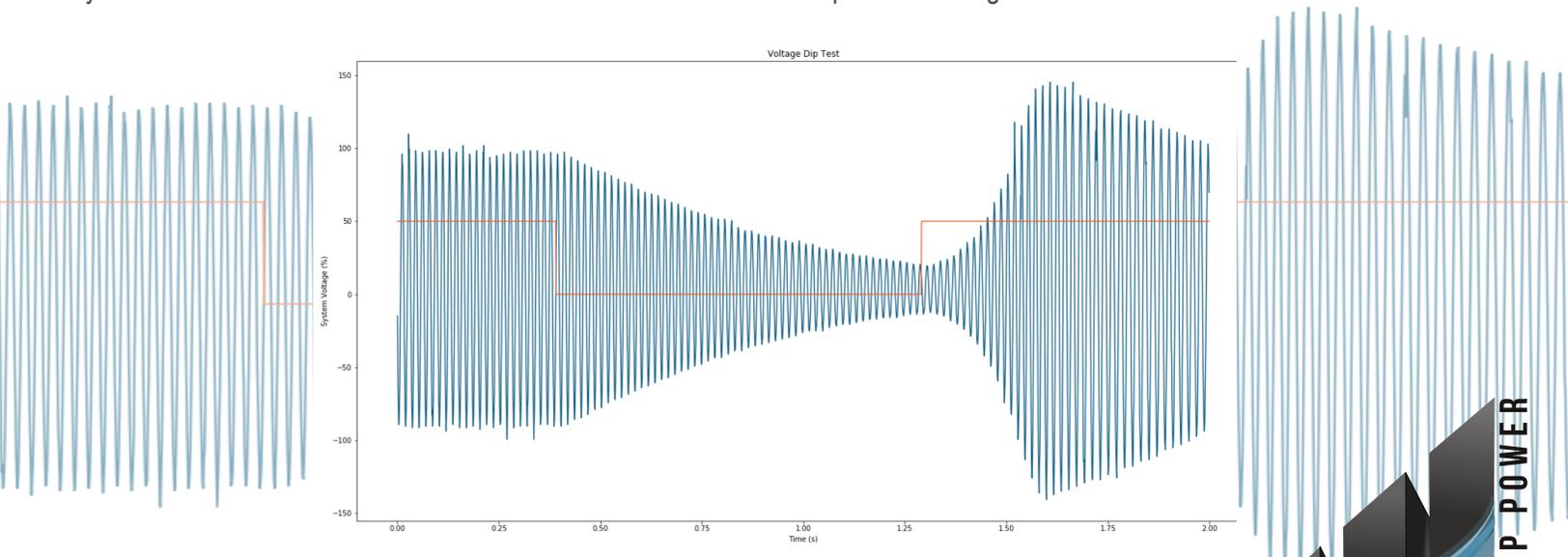
By connecting Onestep Power's Generator Voltage Response Tester (GVRT) to each generator in the system, we are able to rapidly reduce the vessel's generators field, causing a momentary voltage dip. As the field signal is re-established to the original setting, the generators will initially overcompensate before correcting to the original levels.

Around the vessel, a loss of non-critical systems may be experienced, however during a successful test no DP-critical systems shall be lost.

How do we test?

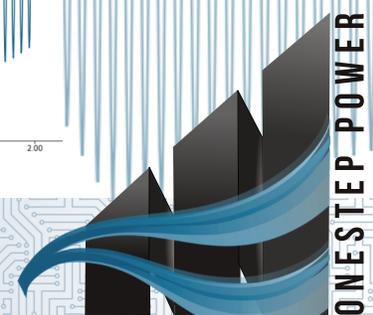
Typically, a voltage dip ride through test is performed by creating a short circuit, causing the vessel's output voltage to dip, and a very high current to be generated as a result. This current has the potential to damage equipment.

OneStep Power's GVRT was created as an alternative to this. Using the GVRT, the system's generators can simultaneously drop the voltage across the whole system for a short period of time, and then return the system to normal. No high-impedance current, no potential damage to equipment, and a clear pass/fail for the DP-critical equipment maintaining operation during the test.



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Our Process

After contracting OneStep Power to perform a voltage dip ride through test, we will:

- ▀ Review vessel's power system documentation and confirm power system is capable of voltage dip ride through. If there is concern, OneStep Power can provide consultancy services to support the decision making.
- ▀ Design and submit a test plan for approval
- ▀ Schedule a testing time with relevant operations personnel.
- ▀ Mobilise 2 testing personnel to the vessel, complete with full test kit.
- ▀ Brief vessel personnel, install test kit, and perform test.
- ▀ Perform a test debrief for vessel personnel, explaining results.
- ▀ Return vessel to pre-test condition.
- ▀ Demobilise personnel
- ▀ Submit report - 10 business days.

What if the test fails?

Because the GVRT 'voltage dip ride through' test eliminates the potential for damage to the equipment, the test can safely be performed multiple times. That is, if DP-critical equipment fails to maintain operation during the test, remedial action can be taken and then the system tested again.

**SAFE VOLTAGE DIP RIDE THROUGH TESTING
KNOWLEDGEABLE & PROFESSIONAL TEAM
CLEAR & DEFINITIVE PASS/FAIL CRITERIA**

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