Application: Substation Apparatus HV Testing

Application Description
Within a substation, there are many different types of electrical apparatus that require some form of high voltage testing, whether it's withstand/proof testing, Insulation Resistance measurement, hipot leakage current testing, and many other tests that do not require high voltage AC or DC voltage. Some of the mentioned tests require AC high voltage, some use DC voltage and some can use either. Most HV testing of electrical substation apparatus should be done with AC voltage, although many use DC since DC hipots are smaller, lighter, and less expensive than AC and they probably already have an old DC hipot. Users should check with the Maintenance Manuals for the recommended testing methods for whatever they are working on.

Solutions
High Voltage, Inc. produces many types of high voltage testers, some for general use that can be applied to many items needing testing and some that are designed for specific applications, although may also be useful for testing other objects. Below is a list of just some of the items that HVI is able to offer an AC, DC, or VLF test set to meet the necessary testing requirements.

Switchgear, circuit breakers, vacuum bottles, bus ducts, terminations, insulators, arrestors, hot sticks, rubber gloves, rubber blankets, insulating liquids, reclosures, transformers, motors and generators, is phase bus, capacitors, aerial lift devices, etc.

HVI Products
Here are HVI products us for testing substation apparatus and other loads. Keep in mind that many use the hipot they do since it is has been used forever or because they already have it, although it might be wrong for the application. Also, the products from HVI are generally smaller, lighter, and less expensive than others and what opinions one might have based on equipment many years old. Take a fresh look, especially at the use of AC rather than DC voltage.

AC Hipots & Dielectric Testers
- 50 kVac @ 3 kVA
- 100 kVac @ 3 kVA
- 12/6 kVac @ 6 kVA
- 120/60 kVac
- 50 kVac @ 10 kVA

DC Hipot/Megohmmeters
- 80 kVdc 10 mA
- 100 kVdc 10 mA
- 300 kVdc 5 mAdc

Oil Dielectric Tester
- 60kVac & 100 kVac
- 60 kVac Automatic
- Test Cells

VLF 0.1 Hz. AC Hipots & Tan Delta
- 30 kVac @ 0.1 Hz. 1 uF load
- Solid State VLF 34 kVac @ 0.1 Hz.

Motors & Gens. Testing
- 120/60 kVac 7 kVA
- PD < 5 pc

DC Hipots
- 80 kVdc 10 mA
- 100 kVdc 10 mA
- 300 kVdc 5 mAdc