Regulator Process Information

The processing of this product can be split into two sub-categories, Recondition and Repair.

Recondition

Units retain their original core and coils. Sealing gaskets and insulating fluid are replaced and any needed repairs or modifications are made to the tank, tap changing mechanism, contacts, and additional components. All units receive a new motor run capacitor installed in the control box for easy access. Units are appropriately dried based on pre-testing results. This is generally accomplished via hot oven baking. After testing, units are painted and then labeled according to customer criteria. Units selected must meet strict quality criteria during recondition and final testing. A wide variety of control models and manufacturers are available for installation.

Repair

Customer owned units are evaluated after being received at the Sunbelt Solomon service center. A full evaluation report with recommendations and pricing is provided to the customer for approval. This will include the cost of any requested modifications, accessories, or control upgrades. Repair units follow the same procedures as Recondition units.

Physical Checks and Testing

- Bushing condition
- Tank and radiator condition
- Valves and seals
- Contact wear (stationary and moving)
- Drive mechanism wear
- Lead insulation condition

Main Electrical Testing Information

Voltage regulators are tested both electrically and operationally. Reconditioned units will be tested at reduced test levels for the Applied Potential Tests. The test levels are determined by the BIL Levels of the unit.

Voltage Regulator Standard Electrical Tests:

1. Turns Ratio/Phase Displacement
2. Applied Potential (Dielectric Stress Test where AC voltage is applied at Insulation Levels for Distribution Transformers for 1 minute)
3. Megohmmeter Insulation Resistance
4. Insulation Power Factor

Voltage Regulator Standard Electrical Tests:

Most operational tests are performed with the unit energized at the customer's set line voltage

1. Potential Transformer Ratio
2. Current Transformer Ratio
3. Current Transformer Polarity
4. Neutral Light Operation
5. Operation Counter Operation
6. Tap Tracking (both dial indicator and control)
7. Limit Switch Operation
8. Drag Hand Reset Operation
9. Control Metering
10. Voltage Limit Control
11. Voltage Reduction Control
12. Source Voltage Calculation
13. Reverse Power Flow Detection

Optional Tests:

1. Dissolved Gas Analysis – recommend Stenestam Ratio evaluation Dissolved Gas Analysis
2. Winding Resistance (Low Ohm Winding Resistance is done on all taps)