

IEEE PC57 12 152 Section 4 Diagnostic Test Chart Draft 02212010.xls

| Diagnostic Test Chart | | | | | | |
|------------------------------|-----------------------------------|------------------------------------|--|----------------------------|------------------------|--------------------------|
| <u>Component</u> | <u>First Sub-Component</u> | <u>Second Sub-Component</u> | <u>Test</u> | <u>Transformers</u> | <u>Reactors</u> | <u>Regulators</u> |
| Windings | | | Insulation Resistance | X | X | X |
| | | | Ratio/Polarity/Phase | X | | X |
| | | | Excitation Current | X | X | X |
| | | | Leakage Reactance | X | | |
| | | | Winding Resistance | X | X | X |
| | | | Capacitance | X | X | X |
| | | | Power Factor/Dissipation Factor | X | X | X |
| | | | Induced Voltage/Partial Discharge/RIV | X | X | |
| | | | Frequency Response Analysis | X | X | X |
| | | | Paper Insulation DP | X | X | X |
| Bushings | | | Capacitance | X | X | X |
| | | | Dielectric Loss ? | X | X | X |
| | | | Power Factor/DF, C1, C2 | X | X | X |
| | | | Partial Discharge | X | X | X |
| | | | Temperature (Infrared) | X | X | X |
| | | | Oil Level | X | X | X |
| | | | Visual Inspection | X | X | X |

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| Insulating Fluid | | | Water Content | X | X | X |
| | | | Dissolved Gas | X | X | X |
| | | | Dielectric Strength | X | X | X |
| | | | Particle Count | X | X | X |
| | | | Dielectric Loss ? | X | X | X |
| | | | Power Factor/Dissipation Factor | X | X | X |
| | | | Interfacial Tension | X | X | X |
| | | | Acidity | X | X | X |
| | | | Visual | X | X | X |
| | | | Color | X | X | X |
| | | | Oxidation Stability | X | X | X |
| | | | Furan | X | X | X |
| | | | Corrosive Sulphur | X | X | X |

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| Tap Changers | Load | | Contact Continuity | X | | X |
| | | | Temperature (Infrared) | X | | X |
| | | | Ratio | X | | X |
| | | | Timing | X | | X |
| | | | Motor Currents | X | | X |
| | | | Limit Switch | X | | X |
| | | | | | | |
| | De-Energized | | Contact Pressure | X | | |
| | | | Centering | X | | |
| | | | Ratio | X | | |
| | | | Visual Inspection | X | | |
| | | | | | | |
| Core | | | Insulation Resistance | X | X | X |
| | | | Ground Test | X | X | X |
| | | | | | | |

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| Tanks and Associated Devices | Tank | | Pressure | X | X | X |
| | | | Vacuum | X | X | X |
| | | | Dew Point | X | X | X |
| | | | Temperature (Infrared) | X | X | X |
| | | | Visual Inspection | X | X | X |
| | Conservator | | Visual | X | X | |
| | Inert Air System | | Visual | X | X | |
| | | | TCG | X | X | |
| | Gauges | | Visual | X | X | X |
| | | | Calibration | X | X | |
| | Fault Pressure Relay | | Calibration | X | X | |
| | | | Continuity | X | X | |

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| | Cooling System | Heat Exchanger | Air Flow | X | X | |
| | | | Visual | X | X | X |
| | | | Cleaning | X | X | X |
| | | Fans | Rotation | X | X | |
| | | | Controls | X | X | |
| | | | Visual | X | X | |
| | | Pumps | Rotation | X | X | |
| | | | Currents | X | X | |
| | | | Bearings | X | X | |
| | | | | | | |
| Current Transformer | | | Ratio | X | X | X |
| | | | Polarity | X | X | X |
| | | | Resistance | X | X | X |