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| **SWITCH GEAR HIGH VOLTAGE TESTS:**  Ref as per TCS – P -105, Rev – 01, Item 3.12.3.  32 –TMMS – 01  IEC – 62271 – 100  **Guidelines for High Voltage Tests:**   * Test voltage should be applied on each phase to ground with other phases in earthed position the test should be repeated on other phases similarly. * The test period should not be more than 1 min at full test level and the test voltage frequency should be kept at 60 Hz. * Charging current for each test is noted and recorded. * In open position the cable contacts are to be grounded. Test is considered successful if no break down occurs during test period. * Test shall be performed with the CB in both closed and open conditions. * After the high voltage test on main circuit is finished Rack the Vt in service position and apply on primary side a test voltage equal to 1.5Un (Un = phase to neutral rated voltage ) on each phase consecutively and measure the secondary output voltage same time during the test. * Make sure the VT secondary side MCB’s are switched off and any resistor in open delta winding had been removed. * CT’s secondary terminals should be short circuited and earthed. * Before and after High voltage test insulation resistance to be checked   **INSULATION RESISTANCE TEST:**  Applied Voltage = 5 kV Time Duration = 1 min   |  |  |  |  | | --- | --- | --- | --- | | Phase | Insulation resistance values | | Remarks | | Before HV test | After HV test | | R – (Y+B+E) |  |  |  | | Y –(R+B+E) |  |  |  | | B –(R+Y+E) |  |  |  |   **HIGH VOLTAGE TEST:**  For Bus Bar & CB’s**:**  All CBs In Closed Condition & VT In “Out“ Position [ ]  Applied voltage = 30 kV Time duration = 1 min   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Injected phase | Connected to Earth | Neon voltage indicators OK/Not OK | Leakage Current in mA | | | | | 15s | 30s | 45s | 60s | | R | y+b |  |  |  |  |  | | Y | b+r |  |  |  |  |  | | B | r+y |  |  |  |  |  |   All CBs In Opened Condition & VT In “Out“ Position [ ]  Applied voltage = 30 kV Time duration = 1 min   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Injected phase | Connected to earth | Neon voltage indicators ok/not ok | Leakage current in mA | | | | | 15s | 30s | 45s | 60s | | R | y+b |  |  |  |  |  | | Y | b+r |  |  |  |  |  | | B | r+y |  |  |  |  |  |   For voltage transformers**:**  V.T in on Position and Sec. MCBs Switched Off.  Applied voltage = 12 kV Time duration = 1 min     |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Injected phase | Connected to earth | Leakage current in mA | | | | | 15S | 30S | 45S | 60S | | R | y+b |  |  |  |  | | Y | b+r |  |  |  |  | | B | r+y |  |  |  |  |   **VOLTAGE TRANSFORMERS RATIO VERIFICATION TEST:**  V.T in on Position and Sec. MCBs switched on.   |  |  |  |  | | --- | --- | --- | --- | | Injected phase | Injected primary voltage (kV) | Secondary Voltage measured (V) | | | Windg1 Ratio: | Windg2 Ratio: | | R | 8 |  |  | | Y | 8 |  |  | | B | 8 |  |  | |