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| **SWITCH GEAR HIGH VOLTAGE TESTS:**Ref as per TCS – P -105, Rev – 01, Item 3.12.3. 32 –TMMS – 01IEC – 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 |  |  |

 |