**CHECK MAIN CIRCUIT DEVICE STATUS ( CB/DS/ES )**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BAY No | DEVICE No. | STATUS | BAY No | DEVICE No | STATUS |
| ON / OFF | ON / OFF |
| D01 | 104 | ON | D03 | 304 | ON |
| 106 | ON | 306 | ON |
| 105 ( CB ) | ON | 305 | ON |
| 103 | ON | 303 | ON |
| 193 | ON | 393 | ON |
| 101 | OFF | 301 | OFF |
| 101 X | OFF | 301 X | OFF |
| 101 Y | OFF | 301 Y | OFF |
| 101 Z | OFF | 301 Z | OFF |
| D05 | 504 | ON | D02 | 204 | ON |
| 506 | ON | 206 | ON |
| 505 | ON | 205 | ON |
| 503 | ON | 203 | ON |
| 593 | ON | 293 | ON |
| 501 | OFF | 201 | OFF |
| 501 X | OFF | 201 X | OFF |
| 501 Y | OFF | 201 Y | OFF |
| 501 Z | OFF | 201 Z | OFF |
| D04 | 404 | ON | D06 | 604 | ON |
| 406 | ON | 606 | ON |
| 405 | ON | 605 | ON |
| 403 | ON | 603 | ON |
| 493 | ON | 693 | ON |
| 401 | OFF | 601 | OFF |
| 401 X | OFF | 601 X | OFF |
| 401 Y | OFF | 601 Y | OFF |
| 401 Z | OFF | 601 Z | OFF |

**CHECK MAIN CIRCUIT DEVICE STATUS ( CB/DS/ES )**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BAY No | DEVICE No. | STATUS | BAY No | DEVICE No | STATUS |
| ON / OFF | ON / OFF |
| D130 | 134 | ON | D230 | 234 | ON |
| 136 | ON | 236 | ON |
| 130 | ON | 230 | ON |
| 194 A | ON | 194 B | ON |
| 296 A | ON | 296 B | ON |
| 131 A | OFF | 231 A | OFF |
| 131B | OFF | 231B | OFF |
| D220 | 226 A | ON |   |   |   |
| 226 B | ON |   |   |
| 220 | ON |   |   |
| 221 A | OFF |   |   |
| 221 B | OFF |   |   |
| 141A | OFF |   |   |
| 141B | OFF |   |   |
| 261A | OFF |   |   |
| 261B | OFF |   |   |
| 124A | ON |   |   |
| 124B | ON |   |   |
| 121A | OFF |   |   |
| 121B | OFF |   |   |

**CHECK SF6 GAS PRESSURE AT EACH COMPARTMENT**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BAY No | COMP. No | PRESSUREBar | BAY No | COMP. No | PRESSUREBar |
| D01 | PS1-1 | 5.3 | D03 | PS3-1 | 5.3 |
| PS1-2 | 5.3 | PS3-2 | 5.3 |
| PS1-3 | 5.4 | PS3-3 | 5.3 |
| PS1-4.1 | 6.2 | PS3-4.1 | 6.3 |
| PS1-4.2 | 6.2 | PS3-4.2 | 6.3 |
| PS1-5 | 5.3 | PS3-5 | 5.3 |
| PS1-6 | 5.3 | PS3-6 | 5.3 |
| PS1-7 | 5.3 | PS3-7 | 5.3 |
| PS1-8 | 5.2 | PS3-8 | 5.2 |
|   |   | PS3-9 | 5.4 |
| D05 | PS5-1 | 5.3 | D02 | PS2-1 | 5.3 |
| PS5-2 | 5.4 | PS2-2 | 5.3 |
| PS5-3 | 5.4 | PS2-3 | 5.4 |
| PS5-4.1 | 6.2 | PS2-4.1 | 6.3 |
| PS5-4.2 | 6.2 | PS2-4.2 | 6.1 |
| PS5-5 | 5.3 | PS2-5 | 5.3 |
| PS5-6 | 5.3 | PS2-6 | 5.3 |
| PS5-7 | 5.2 | PS2-7 | 5.3 |
| PS5-8 | 5.2 | PS2-8 | 5.3 |
| PS5-9 | 5.4 | PS2-9 | 5.5 |
| PS5-10 | 5.3 |   |   |
| D04 | PS4-1 | 5.3 | D06 | PS6-1 | 5.3 |
| PS4-2 | 5.3 | PS6-2 | 5.3 |
| PS4-3 | 5.4 | PS6-3 | 5.3 |
| PS4-4.1 | 6.2 | PS6-4.1 | 6.4 |
| PS4-4.2 | 6.2 | PS6-4.2 | 6.4 |
| PS4-5 | 5.4 | PS6-5 | 5.3 |
| PS4-6 | 5.3 | PS6-6 | 5.3 |
| PS4-7 | 5.3 | PS6-7 | 5.2 |
| PS4-8 | 5.2 | PS6-8 | 5.3 |
|   |   | PS6-9 | 5.4 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| D08 | PS8-1 | 5.4 | D230 | PS230-1 | 5.3 |
| PS8-2 | 5.2 | PS230-2 | 5.3 |
| PS8-3 | 5.3 | PS230-3 | 5.3 |
| PS8-4.1 | 6.4 | PS230-4.1 | 6.1 |
| PS8-4.2 | 6.4 | PS230-4.2 | 6.2 |
| PS8-5 | 5.4 | PS230-5 | 5.3 |
| PS8-6 | 5.4 | PS230-6 | 5.4 |
| PS8-7 | 5.2 | PS230-7 | 5.3 |
| PS8-8 | 5.4 |  |  |
| PS8-9 | 5.4 |  |  |
| PS8-10 | 5.3 |  |  |
| D220 | PS220-1 | 5.3 | D130 | PS130-1 | 5.4 |
| PS220-2 | 5.3 | PS130-2 | 5.4 |
| PS220-3 | 5.4 | PS130-3 | 5.3 |
| PS220-4.1 | 6.3 | PS130-4.1 | 6.3 |
| PS220-4.2 | 6.3 | PS130-4.2 | 6.3 |
| PS220-5 | 5.4 | PS130-5 | 5.3 |
| PS220-6 | 5.3 | PS130-6 | 5.3 |
| PS220-7 | 5.3 | PS130-7 | 5.3 |
| PS220-8 | 5.3 |  |  |
| PS220-9 | 5.3 |  |  |
| PS220-10 | 5.3 |  |  |
| PS220-11 | 5.3 |  |  |
| PS220-12 | 5.3 |  |  |

**CHECK THE PRIMARY NEUTRAL LINK FOR EACH VT.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BAY No | VT. No. | VT.PRIMARYLINK CLOSED | BAY No | VT. No. | VT.PRIMARYLINK CLOSED |
| D01 | VT.01 |  | D08 | VT.08 |  |
| D03 | VT.03 |  | D130 | VT.1A |  |
| D05 | VT.05 |  | VT.2A |  |
| D07 | VT.07 |  | D230 | VT.1B |  |
| D02 | VT.02 |  | VT.2B |  |
| D04 | VT.04 |  |  |  |  |
| D06 | VT.06 |  |  |  |

**CHECK THE CT SECONDARY AND EARTHED FOR EACH CT.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| BAY No | CT. No. | CT. SEC.SHORTED  | BAY No | CT. No. | CT. SEC.SHORTED  |
| D01 | CT 1-1 |  | D02 | CT 5-1 |  |
| CT 1-2 |  | CT 5-2 |  |
| CT 1-3 |  | CT 5-3 |  |
| CT 1-4 |  | CT 5-4 |  |
| CT 6-1 |  | CT 6-1 |  |
| CT 6-2 |  | CT 6-2 |  |
| D03 | CT 5-1 |  | D04 | CT 1-1 |  |
| CT 5-2 |  | CT 1-2 |  |
| CT 5-3 |  | CT 1-3 |  |
| CT 5-4 |  | CT 1-4 |  |
| CT 6-1 |  | CT 6-1 |  |
| CT 6-2 |  | CT 6-2 |  |
| D05 | CT 1-1 |  | D06 | CT 5-1 |  |
| CT 1-2 |  | CT 5-2 |  |
| CT 1-3 |  | CT 5-3 |  |
| CT 1-4 |  | CT 5-4 |  |
| CT 6-1 |  | CT 6-1 |  |
| CT 6-2 |  | CT 6-2 |  |
| D08 | CT 1-1 |  | D130 | CT 2-1 |  |
| CT 1-2 |  | CT 2-2 |  |
| CT 1-3 |  | CT 2-3 |  |
| CT 1-4 |  | CT 3-1 |  |
| CT 6-1 |  | CT 3-2 |  |
| CT 6-2 |  | CT 3-3 |  |
| D230 | CT 2-1 |  | D220 | CT 2-1 |  |
| CT 2-2 |  | CT 2-2 |  |
| CT 2-3 |  | CT 2-3 |  |
| CT 3-1 |  | CT 3-1 |  |
| CT 3-2 |  | CT 3-2 |  |
| CT 3-3 |  | CT 3-3 |  |

**HIGH VOLTAGE TEST ON MAIN CIRCUIT. (POWER FREQUENCY TEST)**

High Voltage injection from Bay \_\_\_\_\_\_\_\_ Bushing.

Test each phase to ground. While one phase under test other two phases will be grounded.

Total Capacitance of test circuit : 9800 pF/Phase.

Test Voltage: 235kV. (650 x 0.45 x 0.80 =234kV) IEC: 62271 - 203

Partial discharge test voltage : 101kV (145/√3 x1.2 = 100.45kV) Criteria : 10pC

VT HV Test Voltage: 132/√3X1.5 = 114.31 kV only (VT will be isolated after VT HV test)

SF6 gas Pressure: Rated SF6 Gas Pressure.

Criteria: Withstand.

Test Circuit: As per attached SLD

Note: Surge Arrestor, Transformers and power cables will be isolated from the test circuit

Test Circuit





**VT SECONDARY VOLTAGE MEASUREMENT.**

|  |  |  |  |
| --- | --- | --- | --- |
| VT No. | PRIMARY VOLTAGE (kV) | SECONDARY VOLTAGE (V) | RESULT |
| R | Y | B | R - N | Y - N | B - N |
| VT.01 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.03 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.05 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.02 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.04 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.06 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.08 |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.1A |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.2A |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.1B |  |  |  |  |  |  |  |
|  |  |  |  |
| VT.2B |  |  |  |  |  |  |  |
|  |  |  |  |



**Test Results:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Phase | Voltage.(kV) | Duration | Frequency | LeakageCurrent ( A ) | AmbientTemp. & Humi. | Result |
| **R** | 50 | 3 min. | 60 Hz |  | 35° C & LOW |  |
| 101 | 6 min. | 60 Hz |  | 35° C & LOW |  |
| 132 | 3 min. | 60 Hz |  | 35° C & LOW |  |
| 235 | 1 min. | 60 Hz |  | 35° C & LOW |  |
| 101 | 30 min. | 60 Hz |  | 35° C & LOW |  |
| **Y** | 50 | 3 min. | 60 Hz |  | 35° C & LOW |  |
| 101 | 6 min. | 60 Hz |  | 35° C & LOW |  |
| 132 | 3 min. | 60 Hz |  | 35° C & LOW |  |
| 235 | 1 min. | 60 Hz |  | 35° C & LOW |  |
| 101 | 30 min. | 60 Hz |  | 35° C & LOW |  |
| **B** | 50 | 3 min. | 60 Hz |  | 35° C & LOW |  |
| 101 | 6 min. | 60 Hz |  | 35° C & LOW |  |
| 132 | 3 min. | 60 Hz |  | 35° C & LOW |  |
| 235 | 1 min. | 60 Hz |  | 35° C & LOW |  |
| 101 | 30 min. | 60 Hz |  | 35° C & LOW |  |

**INSULATION RESISTANCE MEASUREMENT ON MAIN CIRCUIT.**

Measure the insulation resistance of main circuit before HV test and after HV test.

Each phase to ground 5000V megger.

**Before HV Test**

|  |  |  |  |
| --- | --- | --- | --- |
| Phase | Insulation Resistance. ( Ω ) | AmbientTemperature & Humidity | Result |
| R |  | 35° C & LOW |  |
|
| Y |  | 38° C & LOW |  |
|
| B |  | 34° C & LOW |  |
|

**After HV Test**

|  |  |  |  |
| --- | --- | --- | --- |
| Phase | Insulation Resistance. ( Ω ) | AmbientTemperature & Humidity | Result |
| R |  | 35° C & LOW |  |
|
| Y |  | 38° C & LOW |  |
|
| B |  | 34° C & LOW |  |
|

**Criteria:** More than 2000 MΩ.