As Per the Schematic Drawings the Contents in This Test Format Can Be Modified

1. **GENERAL DATA AND INFORMATION:**

|  |  |  |
| --- | --- | --- |
| Item | Description | Remarks |
| 1 | Panel: |  |
| 2 | Breaker serial number: |  |
| 3 | Breaker capacity |  |
| 4 | Rated voltage: |  |
| 5 | Rated current of bus bar: |  |
| 6 | Frequency: |  |
| 7 | Make: |  |
| 8 | Swgr type: |  |
| 9 | Drawing no: |  |

1. **MECHANICAL CHECK AND VISUAL INSPECTION** As per TCS–P-105 Rev -01, Item no 4.1

|  |  |  |
| --- | --- | --- |
| Item | Description | Checked |
| 1 | Check tightness of all connections | ❑Yes  | ❑N/A  |
| 2 | Inspect for physical damage / defects | ❑Yes  | ❑N/A  |
| 3 | Panel condition, cleanliness, organization, labeling, readiness for service, panel doors, handles...etc  | ❑Yes  | ❑N/A  |
| 4 | CT shorting checked | ❑Yes  | ❑N/A  |
| 5 | Indications checked | ❑Yes  | ❑N/A  |
| 6 | Contact resistance of tripping and alarm checked | ❑Yes  | ❑N/A  |
| 7 | Check the ferrules as per specification | ❑Yes  | ❑N/A  |
| 8 | Confirm that each panel has been properly secured to the floor in its final service location.  | ❑Yes  | ❑N/A  |
| 9 | Panel Earthing checked | ❑Yes  | ❑N/A  |
| 10 | Confirm that panels are constructed and wired as per SEC relevant specification.  | ❑Yes  | ❑N/A  |
| 11 | Check case cover and gasket for proper seal against dust. | ❑Yes  | ❑N/A  |
| 12 | Check all installed equipment nameplate information for compliance to approved drawings and equipment /material lists.  | ❑Yes  | ❑N/A  |
| 13 | For all internal and external panel wiring, confirm that all screw terminations are tight and that crimp connectors are firmly secured to the wire and to the termination point. Ensure that no part of the wire is bent at the termination point. Check Ferrules. | ❑Yes  | ❑N/A  |
| 14 | Check that panel equipment is mounted securely and protected against mal operation due to vibration, shock, etc | ❑Yes  | ❑N/A  |
| 15 | Use of ring type terminals for wire termination for current circuit wires. | ❑Yes  | ❑N/A  |

1. **GENERAL PANEL FUNCTIONAL CHECKS :** As per TCS–P-105 Rev – 01, Item no 5.1

|  |  |  |
| --- | --- | --- |
| Item | Description | Remarks |
| 1 | Check Output Of Ac Outlet | ❑Yes  | ❑N/A  |
| 2 | Check Illumination Lamp | ❑Yes  | ❑N/A  |
| 3 | Check Door Switch | ❑Yes  | ❑N/A  |
| 4 | Check Heater / Thermostat  | ❑Yes  | ❑N/A  |
| 5 | Check Function Of OLTC Heater | ❑Yes  | ❑N/A  |
| 6 | Check Function Of Lighting Circuit | ❑Yes  | ❑N/A  |

1. **DC LOOP TEST**

|  |  |  |
| --- | --- | --- |
| Loop function | Loop open due to | Supervision relay |
| MCB OFF | TB | Protection Relay | FMK | ( ) | ( ) | Expected | Actual |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
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1. **GENERAL OPERATIONAL CHECKS**

|  |  |  |
| --- | --- | --- |
| Item | Description | Remarks |
| 1 | CB Anti - Pumping Checked |  |
| 2 | Breaker Rack In / Rack Out Checked |  |
| 3 | Breaker Mechanical Closing & Opening Checked |  |
| 4 | Breaker Open / Close Flag Indication Checked |  |
| 5 | Manual Spring Charging Checked |  |
| 6 | CB Auxiliary (Open / Close & Test / Serves) Contacts Checked |  |
| 7 | ES Auxiliary Contacts Checked |  |
| 8 | Earth Switch Interlock With Respect To Cb Position Checked |  |
| 9 | Selector Switch Ds1& Ds2 Function Checked |  |

1. **CHECKING OF CB RACK IN**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Equipment | Condition | CB Rack In | Remarks |
| 1 | Breaker | OFF | E | Possible |  |
| A |  |  |
| ON | E | Not possible |  |
| A |  |  |
| 2 | Earth Switch | OFF | E | Possible |  |
| A |  |  |
| ON | E | Not possible |  |
| A |  |  |
| 3 | Bus bar Earth Switch | OFF | E | Possible |  |
| A |  |  |
| ON | E | Not possible |  |
| A |  |  |
| 4 | \*\* Hv Side Earth Switch AndDisconnector | OFF | E | Possible |  |
| A |  |  |
| ON | E | Not possible |  |
| A |  |  |

 Note: \*\* Only for Incomers E: Expected A: Actual

1. **CHECKING OF CB OPERATION**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Control Selector | CB position | From 13.8kv swgr | From CR | From FMK |
| Switch | Close | Open | Close | Open | Close | Open |
| Local | Test | E | Possible | Possible | Not Possible | Not Possible | Not Possible | Not Possible |
|  | A |  |  |  |  |  |  |
| Service | E | Possible | Possible | Not Possible | Not Possible | Not Possible | Not possible |
|  | A |  |  |  |  |  |  |
| CR | Test | E | Not possible | Not possible | Possible | Possible | NotPossible | NotPossible |
| A |  |  |  |  |  |  |
| Service | E | Not possible | Not possible | Possible | Possible | NotPossible | NotPossible |
|  | A |  |  |  |  |  |  |

Note: E: Expected A: Actual

1. **CHECKING OF TRIP CIRCUIT SUPERVISION RELAYS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Relay  | Breaker condition | Event | Indication at swgr | Remark |
|  | ON | Trip circuit faulty | E |  |  |
| A |  |  |
| OFF | Trip circuit faulty | E |  |  |
| A |  |  |

 Note: the above event simulated by pulling out all wire as the drawing e: expected a: actual

1. **CHECKING OF CB INTERLOCKING**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Breaker Position  | Lock out Relay | Lock Out relay Status | Closing from13.8kv swgr | \*\*closing From CR | Closing From FMK |
| Service |   | Reset | E | Possible | Possible | Possible |
| A |   |   |   |
|  | Operation | E | Not possible | Not possible | Not possible |
|  | A |   |   |   |
| Test |  | Reset | E | Possible | Not possible | Not possible |
|  | A |   |   |   |
|  | Operation | E | Possible | Not possible | Not possible |
|   | A |   |   |   |
| Service |     | Reset | E | Possible | Possible | Possible |
| A |   |   |   |
| Operation | E | Not possible | Not possible | Not possible |
| A |   |   |   |
| Test | Reset | E | Possible | Not possible | Not possible |
| A |   |   |   |
| Operation | E | Possible | Not possible | Not possible |
|   | A |   |   |   |

 E:

Expected A: Actual

1. **CHECKING OF PROTECTION TRIPPING**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Panel | Protection, device & contact | Tripping of CB | Remarks |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| 5 |  |  |  |  |

 Tripping link isolator checked [ ]

1. **CHECKING OF SWGR. SCADA INDICATIONS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Item | Event | Swgr indication | FMK | Remarks |
| T.B | Status | T.B | Status |
| 1 | CB close |  | [ ] | Red lamp glows   |  | [ ] | Indication |  |
| 2 | CB open |  | [ ] | Green lamp glows  |   | [ ] | Indication |  |
| 3 | CB in test position |  | [ ] | White lamp glows   |   | [ ] | Indication |   |
| 4 | CB in service position | :4 | [ ] | White lamp glows  |   | [ ] | INDICATION |   |
| 5 | Earth switch close |  | [ ] | Yellow lamp glows  |   | [ ] | Indication |   |
| 6 | Earth switch open  |  | [ ] | Yellow lamp off |   | [ ] | Indication |   |

Checked by continuity

1. **CHECKING OF SWGR. SCADA ALARMS**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Item | Event | Swgr Indication | FMK | Control panel | Remarks |
| T.B | Status | T.B | Status | T.B | Status |
| 1 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 2 |  |  | [ ] |  |   | [ ] |  |  |  |  |  |
| 3 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 4 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 5 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 6 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 7 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 8 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 9 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |
| 10 |  |  | [ ] |  |  | [ ] |  |  |  |  |  |

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