| GSG35<br>PSGSG 125 | **Specifications**<br>For<br>**Short Circuit Testing of 420 kV GCB** | Drg. No. | |
|---|---|---|---|
| | | Date | 02.09.10 |
| | | Product | **GSM 400** |

**1.0** Application : Gas Insulated Substations (GIS)

**2.0** Rating : 420 kV

**3.0** Type : Gas Insulated circuit breaker

**4.0** Frequency : 50 Hz

**5.0** Classification : Outdoor/Indoor substations

**6.0** **TESTS TO BE PERFORMED ON 400 KV GIS:**

The following single phase tests shall be performed on the 420kV gas insulated circuit breaker for GIS application as per IEC 62271-100,101.

**Test Tariffs required:**

Single phase synthetic tests shall be performed on the 420kV gas insulated single break circuit breaker for GIS application at 40 kA Short circuit current with FPTC 1.3.

| **S.No.** | **Test Duty** | **Number of shots** |
|---|---|---|
| 1 | **T100S** | 10 shots including full operating cycle. |
| | 3 days clear gap after test | |
| 2 | **T100A** | 10 shots including full operating cycle. |
| | 3 days clear gap after test | |
| 3 | **L90** | 10 shots including full operating cycle. |
| 4 | **Dielectric test after L90** | As per standard |
| | 3 days clear gap after test | |
| 5 | **T10** | As per standard |
| | 3 days clear gap after test | |
| 6 | **OP2** | As per standard |
| | 3 days clear gap after test | |
| 7 | **T100S** | 10 shots including full operating cycle at 50 kA short circuit current |

**7.0** The above test duties shall be performed for the object with following specifications as per IEC-62271-100.

| | | |
|---|---|---|
| 1. Rated Voltage | : | 420 kV(rms) |
| 2. Short circuit current | : | 40 kA (rms) / 50 kA (rms) |
| 3. Dynamic current | : | 100 kAp / 125 kAp |
| 4. Normal current | : | 2500 A |
| 5. Type of Drive | : | Hydraulic |
| 6. No. of Breaks / pole | : | One |
| 7. No. of Phases | : | One |

**8.0** **Other Charges:**

1. Auxiliary CB for all tests – (to be charged as per actuals).
2. Charges for 600kg of fresh SF6 gas. (to be charged as per actuals)
3. Assembly bay charges on per day basis.
4. Material handling charges. (Optional)
5. Custom clearance charges. (Optional)
6. Inland transport charges Port to Lab and back to port (Optional).
7. Drawing verification & specimen identification charges.
8. Equipment storage charge, if any.
9. Other service charges, if any.

**9.0** **Notes:**

1. The test Lab shall provide the following:

   a) Gas handling system with filling and disposal facility.
   b) Auxiliary breaker required for performing testing on BHEL equipment.

2. BHEL will have option to test alternate specimen to utilize shifts effectively for repeat test within agreed test schedule.

3. The successful test results shall be used for certification without repeating them. Further tests required for certification will be completed without modification of test specimen.

4. The test and service charges shall be payable against production of certificate indicating type of tests conducted with charges. This certificate shall be jointly signed by BHEL representative and test authority.

5. In case of doubts in specifications, the test agency shall contact BHEL for clarifications.

6. LC shall be opened based on exchange rate prevalent at the time of placement of P.O.

7. Test report and digital data to be furnished in English.