

1. Generator connections on line side:
  - Remove, clean and refit the generator line side flexible connections
  - Remove, clean and refit HV bushing plates above the generator line side flexibles
  - Clean line side flexible cubicle (remove all dust and other dirt), check insulation, earthing and replace if damaged
  - Check generator line side flexibles for hot spots or other damage
  
2. Generator connections on neutral side:
  - Remove, clean and refit the generator line side flexible connections
  - Remove, clean and refit HV bushing plates above the generator line side flexibles
  - Clean line side flexible cubicle (remove all dust and other dirt), check insulation, earthing and replace if damaged
  - Check generator line side flexibles for hot spots or other damage
  
3. Generator reactors
  - Remove, clean and refit the generator reactor flexible connections
  - Check generator reactor flexibles for hot spots or other damage
  - Clean reactors of all dirt and dust
  
4. VT Cubicle
  - Clean VT cubicle
  - Inspect VT cubicle for any hotspots or other damage
  
5. IPB
  - Clean and inspect inside the busbar system
  - Clean and inspect inside the busbar system
  
6. Transformers ( Unit transformer & Generator Transformer)
  - Unit transformer:
    - i. Remove, clean and refit unit transformer flexible connections:
      1. Disconnection of the flexibles from the bus bars from the Generator
      2. Cleaning of flexible connections and connection plate
      3. Reconnection of the flexibles using contact grease.
      4. Inspection to ensure that the flexibles are installed correctly.
    - ii. Check for hotspots and any other damage on flexible connections and connection plate
    - iii. Unit transformer T-connections must be inspected and cleaned
    - iv. The flexible connecting bolts must be torqued correctly. The 14mm bolts are torqued to 75 Nm and the 16mm bolts to 95 Nm.
  - Generator Transformer:
    - i. Outages to be informed 3 days in advance to arrange for the erection of scaffolding.
    - ii. Open busbar/flexible cubicle area doors, ensure that doors are not left open if no person is working inside. Doors to be replaced overnight if work has not been completed to ensure that there is no water or dust ingress.
    - iii. Remove, clean and refit generator transformer flexible connections
      1. Disconnection of the LV Flexibles
      2. Cleaning of LV Flexible connection and bushing connection plate
      3. Reconnection of the LV Flexibles
      4. Inspection to ensure that the LV Flexibles are installed correctly. The smooth surface of the flexible must be in contact with the bushing connection plate to ensure a proper connection.
      5. New Transition washers of the correct size need to be installed on reconnection using contact grease between the flexible and the fixed bushing connection plate. No grease is allowed on the washers where transition washers are installed.
      6. The flexible connecting bolts must be torqued correctly to ensure proper operation of the transition washers. The 14mm bolts are torqued to 75 Nm and the 16mm bolts to 95 Nm.

- iv. Check for hotspots and any other damage on flexible connections and connection plates.
- v. Busbar ducting area to be inspected to be free of any debris and equipment, busbar ducting to be cleaned.
- vi. Ensure that all rags, equipment and tools are completely removed from the flexible area to avoid flashovers. If any incident occurs due to negligence (leaving of tools, equipment and rags) the contractor will be held responsible for the damages.
- vii. Replace gasket seals on all doors and ensure that proper sealing is achieved to eliminate possible water and dust ingress into the busbar/flexible cubicle area.
- viii. All doors to be replaced after the work have been completed.

7. Transition washers (Sicame)

- Replace all transition washers (M16 & M12)
- Torque settings as follows:
  - i. M12 TRANSITION WASHERS 50NM
  - ii. M12 DIN WASHERS 60NM
  - iii. M16 TRANSITION WASHERS 95 NM
  - iv. M16 DIN WASHERS 105NM

- 8. Quality Control Procedures/Checksheets to be submitted to Engineering for approval prior to execution
- 9. Findings Report to be compiled and submitted to Outages and Engineering. Details to be provided on all findings. No later than 2 days after the completion of the works.



03/10/2025