

## SCOPE OF WORK FOR COMMUTATOR REBUILDING

Annexure-5884-01-01

1. Collection of old commutator from BHEL Mumbai to vendor's works.
2. Inspection & data recording of the existing commutator and submission of report.
3. Dismantling, degreasing and cleaning of copper segments, steel parts, etc. De-brazing/de-soldering of risers from copper segments.
4. Testing of risers for Chemical composition and mechanical properties and submission of report/drawing.
5. Manufacturing of new risers as per original dimension.
6. Rebuilding/assembly of commutator with new mica segments, new mica V-ring, new risers and existing/old copper segments and existing/old steel parts.
7. Static and dynamic seasoning (incl. 1.4 times over-speed for 5mins) of commutator.
8. All dimensions for new rebuilding component shall be as per existing dimensions.
9. Machining on new re-build commutator, ensuring trueness with fitting dimensions.
10. After machining the dimensions to be achieved as per original diameter +2mm
11. Testing to be performed at vendor works as per BHEL specification.
  - a) IR Value @ 1 KV volts before HV should be >100 MΩ.
  - b) HV test @ 6 KV should withstand one minute.
  - c) IR value @ 1KV volts after HV should be >100 MΩ.
  - d) Bar to Bar flashover test at 800 volts should withstand 10 secs.
12. Testing to be witness by BHEL Engineer at vendor premises.
13. Transportation/octroi is in vendor's scope.
14. Technical requirement if any must be clarified before machining.
15. Any tool/fixtures required for rebuilding/assy/seasoning/machining will be under vendor's scope.

### Details of the commutator:-

Commutator Circumference : 2560 mm  
Commutator dia (derived) : 814.5 mm  
No. of commutator segments : ~~370~~ 372  
Commutator segment length : 338 mm  
Commutator segment width : 5 mm  
Riser height : 190 mm  
Riser width : 5 mm

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