

GOVERNMENT OF INDIA



सत्यमेव जयते

MINISTRY OF RAILWAYS

TI/STR/019

(Revision-0 1)

Schedule of Infrastructure Requirements

for

Approval of Vendors for supply, manufacture, testing and quality control

Of

PS Class Current Transformer.

(Specification No. ~~ETI/PSI/90(6/95)~~ with A&C slips 1-3 **TI/SPC/PSI/CTs/0200**)

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TRACTION INSTALLATION DIRECTORATE
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1.0 SCOPE

This Schedule covers the technical requirements for **approval of Vendors for supply, manufacture, testing and quality control manufacturing and supply of PS-class current transformer for traction system.**

2.0 GENERAL INFRASTRUCTURE & MANUFACTURING FACILITY:

2.1 Manufacturer should have adequate covered accommodation for storing raw material, finished items awaiting dispatch and arranging inspection. Manufacturer should have system to ensure that product conforms to the requirements of RDSO Specification No. ~~ETI/PSI/90(6/95) A/c slip No. 1 to 3~~ **TI/SPC/PSI/CTs/0200** also as per IS: 2705. The manufacturer should have an effective quality control system to monitor quality control of:

- Inward raw material.
- Stage inspection at various stages.
- Inspection of the final assembled product to conform adherence to the requirement/ specification.

2.2 The firm should have a clean and pollution free environment, and should be taking adequate safety precaution during the production. The company must have the items like fire extinguisher, safety warning board, shock treatment charts and the medical first aid kit in the premises.

2.3 The management should organize regular training programs for updation of the knowledge and skills of the employ.

2.4 **The 'Make in India' policy of 'Government of India' shall be applicable**

2.5 DESIGN/ DRAWINGS:

There shall be a design/ drawing cell with facility of CAD for dealing the design/drawing of the equipment.

2.6 PLANTS & MACHINERIES:

The manufacturer should have the following plants/ machines / equipments of suitable capacity/ rating essentially required for manufacturing of the PS-class current transformers as per RDSO specification in its works-

Sl. No.	Machines/Equipment
1	HT Winding machine
2	LT Winding machine
3	Toroidal Winding machine
4	Toroidal core winding machine
5	Auto controlled heating oven
6	Drill machine
7	Air compressors
8	Lathe machine
9	EOT crane
10	Diesel generating set

2.7 TEST FACILITIES:

The manufacturer should have the following testing equipment of suitable capacity/ rating required for carrying out the tests on sub-components/ components and the complete transformers in different stage to ensure the quality as per RDSO specification in its works. These instruments should be calibrated with the standard master instruments accountable to National Physical Laboratory or a similar reputed international agency. Each instrument should have a valid calibration certificate:-

- 1 Standard CTs
- 2 CTs Standard burden box
- 3 High voltage test set
- 4 Motorised oil test set
- 5 Ratio meter
- 6 Partial discharge set
- 7 Digital multimeters
- 8 Ammeter
- 9 Voltmeter
- 10 Motorised megger
- 11 Ohm meter
- 12 Wattmeters
- 13 DVDF set

3.0 QUALITY CONTROL REQUIREMENTS

- 3.1 The firm should have ISO: 9000 certificate for the product for which approval is sought and it should be broadly covered in the scope of the certification for manufacture and supply.
- 3.2 Quality manual of the firm for ISO-9000 should clearly indicate at any stage the control over manufacturing and testing of the said Railway Product.

- 3.3 There exists a system of easy traceability of the product from shearing stage to finished product stage.
- 3.4 The manufacturer should have a system of monitoring the complaints for supplied products. The complaints made by the customer should be identifiable to the various manufacturing stages of the product and linking the complaint for corrective and preventive action of the product.
- 3.5 Quality Assurance plan for the product detailing various aspects like.
- a) Organizational chart
 - b) Flow process chart
 - c) Stage inspection details
 - d) Various parameters to be maintained to ensure control.
