

REC views on  
Standardization  
Specification of  
Distribution Transformer to  
be used under DDUGJY  
Scheme

## Contents:

- Transformer Basics
- Importance of Distribution Transformer in Power Distribution System.
- Adherence to Quality Control Orders on Distribution Transformers issued by Ministry of Heavy Industries & Public Enterprises on IS 1180 (Part-1): 2014.
- Procurement of Transformers from BIS certified manufacturers to be used under DDUGJY Scheme.
- Adherence to Technical Specification of PTRs & DTRs by PIAs finalised by Committee-A to be used under DDUGJY Schemes.

- Distribution Transformer is a device that provides the final voltage transformation by stepping voltage within a power distribution network.
- Distribution Transformers is the heart of power distribution system networks.
- To maintain desired voltage to an end user and to ensure reliable power supply, Good Quality of Distribution Transformers are envisaged to be used under RE-DDUGJY scheme.





# Rural Electrification Corporation Ltd.

- Compliance of Electrical Transformers (Quality Control) Order 2015 notified on 07-05-2015 in the Gazette of India, Extraordinary, Part-II, Section-3 (ii) issued by ministry of Heavy Industries and Public Enterprises, which states that “No person by himself or through any person on his behalf manufacturer store for sale, sell or distribute any electrical transformers specified in the schedule, which do not conform to the specified standard (i.e. IS1180 (Part-1): 2014 and do not bear Standard Mark of the of the Bureau of Indian Standards, on obtaining certification marks license”.
- As per Quality Control Order 2015 issued by MOHI & PE, ISI marking on Distribution Transformers is mandatory and product should be manufactured in compliance with IS 1180(Part-1): 2014.
- Ministry of Power vide Office Memorandum No.44/30/2015/RE dated 14-08-2015 had constituted a committee under the chairmanship of Chairman CEA, to finalize the technical specification of high value item which are to be procured under DDUGJY/IPDS scheme.
- Accordingly, technical specification for high value items viz. Power Transformer, Distribution Transformer, Conductor & Cables were finalized and were incorporated in Standard Bidding Document issued by REC on approval from MoP.

Under DDUGJY Scheme, REC has issued Standard Bidding Document (SBD) for Full/Partial Turnkey execution of projects.

Technical Specification of all the items are provided in SBD.

Distribution Transformer ratings specified in Technical Specifications for DDUGJY/IPDS Scheme should be of standard ratings as specified in IS 1180(Part-1): 2014, which are as hereunder:

- a) 1-Phase (Ratings KVA): 5, 10, 16 & 25
- b) 3-Phase (Ratings KVA): 16,25,63,100, 160, 200, 250, 315, 400, 500, 630, 1000, 1250, 1600, 2000 & 2500 for 11kV and 100, 160, 200, 250, 315, 400, 500, 630, 1000, 1250, 1600, 2000 & 2500 for 33KVA.
- c) Losses for distribution transformers shall be as per Energy Efficiency Level-2 of IS 1180(Part-1): 2014 for all KVA ratings.
- d) The losses are maximum allowable and there would not be any positive tolerance.

Important Points envisaged in Technical Specification of Distribution Transformer:

1. Distribution Transformers to be used under the scheme are to be manufactured as per Manufacturing Quality Plan (MQP) approved by Competent Authority of Project Implementing Agency.
2. Manufacturer should offer core for inspection and approval by the purchaser during manufacturing stage. CRGO steel for core shall be purchased only from the approved vendors of PGCIL. The list of approved vendors is available at the site of PGCIL.
3. Checklist for inspection of Prime quality CRGO for Transformers is attached as Annexure-A in SBD to be used under DDYGJY scheme. It is mandatory to follow the procedure given in the Annexure.
4. Stage inspection of Distribution Transformers has to be carried out by PIA official, who shall verify the documents specified in Annexure-A and shall inspect the prime quality of CRGO steel to be used for manufacturing of transformers. After stage inspection is carried out, PIA shall issue inspection clearance report as per the provisions of SBD.
5. Distribution Transformers are to be Type Tested as per Clause 20, 21 & 22 of SBD



# Rural Electrification Corporation Ltd.

6. Routine Tests are to carried out on each transformer at the works of manufacturer before dispatch are:

7. Type Test is to be conducted on One Unit.

**Note:** *All the tests specified in SBD are to be performed as per IS 1180 (Part-1):2014.*

End