MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS
* IMPLEMENTATION OF BIS CERTIFICATION:

  * PROCUREMENT OF RAW MATERIAL FROM RELIABLE SUPPLIERS.
  * STANDARDISATION IN MANUFACTURING OF DISTRIBUTION TRANSFORMER.
  * UNIFORMITY IN DESIGN STANDARDS AND EFFICIENCY LEVELS ACROSS THE COUNTRY.
  * TEST AND PROCEDURE.
VARIOUS CHECKS/TESTS CARRIED OUT ON DISTRIBUTION TRANSFORMERS BEFORE DESPATCH:

- Stage inspections during manufacture.
- Routine/Acceptance Testing Before Dispatch. 100% Testing of critical parameter – Losses.
- Type Testing at BIS/ NABL approved Labs – CPRI, ERDA, NTH, EROTO.
- Post Receipt Testing at the Consignee Stores
- Random Testing at third party Govt. / NABL testing house.
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS

BIG QUESTION
WHAT IS THE REASON OF FAILURE WHEN DISTRIBUTION TRANSFORMERS ARE MANUFACTURED TO STANDARDS & SPECIFICATIONS OF CEA, BEE, CBIP, BIS AND SUBJECTED TO REPEATED TESTING & CHECKING BEFORE DESPATCHES?

WHAT COULD BE THE REASON, TRANSFORMER FAILURE IS HIGHER IN INDIA THAN DEVELOPED COUNTRIES?

WHAT MORE IS EXPECTED FROM THE MANUFACTURERS?
ADOPTING A COMMON DESIGN OF EACH RATING:
The common design shall define all parameters such as Tank dimensions, core frame, flux density, conductor size, weights of core, conductor, oil, assembly and whole transformer.

ADVANTAGES:
- Complete transparency
- Tender evaluation
- Establish a minimum viable price
- Ease of checking/testing at various levels
- Cost saving in repairs.
ONLY CATEGORIZATION IN TENDERS SHOULD BE FOR FOLLOWING ITEMS

- FOR ENERGY EFFICIENCY LEVELS
- KIND OF WINDING MATERIAL – ALUMINIM / COPPER
- SEALED / NON SEALED TYPE BODY
- WITH OR WITHOUT TAPS
QUALITY, RELIABILITY, EFFICIENCY & DURABILITY NOT ONLY DEPENDS ON QUALITY MANUFACTURING PRACTICES & MATERIALS & QUALITY CONTROL ORDERS BUT ALSO ON MANY OTHER FACTORS - POST MANUFACTURING

* TRANSPORTATION & STORAGE
* INSTALLATION & COMMISSIONING
* OPERATION & MAINTENANCE
MANUFACTURER’S PERSPECTIVE
ON DISTRIBUTION TRANSFORMERS

BIS CODES FOR INSTALLATION NOT FOLLOWED.
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS

BIS CODES FOR INSTALLATION & MAINTENANCE NOT FOLLOWED. LOOSE CONNECTIONS CAUSING HEATING
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS

BIS CODES FOR INSTALLATION & MAINTENANCE NOT FOLLOWED.
LT MCCB BOX DAMAGED
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS

BIS CODES FOR INSTALLATION & MAINTENANCE NOT FOLLOWED.

LT MCCB DAMAGED
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS

BIS CODES FOR INSTALLATION & MAINTENANCE NOT FOLLOWED.
SIZE OF WIRE FOR HT FUSE
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMER

BIS CODES FOR INSTALLATION & MAINTENANCE NOT FOLLOWED
- OIL LEVEL NOT MAINTAINED
IS 1180:2014 : INDIAN STANDARD FOR DISTRIBUTION TRANSFORMER IS LESS EFFECTIVE UNLESS THE FOLLOWING STANDARDS ARE ADOPTED:

* IS:10028 (PART II) – INSTALLATION
* IS: 10028 (PART III) – MAINTENANCE

MANDATING CERTIFICATION OF EXISTING BIS CODE OF PRACTICE FOR SELECTION, INSTALLATION AND MAINTENANCE OF TRANSFORMERS
IS:10028 (PART II) – INSTALLATION

- HT PROTECTION
- AIR GAPS AS PER STANDARDS (CREEPAGES)
- LT PROTECTION
- EARTHING
- PROPER TERMINATIONS

IS: 10028 (PART III) – MAINTENANCE

- REGULAR CHECKS FOR
  - EARTHING
  - OIL LEVEL AND LEAKAGES
  - TERMINATIONS
BIS CERTIFIED & TYPE TESTED TRANSFORMERS BEING PURCHASED AFTER CHECKING, INSPECTION AND TESTING AT VARIOUS LEVELS.

WHAT IS THE NEED FOR FIXING THE WARRANTY PERIOD AS 5 YEARS.

Transformer is a static machine, failure of transformer due to any manufacturing defect, shall occur in the initial period, covering all seasons (max. 12 months). CALLING FOR WARRANTIES BEYOND 18 MONTHS IS MAKING OPERATING STAFF LAX AND A COVER UP FOR THEIR OPERATING DEFFICIENCIES. Examples are shown below:
The Annexed report prepared by Electricity Distribution Division states:

- **State of Transformer:** ‘Aandhi toofan mein transformer khambe se gir jaane ke karan oil behe gaya aur bushing toot gai.’

- **Reason of damage:** Internal fault Under Guarantee Period.
The Annexed report prepared by Electricity Distribution Division states:

- **State of Transformer:** ‘2nos. bushing toot gai. Oil nikal gaya.’

- **Reason of damage:** Internal fault. Under Guarantee Period.
The Annexed report prepared by Electricity Distribution Division states:

• ‘LT bushing broken due to Internal fault.’

• Under Guarantee Period.
EVEN THE BEST OF CARS DO NOT CARRY UNCONDITIONAL WARRANTIES
Taking queue from other States, maximum orders should be placed on MSME units of Uttar Pradesh.

Also not only the State industry is suffering, and defeating the motive of ‘Make in U P’, it is also leading to loss to the State revenue by losing 9% SGST.
Majority of transformer manufacturers are MSME units, and delay in payments by the DISCOMS, leads to great hardships to the units. MSME Act. 2006 has provided to make payments within 45 days any delay beyond that shall be subject to monthly compounding interest at 3 times the bank rate of RBI. Govt. Of India as well as Govt. Of UP has acknowledged this aspect very seriously, and provisions for erring Corporate to reflect their liabilities have been made.
MANUFACTURER’S PERSPECTIVE ON DISTRIBUTION TRANSFORMERS

- CONCLUSION

* WE MANUFACTURERS DEPEND ON THE POLICY MAKERS, REGULATORS AND UTILITIES FOR THE EXISTENCE OF OUR INDUSTRY AND THOUSANDS OF ASSOCIATED ANCILLARIES

* WE REQUEST THEIR SUPPORT TO ENABLE THE INDUSTRY MANUFACTURE QUALITY AND RELIABLE ENERGY EFFICIENT TRANSFORMERS BENEFICIAL TO ALL STAKEHOLDERS AND THE COUNTRY AT LARGE.
Thank You!!