

TOTAL OWNING COST (TOC) EVALUATION

Distribution Transformers

1. Purpose and Application

1. This clause shall apply to the financial evaluation of bids for distribution transformers. HESCO shall evaluate financial bids on the basis of Total Owning Cost (TOC), which reflects both the quoted purchase price and the economic value of the bidder's guaranteed transformer losses.
2. The Total Evaluated TOC shall be used only for financial evaluation, comparison, ranking, and determination of the Most Advantageous Bidder. It shall not replace the contractual quoted price payable under the contract.
3. The lowest bidder shall be determined by using the Total Owning Cost (TOC). If a Firm has the lowest quoted unit price (lowest Schedule Price) but does not retain the lowest position after calculation of the Total Owning Cost (TOC), it shall not be considered the lowest / Most advantageous bidder.

2. Fixed Loss Capitalization Factors

For this tender, the following fixed capitalization factors shall be used. These factors are fixed by HESCO for evaluation purposes and shall not be changed, qualified, or replaced by any bidder.

Symbol	Description	Unit	Value
K1	Iron loss / no-load loss capitalization factor	PKR per Watt	299.948
K2	Copper loss / load loss capitalization factor	PKR per Watt	145.299

3. Definitions of Bidder Inputs

Symbol	Input Required from Bidder	Basis
Q	Quoted unit price of the transformer, excluding GST	PKR, FCS basis, per unit
I	Guaranteed iron losses / no-load losses	Watts
C	Guaranteed copper losses / load losses	Watts
Qty.	Quantity of the item offered	Number of units

4. TOC Formula

The bidder shall calculate the Unit TOC for each item as follows:

$$\text{Unit TOC} = Q + (299.948 \times I) + (145.299 \times C)$$

The Total Evaluated TOC shall then be calculated as follows:

$$\text{Total Evaluated TOC} = \text{Quantity} \times \text{Unit TOC}$$

The TOC amount shall be calculated excluding GST. GST shall be shown separately on the quoted amount wherever required in the price schedule.

5. Required Price Schedule Information

For each offered item, the bidder shall provide the quoted unit price excluding GST, guaranteed losses, applicable GST information, and calculated TOC values in the prescribed price schedule. Q, I, and C shall not be left blank and shall be numeric, unconditional, and consistent with the technical offer.

6. Price Schedule Format

The following format shall be used for item-wise TOC calculation and evaluation.

Sr.	Description of Goods	Qty.	Quoted Unit Price Excl. GST, Q (PKR, FCS Basis)	Guaranteed Iron Losses, I (W)	Guaranteed Copper Losses, C (W)	K1 (PKR/W)	K2 (PKR/W)	Unit TOC = $Q + (K1 \times I) + (K2 \times C)$	Total Evaluated TOC = Qty. x Unit TOC	GST on Quoted Price
1	[Transformer rating and description]	[Qty.]	[Q]	[I]	[C]	299.948	145.299	[Calculated Unit TOC]	[Calculated Total Evaluated TOC]	[GST % / amount]

7. Worked Example

Assume the following quoted and guaranteed values for a 25 kVA, 11/0.4 kV transformer:

Description	Value
Quoted Unit Price excluding GST, Q	PKR 250,000
Quantity	90 units
Guaranteed Iron Losses / No-Load Losses, I	140 W
Guaranteed Copper Losses / Load Losses, C	936 W
Step 1: Unit TOC	$250,000 + (299.948 \times 140) + (145.299 \times 936)$
Step 2: Unit TOC	$250,000 + 41,992.72 + 135,999.864 = \text{PKR } 427,992.584$
Step 3: Total Evaluated TOC	$90 \times 427,992.584$
Total Evaluated TOC Price	PKR 38,519,332.56

Filling of Form for Calculation of TOC

Sr.	Description of Goods	Qty.	Quoted Unit Price Excl. GST, Q (PKR, FCS Basis)	Guaranteed Iron Losses, I (W)	Guaranteed Copper Losses, C (W)	K1 (PKR/W)	K2 (PKR/W)	Unit TOC = $Q + (K1 \times I) + (K2 \times C)$	Total Evaluated TOC = Qty. x Unit TOC	GST on Quoted Price
1	25 kVA, 11/0.4 kV Transformer	90	250,000	140	936	299.948	145.299	427,992.584	38,519,332.56	18%

8. Evaluation and Basis of Award

- i. The financial comparison shall be made on the basis of the Total Evaluated TOC and not merely on the quoted unit price.
- ii. The bidder with the lowest Total Evaluated TOC, after being determined eligible, technically compliant, commercially compliant, and substantially responsive, shall be considered for award as the Most Advantageous Bidder, subject to approval of the competent authority and completion of all procurement formalities.
- iii. No evaluation criterion, multiplier, capitalization factor, financial loading, or comparison basis other than those expressly stated in the bidding document shall be used for TOC-based financial evaluation.
- iv. The TOC is for evaluation and ranking only. Contractual payment shall be made on the basis of the accepted quoted unit price, plus applicable taxes, duties, and other payable amounts in accordance with the contract.

9. Guaranteed Losses, Testing, and Supporting Documents

- i. The guaranteed iron losses and copper losses quoted by the bidder shall be firm, binding, and shall form part of the accepted bid and contract documents.
- ii. The bidder shall quote one firm set of guaranteed loss values for each offered item. Alternative values, conditional values, or ranges of loss values shall not be accepted for evaluation.
- iii. The bidder shall submit documentary proof of the guaranteed iron losses and guaranteed copper losses with the bid, including manufacturer's guaranteed technical data, loss values, test certificates, and other documents required under the technical specification.
- iv. The quoted losses shall be subject to verification during inspection, routine testing, type testing, acceptance testing, or any other testing specified in the technical specification, inspection plan, applicable standard, or contract.
- v. If tested losses exceed the guaranteed losses or the maximum permissible losses specified in the bidding document or applicable technical standard, HESCO may apply the remedies stated in the technical specification and contract, including rejection, replacement, rectification, penalty, price adjustment, or any other contractual remedy, as applicable.

10. Grounds for Non-Responsiveness

A bid may be treated as non-responsive if any of the following occurs:

- i. Q, I, or C is missing, conditional, ambiguous, non-numeric, unverifiable, or inconsistent with the technical bid.
- ii. The bidder changes, qualifies, or refuses to apply K1, K2, the TOC formula, the basis of comparison, or the prescribed price schedule format.
- iii. The bidder fails to submit documentary proof of guaranteed losses with the bid.
- iv. The offered transformer does not comply with the applicable technical specification, prescribed loss limits, testing requirements, or guaranteed technical data requirements.

PRICE SCHEDULE FORM

Sr.	Description of Goods	Qty. Nos.	Quoted Unit Price Excl. GST (Q) (PKR, FCS Basis)	Guaranteed Iron Losses (I) W	Guaranteed Copper Losses (C) W	K1 PKR/W	K2 PKR/W	Unit TOC = $Q+(K1 \times I)+(K2 \times C)$	Total Evaluated TOC = Qty x Unit TOC (Col: 9 x 3)	GST Amount on Quoted Price
1	100 KVA Distribution Transformer	570				299.948	145.299			

Name

In the Capacity of

Signature of Bidder

Duly authorized to sign the Bid for and on behalf of Dated on

Stamp & Signature of Bidder
