

Annexure – 1.3 R



MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY

“DESIGN, MANUFACTURE, SUPPLY, INSTALLATION, INTEGRATION, TESTING AND COMMISSIONING OF 220 kV RECEIVING SUBSTATION INCLUDING 220 kV, 33kV & 25kV CABLING WORK, COMPLETE 25kV OVERHEAD CATENARY SYSTEM ALONGWITH SWITCHING STATION, 33kV AUXILIARY POWER DISTRIBUTION SYSTEM INCLUDING 33/0.415 kV AUXILIARY SUB-STATION (ASS) AND COMPLETE SCADA SYSTEM, ELECTRICAL AND MECHANICAL WORKS, LIFT & ESCALATOR WORKS FOR PART OF MAIN LINE, STATIONS & KASHELI DEPOT OF MUMBAI METRO RAIL LINE 5 PROJECT OF MMRDA INCLUDING 5 YEARS OF COMPREHENSIVE MAINTENANCE AFTER 2 YEARS OF DEFECT LIABILITY AND MAINTENANCE PERIOD.”

IOCT NO: PST-E&M-L&E /CA-239

TENDER DOCUMENTS

PART- I BIDDING PROCEDURES

SECTION - 3

EVALUATION AND QUALIFICATION CRITERIA (EQC)

FEBRUARY 2024

**MUMBAI METROPOLITAN REGION DEVELOPMENT AUTHORITY
Metro PIU, 1st Floor, A-wing, Old Administrative Building, Bandra-
KurlaComplex, Bandra (E), Mumbai –400 051, India**

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BIDDING DOCUMENTS FOR PST/E&M/L&E	
Composition of Documents	
Part I	Bidding Procedure
SECTION 1	Instructions to Tenderers (ITT)
SECTION 2	Tender Data Sheet (TDS)
SECTION 3	Evaluation and Qualification Criteria (EQC)
SECTION 4A	Tender Forms (TFQ) for Qualification
SECTION 4B	Tender Forms (TFT) for Technical Proposal
SECTION 4C	Pricing Documents
SECTION 5	Eligible Countries (ELC)
SECTION 5A	Prohibited Practices
Part II	Employer's Requirements
SECTION 6A	General Specifications for PST, E&M, L&E
SECTION 6B	B1-Scope of work for PST
	B2-Technical Specifications for PST
SECTION 6C	C1 - Technical Specifications-Design Scope of work (E&M)
	C2 - Technical Specifications-Design Specification (E&M)
	C3 - Technical Specifications-Construction Specification (E&M)
SECTION 6D	D1 - Technical Specifications-L&E (Elevators)
	D2 - Technical Specifications-L&E (Escalators)
SECTION 6E	Not Used
Supplementary Information to Section 6	
SECTION 6F	(i) Drawings for PST
	(ii) GFC Station Architectural Drawings
	(iii) Depot Architectural Drawings
	(iv) Stations SEM Drawings
	(v) Stations E&M Drawings
SECTION 6G	Supporting Documents (MRGR 2020, Harmonized Guidelines for persons with disability, (SOD) Schedule of Dimensions)
SECTION 6H	Certification
SECTION 6I	Change Order
SECTION 6J	J1-Interface Management Plan
	J2-Interface Matrix (Internal and External)
	J3-Interface Matrix for Maintenance Service
SECTION 6 K	Employers Requirements Maintenance Services
SECTION 6L	Specifications for Environmental, Social, Health and Safety Management (ESHS)
SECTION 6M	Project Information Sheet
Part III	Conditions of Contract and Contract Forms
SECTION 7	General Conditions of Contract (GCC)
SECTION 8	Particular Conditions of Contract (PCC)
SECTION 9	Contract Forms (COF)

Section 3. Evaluation and Qualification Criteria

Index

A.	Technical Part.....	5
1.	Qualification	5
1.2	Qualification Criteria	6
2.	Evaluation of Technical Part.....	19
2.1	Technical Evaluation.....	19
2.2	Determination of Technical Score.....	19
2.3	TECHINICAL PART SCORING METHOLOGY	19
2.4	Technical Score	20
B.	Financial Part.....	23

A. Technical Part

1. Qualification

This Qualification criteria contains the financial and experience criteria that a Tenderer must meet and/or demonstrate, and which the Employer shall use to determine whether the Tenderer is qualified to carry out the work.

This is divided as follows

1. Eligibility
2. Historical Contract Non-performance
3. Financial Criteria
4. Technical Criteria
5. Others

The Eligibility and Technical Qualification Criteria are to be read together with the description under Eligibility Experience and Tender Documents. The information to be provided in relation to each requirement and the definitions of the corresponding terms are included in the respective Tenderer Qualification Forms.

For reference project to be eligible for submission in support of the experience requirement, the tenderer shall either have

- Undertaken the project as single entity or
- Undertaken the project as a partner in JV;

1.2 Qualification Criteria

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
Eligibility							
1.1	Nationality	Nationality in accordance with ITT Sub-clause 4.4.	Must meet requirement		Must meet requirement		Forms – 1.1 and 1.2
1.2	Conflict of Interest	No conflicts of interest in accordance with ITT Sub-clause 4.2.	Must meet requirement		Must meet requirement		Qualification Eligibility Form 1.4
1.3	Bank Eligibility	Not having been declared ineligible by the Bank as per ITT 4.5.	Must meet requirement		Must meet requirement	-	
1.4	State-Owned Enterprise or Institution of the Recipient country	Meet conditions of ITB 4.6	must meet requirement	must meet requirement	must meet requirement	not applicable	-
1.5	United Nations resolution or Recipient's country law	Not having been excluded as a result of prohibition in the Recipient's country laws or official regulations with the Tenderer's country, or by an act of compliance with UN Security	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Tender - Technical Part, Section 4A

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		Council resolution, both in accordance with ITB 4.8 and Section 5A					
Historical Contract Non-Performance							
2.1	History of Non-Performing Contracts	Non-performance or of a contract ¹ did not occur as a result of contractor default since January 1, 2019.	Must meet requirement	Must meet requirement	Must meet requirement ²		Form – 2 Historical Contract Non-Performance
	<p>¹ Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Employers decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e., dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Tenderer have been exhausted.</p> <p>² This requirement also applies to contracts executed by the Tenderer as JV member</p>						

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
2.2	Suspension Based on Execution of Tender Securing Declaration by the Employer	Securing Declaration pursuant to ITT 4.7 and ITT 19.	Must meet requirement		Must meet requirement		Qualification Eligibility Form 1.4
2.3	Pending Litigation	Tenderer's financial position and prospective long-term profitability is still sound. All pending litigation will be resolved against the Tenderer to be certified by the bidder.	Must meet requirement	N/A	Must meet requirement	N/A	
3. Financial Eligibility Criteria:							
3.1	Average Annual Turnover	Average Annual Turnover: The average annual turnover of last FIVE financial years shall not be less than <u>INR 3795 Million</u> (Equivalent in freely convertible currencies).	Must meet requirement			Lead Member must meet requirement	Form – 3.2 (Annexure – 1.4R of Addendum 2)

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		A price adjustment can be applied to Annual Turnover notes sr. no. 4).					
3.2	Profitability	Profit after Tax should be Positive for “ Any Three Years ” out of last five consecutive financial years. The profit shall not be negative for last two consecutive financial years.	Must meet requirement		Must meet requirement		Form – 3.1 (Annexure – 1.4R of Addendum 2)
3.3	Financial Resources	The Tenderer must demonstrate access to, or availability of, financial resources such as liquid assets or lines of credit Or Working Capital other than any contractual advance payments net of current commitments to meet cash-flow requirement of INR. 1139 Million.	Must meet requirement		Must meet requirement as per member share in JV		Forms – 3.3a, 3.3b, 3.3c and 3.3d (Annexure – 1.4R of Addendum 2)

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
3.4	Net worth	The net worth of the bidder should be at least INR 569 Million in last audited financial year.	Must meet requirement		Must meet requirement as per member share in JV		Forms – 3.1, 3.3a and Form - 3.3b (Annexure – 1.4R of Addendum 2)
3.5	Available Bid Capacity (ABC)	ABC to be greater than INR 3795 Million	Must meet requirement			Lead Member must meet the requirement	Form –3.4 (Annexure – 1.4R of Addendum 2)
		$ABC = 2 \times A \times N - B$ where					
		A = Average Annual Turnover for last FIVE Financial Years;					
		N = Number of years prescribed for completion of the Design & Build Period					
		B = Value of existing commitments and on-going works to be executed during the Design & Build Period					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
4. Technical Criteria (Refer Note 1 in case of Project executed in foreign currency)							
4.1	General Experience -	Experience under the Construction projects in the role of Individual contractor/ lead member of JV/ as JV Member for at least last 10 years from the date of submission of bid.	Must meet requirement			Lead Member meet requirement	Form – 4.1 & 4.2 (Annexure 1.11 of Addendum 1) and RPC 1
		• At least ONE Similar work [#] satisfactorily and substantially completed ⁷ of minimum value <u>INR 3036 Million</u>					
		OR					
		• At least TWO Similar works [#] satisfactorily and substantially completed ⁷ of minimum value INR 1898 <u>Million</u> each					
		OR					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		<ul style="list-style-type: none"> At least THREE Similar works[#] satisfactorily and substantially completed⁷ of minimum value <u>INR 1518 Million each</u> 					
		<p>Notes for General Experience</p> <p>i) An escalation can be applied to General Experience from the date of completion certificate to arrive at the updated value (refer table below notes Sr.no.4).</p> <p>ii) Multiple work Packages/ contracts awarded by the same Employer within the same municipal limits in a single year will be treated as a single work.</p> <p>iii) #Similar Work: For a project to qualify as an Eligible Project under General Experience, it shall be Electrical/</p>					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		Electro-mechanical work 25 KV for Metro, Railway, Sub-urban EMUs, MEMU, Power infrastructure project anywhere in the world					
		AND					
4.2 (A)	(i) Specific Experience in Key activities – Supply, installation, and commissioning	Bidder shall have satisfactorily and substantially completed ⁷ OHE work for 25KV and above for the Traction Power Supply for Metro Rail/ Suburban Rail/ Mainline Railway / Railway Electrification / Power infrastructure Project during last 10 years from the date of submission of bid.	Must meet requirement			Lead Member meet requirement	Form –4.2 (Annexure 1.11 of Addendum 1) & RPC 1
		i) ONE project with OHE route length of 11 Route-Km in a single project					
		OR					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		ii) TWO projects with OHE route length of 7 Route-Km each in TWO projects					
		OR					
		iii) THREE projects with OHE route length of 6 Route-Km each in THREE projects					
		AND					
4.2 (B)	Specific Experience in Key activities – Mechanical and Electrical Works including Fire Detection and Alarm System	Bidder should have Experience of satisfactory and substantially completed ⁷ Mechanical and Electrical Works including Fire Detection and Alarm System for Stations of Metro Rail/ Suburban Rail/ Mainline Railway during last 10 years from date of submission of bid.	Must meet requirement			Any one partner must meet the requirement	Form – 4.2 (Annexure 1.11 of Addendum 1) RPC 1
		i) ONE project with at least 5 stations in a single project					

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		OR					
		ii) TWO projects with at least 4 stations in each project					
		OR					
		iii) THREE projects with at least 3 stations in each project.					
5	Others						
5.1	Design Engineering and integration	Provide proposed organization structure for undertaking the project and CV's of key staff members or Collateral Warranty of Consultant(s).	Must meet requirement	Must meet requirement			Form 5.1 for Collateral Warranty to be provided after issue of LOA
5.2	Collateral Warranty of Critical equipment with proven experience*	i) Escalators ii) Elevators iii) Fire Detection & suppression System iv) SCADA System v) Diesel Generator vi) Sub-station Equipment	Must meet requirement	Must meet requirement			Form 5.2A MoU to be provided from OEM (Annexure – 1.8 of Addendum 1) 1) Form 5.2 for Collateral Warranty

Sr. No	Subject	Requirements	Single Entity	Joint Venture			Submission Requirements
				All Parties Combined	Each Party	One Party	
		vii) Building Management System					to be provided from OEM after issue of LOA
5.3	Comprehensive Maintenance Undertaking	The Bidder and the OEM of the Critical Equipment listed above in Sr. no 5.2 shall give and undertaking for Comprehensive maintenance till end of the contract	Must meet requirement	Must meet requirement			Form 5.2A MoU to be provided from OEM Form 5.2 for Collateral Warranty to be provided from OEM after issue of LOA

Notes:

1. In case if project is executed and valued in foreign currencies, the project value shall be calculated at the RBI / SBI TT Selling Rate published by the Reserve Bank of India / State Bank of India on the date of project completion as mentioned in the project completion certificate

Example:

Work completed of USD 1,000,000 on 31st October 2022 (Date and Amount as per completion certificate issued by the employer).

Considering the conversation rate of 1 USD = 82.39 INR (RBI rate on 31st October 2022).

Value of work in INR = 1,000,000 X 82.39 = 8,23,90,000 INR (INR 8.24 Crs.)

Escalation factor to be applied as 1.04 for foreign currency Calendar Year 22 (CY 22) as per escalation table below

Value of work after escalation = 8,23,90,000 X 1.04 = 8,56,85,600 INR (INR 8.57 Crs.)

2. If the Bidder/ OEM doesn't have design experience, then Design consultant can be appointed with experience of at least two (2) Metro Railway Projects and collateral warranty for Design Consultant shall be submitted.
3. *Proven Experience means: Design, Manufacture, Supply, Installation, Integration, Testing and commissioning experience for the System/ Sub-system/ equipment in similar type of works in at least two projects of Metro Railway/ High-speed Rail/ MRT/ EMU/ MEMU/ LRT anywhere in the world and shall be in satisfactory operation as on date of submission of bid.

The necessary documents duly signed by the Employer shall be part of Tender submission. Without documentary evidence of experience, the bid may be rejected.

3 (a). Deleted

3 (b). Undertaking and MoU of Collateral warranties shall be submitted by the OEMs in case the sub-systems as mentioned in clause 5.2 above are not manufactured by the Bidder.

4. An escalation rate per annum may be applied to the Annual Turnover & Sr. No. 04 Technical Criteria as per below table-

Financial Year	INR	Foreign currency
FY 2014-15	1.999	1.423
FY 2015-16	1.851	1.369
FY 2016-17	1.714	1.316
FY 2017-18	1.587	1.265
FY 2018-19	1.469	1.217

FY 2019-20	1.360	1.170
FY 2020-21	1.260	1.125
FY 2021-22	1.166	1.082
FY 2022-23	1.080	1.040
FY 2022-23	1	1.00

5. "Form 5.2A MoU to be provided from OEM" will be converted to Collateral Warranties after issue of LOA.
6. The Bidder may submit multiple MoU's with OEM of Critical Equipment listed in Sr.5.2
7. Substantially Completion means 80% or more Financial Progress (certified by Chartered accountant/ Auditor) of the works satisfactorily completed.

2. Evaluation of Technical Part

2.1 Technical Evaluation

As per ITT 31, relevant factors have been considered to arrive at technical score forevaluation:

-

2.2 Determination of Technical Score.

The E-Tender Submissions will be evaluated against the technical merit criteria set out in the Tender Data Sheet of this ITT in consideration of the information provided in accordance with Section 4B.

The Employer will assess responsiveness of each tender against the Technical criteria presented in clause 2.4 Technical Score below. The total marks for evaluation will be 100 marks. Out of these 100 marks. Minimum marks for the qualifying technical criteria shall be 75 out of 100.

As a result of the Technical evaluation, the Bids which are Technically responsive shall be short listed. The 'Price Bids of the technically responsive bidders only shall be opened on the date of opening of Price Bids to be informed to all Technically responsive Bidders. Conditional bids shall not be accepted and shall be rejected outright.

2.3 TECHNICAL PART SCORING METHODOLOGY

To Evaluate with respect to overall score given to Technical factors as Specified in BDS ITB 31.2

Score (of the total score for the factor/subfactor as applicable)	Description	Remarks
0 %	Required feature is absent; no relevant information to demonstrate how the requirement is met	
25 %	Required feature is present with deficiencies such as insufficient or information that lacks	

Score (of the total score for the factor/subfactor as applicable)	Description	Remarks
	clarity	
50 %	Sufficient information to demonstrate how the requirement will be met	
75 %	Sufficient information to demonstrate that the requirement will be marginally exceeded	
100 %	Sufficient information that significantly exceed the requirement/proposal contributes to significant value addition	

2.4 Technical Score

Item	Description	Form Number	Marks
1	Bidders Technical Proposal -		24
1.1	Site Organization	BTP-1	2
1.1.1	Minimum Key Personnel (Design Build)	BTP-1A	1.5
1.1.2	Minimum Key Personnel (CMP)	BTP-1B	0.5
1.2	Form PER - 1 Proposed Personnel	BTP-2	4
1.2.1	Form PER – 2: Resume of Proposed Personnel	BTP-2	3
1.2.2	Form PER - 3: Details of Proposed Design Consultant	BTP-2	1
1.3	Outline Quality Plan	BTP-3	2
1.4	Method Of Statement	BTP-4	2
1.5	Requirements For Proposed Design Submission Programme And Project Management	BTP-5	2
1.6	Environmental, Social, Health And Safety Methodology	BTP-6	2
1.7	Outline Works Plan	BTP-7	2
1.8	Contractor's Equipment	BTP-8	2
1.9.1	Proposed Subcontractors And/Or Manufacturers For Major Items Of Plant And Services	BTP-9.1	1
1.9.2	Proposals For Equipment's / Sub-Systems To Be Manufactured /Subcontracted In India	BTP-9.2	1
1.10	Maintenance Services (Defect Liability Maintenance Period	BTP-10.1	2
1.11	Maintenance Services (Comprehensive Maintenance)	BTP-10.2	2

2	Technical Information		76
2.1	Technical Information for PST	BTP-12A	49
2.1.2	Auxiliary Transformers (Dry Type)	BTP-12A-01	3
2.1.3	220kV GIS		5
2.1.4	220kVCABLES (800sq.mm. Aluminium)		3
2.1.5	33 and 25 kV CABLES		3
2.1.6	33 kV GIS CRICUIT BREAKER		4
2.1.7	25 kV GIS CRICUIT BREAKER		4
2.1.8	Complete OCS System (Conductors, masts, cantilevers etc) and SWITCHING STATIONS (Interrupter, isolator, LA etc)		8
2.1.9	Traction Simulation and Earthing & Bonding study		3
2.1.10	Complete SCADA System		4
2.1.11	Civil works Design for RSS		7
2.1.12	Functional Guarantee of the Proposed Facilities (PST)	BTP-14	5
2.2	Technical Information for E&M- Station & Depot	BTP-12B	19
2.2.1	Technical Information for Electrical System	BTP-12B-01	
i	MV Switchgear and Panels		2
ii	Distribution Boards		0.5
iii	MV Cabling & Bus Duct		1
iv	Conduit & Cable Tray Along with Wiring		1
v	Indoor Lighting, Lighting Control and Fans		1
vi	Earthing		1
vii	Lightning Protection		1
viii	External Lighting		0.5
ix	UPS system		1
x	EOT Crane		1
2.2.2	Technical Information for Ventilation and Air Conditioning System	BTP-12B-02	2
2.2.3	Technical Information for Fire Protection, Fire alarm & Suppression System	BTP-12B-03	
i	Fire Detection & Alarm System		1
ii	Fire Hydrant System		1
iii	Piping for Fire Fighting System		0.25
iv	Sprinkler System		0.25
v	Portable Fire Extinguishers		0.25
vi	Panel Flooding System		0.5
vii	Total Flooding System		0.5
viii	Miscellaneous Fire Services Equipment		0.25
ix	Compressed Air system		1
2.2.4	Technical Information for Building Management System	BTP-12B-04	1.5
2.2.5	Technical Information for Plumbing system	BTP-12B-05	0.5
2.3	Technical Information for Elevator		3
2.3.a	Design Life		1

2.3.b	Main Drive Motor	BTP-12C	0.5
2.3.c	Brake		0.25
2.3.d	Car & Car Finish		0.25
2.3.e	Door		0.25
2.3.f	Hall Call Buttons		0.25
2.3.g	Control Systems		0.5
2.3.h	Safety Features		0.5
2.4	Technical Information for Escalator	BTP-12D	4
2.4.a	Design Life		1
2.4.b	Main Drive Motor		0.5
2.4.c	Brake		0.25
2.4.d	Step		0.5
2.4.e	Control Systems		1
2.4.f	Handrail & Handrail Drive System		0.25
2.4.g	Safety Features		0.5
3.0	Form of Bid	Form-14	1
Total			100

B. Financial Part**1. Provision for Development of Domestic Industry (ITT 39)**

Not Applicable

2. Evaluation of Financial Part (ITT 40)**Comparison of Bids-**

The Employer shall compare all substantially responsive Bids to determine the **Lowest evaluated Bid**, in accordance with the ITT Clause 40.

Evaluation of Price Bid will be based on :

1. Total Lumpsum Bid Price
2. Cost Loading for Transformer Losses

The Employer shall compare all substantially responsive Bids to determine the lowest evaluated Bid and Transformer losses, in accordance with the ITT Clause 40.

Evaluation of Price Bid will be based on:

- a) Cost loading will be done based on above formula during evaluation for the difference in the values quoted by different bidders. In case, the bidder does not provide any value against specified functional guarantees of losses for oil type transformer, in the section 4C – Price schedule B1, then maximum permitted transformer losses @0.5% will be considered for Financial Evaluation.
- b) Transformer not complying to the assured losses, will not be accepted Bidder is required to submit Transformer losses as per table below in Section 4C which shall be used for evaluation

No-load Iron Losses and Full Load Copper losses for Oil Filled Transformers				
Transformer	Quantity	Maximum permitted Total Losses* (including Iron and Copper Loss) in KW/%	Quoted by Bidder in Section 4 C	
			No Load Iron Loss (Kilo Watt) / Transformer Wir	Full Load Copper Losses (Kilo watts) / Transformer Wcu
220/27.5 kV 40/50 MVA ONAN/ ONAF	2	0.5%		
220/33 kV 15/20 MVA ONAN/ONAF	2	0.5%		

* Maximum Permitted Losses will be at PF of 0.8.

- a) E-submission in accordance with the ITT Clause 40.
- b) Transformer losses during Design Build Period and Operation and Maintenance

Period:

Capitalized cost of Traction & Auxiliary Transformer (at RSS) Losses shall be calculated as per following:

$$PW = K \cdot 365 \cdot 24 \cdot C (Wir + b^2 Wcu) / 1000$$

Where:

PW = Present worth (in INR) of annual capitalized cost of losses at 8% rate of interest over 25 years

K = (Present worth factor (8% interest, 25 years))
 $= \{((1+0.08)^{25}-1)/\{0.08*((1+0.08)^{25})\}\}$
 $= 10.675$

C = Cost of the kWh (in Indian Rupees) = Rs. 7.53

Wir = Iron losses in Watts at normal voltage and main tapping

Wcu = Full load copper losses in Watts at normal voltage and main tapping at 5°C

b = load factor of transformer = 50%

The sum of Lumpsum Bid Price and cost loading due to Transformer Losses will be considered for Evaluation of the Tenders

Sample Calculation

Loading of Transformer Losses		
110/27.5kV 40/50 MVA Copper Loss (for 1 Transformer) Wcu	KW	128
110/27.5kV 40/50 MVA Iron Loss (for 1 Transformer) Wir	KW	15

Present worth (in INR) of annual capitalized cost of losses over 25 years for 110/27.5 kV 40/50MVA Traction Transformer		
Description	Unit	
Load Loss (Guaranteed) Wcu	kW	128
No load Loss (Guaranteed) Wir	kW	15
Total Loss	kW	143
Maximum Total Loss Allowed	KW	160
Load Factor		0.50
Duration	years	25

Interest	%	8
Cost of the Energy (C)	kWh	7.53
Worth Factor (k)		10.675
Present worth of annual capitalized cost of losses (for 1 Transformer)	INR	3,30,94,492
Total (INR) (for 4 Transformer)	INR	13,23,77,968

Transformer losses will be filled based on the earlier type test reports of similar ranges submitted in other completed projects by the bidder/proposed OEM. In case such test reports for similar ranges are not available, the bidder/ OEM will furnish supporting design calculations for the transformer losses based on IEC/ IEEE/ RDSO standards/ OEM calculation (supporting documents). If the Transformer Losses quoted by the bidder is abnormally low, in the opinion of the Employer, the Employer may seek further clarification by ITT 28.

The sum of Lumpsum Bid Price and cost loading due to Transformer Losses will be considered for Evaluation of the Tenders.