SI. N o.	Clause Ref.	Clause Content	Modified/Amended Clause
1	Clause 1.1, i, Annexur e-I to Section- III of RfP Docume nt	The Bidder must have experience in providing consultancy services* as Independent Engineer/ Lender's Engineer/ Project Management Consultant for minimum one (01) no. of 220kV or above completed Transmission Line of line length 25 kms or above during last 10 years	
	Clause 1.2, b), Annexur e-I to Section- III of RfP Docume nt	Transmission Line expert: Graduate in Electrical Engineering having at least 5 years' experience in EHV transmission line projects and have worked in at least two (2) assignments for 345kV or above transmission line projects.	Deleted.
	Clause 1.2, e), Annexur e-I to Section- III of RfP Docume nt	Field Engineer (Transmission Line): Graduate/ Diploma in Electrical/ Civil Engineering having at least 2 years' experience in construction of EHV transmission line projects.	Deleted.
	Clause 2.0, Annexur e-I to Section- III of RfP	Technical Evaluation Criteria through QCBS Methodology: Only those Bidders who meet the minimum qualification criteria specified above shall qualify for evaluation through QCBS methodology. Minimum Technical Score shall be Seventy (70) for qualifying in further evaluation process. The Proposal of the bidder(s) whose Technical Score is less	Technical Evaluation Criteria through QCBS Methodology: Only those Bidders who meet the minimum qualification criteria specified above shall qualify for evaluation through QCBS methodology. Minimum Technical Score shall be Seventy (70) for qualifying in further evaluation process. The Proposal

SI. N o.	N Ref.						Modi	fied/Amended	l Clause				
	Docume nt	than	than 70 shall not be considered for further evaluation					of the bidder(s) whose Technical Score is less than shall not be considered for further evaluation					
		SI. No	Criteria		Scoring Criteria			SI. No	Criteria		Scoring Criteria		
		2	 Relevant F	xperience o	 f Consu	ltancy		l 					
		_	Firm (during last originally opening)	st 10 year scheduled	s as oi date o	n the f bid		2	Relevant Ex Firm (during last originally	-	of Consu	n the	
			Experience as Project Manageme nt Consultant/	One (01) number Two (02) number	15 mark s 18 mark			opening) Experience as Project Managemen t Consultant/					
			Independen t Engineer/ Lender's Engineer in		S Three (03) or	20 mark			Independent Engineer/	220kV or above Substati	One (01) number	30 mark s	
			constructio n of Transmissio	more number s	S		Engineer in construction of		Two (02) number	36 mark s			
			n projects for	220kV or above Substatio	One (01) number	15 mark s			Transmissio n projects for		Three (03) or	40 mark	
				n	Two (02) number	18 mark s					more number s	S	

SI. N	Clause Ref.	Clau	se Content					Modified/Amended Clause					
				S			3	Key personnel					
				Three (03) or	20 mark			Qualification and relevant Experience					
				more number s	S		Α	Team Leader cum Project Manager					
		3	Key personnel Qualification and relevant Experience					Graduate Engineer (Electrical/	08 years or more	15 mark			
		A	Team Leader cum Project Manager					Mechanical/Civil) having experience in relevant work as per clause 1.2 (a) above.	but less than 12 years	S			
			Graduate Engineer (Electrical/ Mechanical/Civil) having experience in relevant work as per clause 1.2	years or more	10 mark s				12 years or more but less than 16 years	18 mark s			
			(a) above.	than 12 years 12	12				16 years and more	20 mark s			
				years	mark		В	Deleted					
				or	s		С	Substation Expert					
				more but less than 16 years				Graduate Engineer (Electrical) having experience in relevant work as per clause 1.2	05 years or more but less than 08	10 mark s			
				16	15	1		(c) above.	years				
				years	mark				08 years	12			
				and	S				or more	mark			
				more					but less	S			

SI. N o.	Clause Ref.	Clause Content			Modified/Amended Clause					
0.		В	Transmission line Expert						than 12	
			Graduate Engineer	05	8				years	
			(Electrical) having experience in relevant work as per clause 1.2 (b) above.	years or more but less than 08	mark s				12 years and more	15 mark s
				years 08	9		D	Field Expert (Substation)		
				years or more but less than 12	mark s			Graduate/Diploma Engineer (Electrical/Civil) having experience in relevant	02 years but less than 04 years	mark s
				years 12 years	10 mark			work as per clause 1.2 (c) above	04 years but less than 06	mark
				and more	S				years 06 years and	mark
		С	Substation Expert				E	Deleted	more	S
			Graduate Engineer	05	8 .		- -			
			(Electrical) having experience in relevant work as per clause 1.2 (c) above.	years or more but less than 08 years 08 years	mark s					

SI. N o.	Clause Ref.	Claus	se Content			Modified/Amended Clause
				or more but less than 12 years	10	
				years and more	mark s	
		D	Field Expert (Substation)			
			Graduate/Diploma Engineer (Electrical/Civil) having experience in relevant work as per clause 1.2	years but less than 04 years	6 mark s	ξ
			(c) above	years but less than 06 years	8 mark s	
				06 years and more	10 mark s	
		E	Field Expert (Transmission Line)			
			Graduate/Diploma Engineer (Electrical/Civil) having	02 years but less	3 mark s	

SI. N o.	Clause Ref.	Clause Content Modified/Amend	led Clause
		experience in relevant work as per clause 1.2 (e) above 04	
2.	Clause 4.1, Section- II-ToR, RfP Docume nt	4.1 Transmission Line Independent Engineer shall check in accordance with the provisions of RfP (for TBCB projects): 1. Selection of tower type and other relevant design parameters, reliability level, K4 factor for cyclone prone areas, maintenance of clearances level etc. has been as per regulations/ specifications. 2. Design of tower has been prototype tested as per relevant standards. 3. Applicability of multicircuit towers in line passing through forest areas as per provisions of RfP and regulations/ specifications. 4. Detailed specifications of conductor meeting the functional specifications specified in RFP. 5. Detailed specifications of Transmission line equipment (i.e. insulator, earthwire, OPGW, associated accessories, hardware fittings, aviation lights etc) with respect to the regulations/standards and specifications	

SI. N o.	Clause Ref.	Clause Content	Modified/Amended Clause
		mentioned in RfP document by going through GTP, drawings & test reports provided by TSP.	
3.	Clause 4.3, Section- II-ToR, RfP Docume nt	 4.3 Quality & Construction Monitoring • Transmission line towers/poles, Conductors, earthwire, OPGW, insulator, associated accessories, hardware fittings for insulators, aviation lights etc 5. The Independent Engineer shall verify that the Tower types installed for crossing power lines, railways, national highways and state highways by TSP has been in accordance with the RfP. Further, IE shall also verify compliance to rules/regulations of railways and other relevant Highway authorities for crossings of power lines, railways, national highways and state highways. 6. Independent Engineer shall ensure conformity of the conductor specifications with the functional specifications specified in RFP. 	Deleted
4.	Clause 7.3,	7.3 Documentation	7.3 Documentation

SI. N o.	Clause Ref.	Clause Content		Modified/Amended Clause		
	Section- II-ToR, RfP Docume nt	drawing of substation Earthmat layout SAS Architecture Bus bar protection sch Fire Protection system LT Switchgear layout Foundation & cable tr Route survey of Trans Type & number of	ation land. ment & Electrical layout meme n layout ench layout mission line f Towers finalized for ncluding river, railway,	The Independent Engineer shall provide to Employer soft copies of the following documents/ details, as and when finalized by TSP: Co-ordinates of substation land. SLD, General Arrangement & Electrical layout drawing of substation Earthmat layout SAS Architecture Bus bar protection scheme Fire Protection system layout LT Switchgear layout Foundation & cable trench layout		
5.	Clause no. 5 of Section- IV, SCC,	Supplement Clause 11.1 of Cwith the following: Amount of Proposal Security:		Contract with the following: Amount of Proposal Security:		
	Rfp Docume nts	Package Name Appointment of Independent	Proposal Security Amount	Package Name	Proposal Security Amount	
		Engineer for Transmission system under "Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park". Spec. No. CTUIL/IE/2023-24/10	Appointment of Independent Engineer for Transmission system under "Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park".	INR 1,10,000/-		

SI. N o.	Clause Ref.					Modified/Amended (Clause		
0.						Spec. No. CTUIL/IE/20	23-24/10		
6.	Indicativ e Price	1. Remuneration	for Key		Prices are in INR	1. Remuneration for Key Personnel All Prices are in II			
	Schedule , Section- V, Rfp Docume nts	Position	No. of Month s	Rate/ month (excl. GST)	Total Amount	Position	No. of Mont hs	Rate/ month (excl. GST)	Total Amou nt
		Project Management	19	331,		Project Management Expert/Team Leader	19		
		Expert/Team Leader				Substation Expert	19		
		Substation Expert	19			Field Engineer	19		
		Transmission Line Expert	19			(Substation Construction)			
		Field Engineer (Substation Construction)	19			Total HSN/SAC Code GST Rate (in %)			
		Field Engineer (Transmission Line)	19			GST Value (In INR) Grand Total incl. GST			
		Total							
		HSN/SAC Code							
		GST Rate (in %)							
		GST Value (In INR)							
		Grand Total incl. GST							
7.		the amendment ment exure-I to Section-III				nexure-I to Section-I	II_QR_re	/1 " is herek	by replaced

SI.	I. Clause Clause Content Ref.		Modified/Amended Clause			
N	Ref.					
0.						
8.	In view of	the amendment mentioned at SI. no. 2,3,4 above, existing	"Section-II Terms of Reference" is hereby replaced			
		tion-II Terms of Reference (ToR) Rev1" and attached here				
9.	In view of	the amendment mentioned at SI. no. 6 above, existing "Price	e Schedule-Section-V" is hereby replaced with "Price			
3.		e-Section-V Rev1" and attached herewith.	a selledule section v is hereby replaced with Tilee			
	Schedule	e-Section-V Revi and attached herewith.				
10	In view o	of above amendments, existing "FORM-3", "FORM-4" and	d "Attachment-10_Rev1" are hereby replaced with			
	"FORM-3	Rev1". "FORM-4 Rev1" and "Attachment-10 Rev2 "atta	ched herewith.			

Minimum Qualification Criteria for Appointment of Independent Engineer for "Establishment of Khavda Pooling Station-2 (KPS2) in Khavda RE Park". Spec. No. CTUIL/IE/2023-24/10".

Bidder must read the minimum Qualification criteria provided herein, Proposals of only those bidders who satisfy the minimum qualification will be considered for further evaluation using QCBS methodology. The proposal shall be submitted by an individual firm and not a JV/Consortium. Employer reserves the right to waive minor deviations if they do not materially affect the capability of the Bidder to perform the contract.

1.1 <u>Technical Experience of firm:</u>

Bidder must meet the following minimum criteria as on the originally scheduled date of bid opening i.e. 04.05.2023

i. The Bidder must have experience in providing consultancy services* as Independent Engineer/ Lender's Engineer/ Project Management Consultant for minimum one (01) no. of 220kV or above completed Substation* having atleast one (01) no. 220kV or above class ICT during last 10 years.

Note:

- * Consultancy services means services provided for review of engineering design/drawings & supervision of construction works.
- # Substation mentioned anywhere in this document shall mean Substation / Switchyard / Gas Insulated Substation (GIS)/ Air Insulated Substation (AIS).

In case bidder is a holding company, the technical experience referred to in clause 1.1 above shall be of that holding company only (i.e. excluding its subsidiary / group companies). In case bidder is a subsidiary of a holding company, the technical experience referred to in clause 1.1 above shall be of that subsidiary company only (i.e. excluding its holding company).

1.2 Condition of Eligibility of Key Personnel:

The bidder must provide following key experts with qualifications and competence for the Assignment as mentioned below:

- a) Project Management expert/Team Leader: Graduate in Electrical/ Mechanical / Civil Engineering having at least 8 years' experience in EHV transmission projects and have worked in at least two (2) assignments for 345kV or above transmission project as team leader/Project Manager.
- **b) Substation expert**: Graduate in Electrical Engineering having at least 5 years' experience in EHV transmission substation projects and have worked in at least two (2) assignments for 345kV or above substation projects.
- c) Field Engineer (Substation): Graduate/Diploma in Electrical/Civil Engineering having at least 2 years' experience in construction of EHV transmission substation projects.

1.3 Financial Position:

- a) Minimum Average Annual Turnover (MAAT)* of the Bidder for last three financial years must be INR 2 (Two) Crores.
 - * Annual gross revenue from operations/gross operating income as incorporated in the profit & loss account excluding other income.
- b) The Bidder shall have received a sum of minimum of INR 1 (One) Crore per annum as professional fees for last 03 (three) financial years. For the avoidance of doubt, professional fees hereunder refer to fees received by the Applicant for providing advisory or consultancy services to its clients and shall not include professional fee for undertaking dispute resolution proceeding before courts, tribunals or arbitrators.
- c) The bidder should have positive net-worth for last three financial years.
- **Note:** In case bidder is a holding company, the financial position referred to in clause 1.3 above shall be of that holding company only (i.e. excluding its subsidiary / group companies). In case bidder is a subsidiary of a holding company, the financial position referred to in clause 1.3 above shall be of that subsidiary company only (i.e. excluding its holding company).
- 1.4 The bidder should be duly incorporated under the relevant laws and should possess ISO 9001 certificate.

- 1.5 The Bidder shall furnish documentary evidence in support of the qualifying requirement stipulated as above.
- **2.0 Technical Evaluation Criteria through QCBS Methodology:** Only those Bidders who meet the minimum qualification criteria specified above shall qualify for evaluation through QCBS methodology. Minimum Technical Score shall be **Seventy (70)** for qualifying in further evaluation process. The Proposal of the bidder(s) whose Technical Score is less than 70 shall not be considered for further evaluation.

SI. No.	Crite	ria	Scoring Crite	eria	Maxi score	Document required	
1	Consultancy Profile	Firm			15		
A	Net Worth		Positive for last Three Financial Years	3 mark	3	Audited annual Financial Statements for last three years	
В	Average annua		Rs. 2-5 Cr	3		Audited	
В	for last three fin	anciai years	Mana Hara Da E	marks		annual Financial	
		erations/gross	More than Rs. 5 Cr. and upto 10 Cr.	4 marks	6	Statements for last	
	operating ind incorporated in loss account exc income		More than 10 Cr	6 marks		three years	
С	l .	professional	Rs. 3 Cr. To 5 Cr.	3	-	Please refer	
	fees for last three (3) financial years. [please refer 1.3 (b) above]	three (3)		marks	6	Note (1)	
		R (h) ahovel	More than Rs. 5	4			
	[picase refer 1.5	(b) above	Cr. and upto 7Cr. More than Rs. 7	marks 6			
			Cr.	marks			
2	Relevant Expe	rience of Co	nsultancy Firm	marks	40		
	_	years as on t	he originally schedu	ıled			
	Experience as Project Management	220kV or above Substation	One (01) number	30 marks	40	Please refer Note (2)	
	Consultant/ Independent Engineer/ Lender's		Two (02) numbers	36 marks	40		
	Engineer in construction of Transmission projects for		Three (03) or more numbers	40 marks			
3		Qualificatio	n and relevant		45		

А	Team Leader cum Project Manager				
	Graduate Engineer (Electrical/ Mechanical/Civil) having experience in relevant work as per clause	08 years or more but less than 12 years		20	Please refer Note (3)
	1.2 (a) above.	12 years or more but less than 16 years			
		16 years and more	20 marks		
В	Substation Expert				
	Graduate Engineer (Electrical) having experience in relevant work as per clause 1.2 (b) above.	05 years or more but less than 08 years		15	Please refer Note (3)
	us per clause 1.2 (b) above.	08 years or more but less than 12 years			
		12 years and more	15 marks		
С	Field Expert (Substation)				
	Graduate/Diploma Engineer (Electrical/Civil) having experience in relevant work	02 years but less than 04 years	6 marks	10	Please refer Note (3)
	as per clause 1.2 (c) above	04 years but less than 06 years	8 marks		
		06 years and more	10 marks		
		Total (Marks)	100	

- Note (1): The bidder shall enclose with its Proposal, certificate(s) as per format provided in Bidding Document from its Statutory Auditors/ Charted Accountant stating its total revenues from professional fees during each of the past three financial years.
- Note (2): The bidder shall submit documents in support of meeting the technical experience in the form of LOA/ Work order & completion certificate/ payment certificate or any other document evidencing the same.
- Note (3): The bidder shall submit CV of the key personnel as per format provided in Bidding Document, along with details of experience and self-attested copies of Qualification certificate & employment proofs.
- Note (4): The same Project Manager, Transmission line Expert & Substation Expert cannot be engaged for more than 4 (four) nos. of active contracts awarded by CTUIL.

TERMS OF REFERENCE (TOR) for Independent Engineer

CONTENTS

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TERMS OF REFERENCE (TOR) FOR INDEPENDENT ENGINEER

1. Introduction & Background

1.1 These Terms of Reference for the Independent Engineer (the "TOR") are being specified pursuant to the Transmission Service Agreement (TSA) entered into between the Employer (the "CTUIL") and Transmission Service Provider (the "TSP") for the transmission project <.....Project Name.....> under Tariff Based Competitive Bidding (TBCB) route.

2. The Independent Engineer (IE)

- 2.1 The Independent Engineer shall be a company registered or incorporated in India as per Companies Act, 2013 or Companies Act, 1956.
- 2.2 The Independent Engineers' team of key personnel will comprise Project Manager, and experts in different disciplines, having requisite experience of similar type of works (as mentioned in clause 8.1) required for the contract. The Independent Engineer will have to deploy only personnel who have the specified relevant qualification and experience.
- 2.3 The Independent Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice. Independent Engineer shall not have any affiliation with any Transmission Service Provider (TSP) undertaking the subject transmission scheme.

3. Objective of the Assignment

3.1 The overall objective of the assignment is to supervise the execution/construction of substations, transmission lines, underground cables, communication systems etc on behalf of the employer (CTUIL) for the transmission projects awarded to the TSP under Tariff Based Competitive Bidding (TBCB) route within the framework of TSA.

3.2 Roles and functions of Independent Engineer

The role and functions of the Independent Engineer shall include the following:

- a) Progress Monitoring
- b) Ensuring Quality
- c) Determining the costs of any works or services and/or their reasonableness during construction phase;
- d) Determining the period or any extension thereof, for performing any duty or obligation during construction phase;
- e) Determining the valuation of the Project Assets.

- f) Assisting the employer in resolution of disputes and determining validity of change in law or force majeure conditions and their effects on the parties (employer, TSP, CEA or any related agency).
- g) Undertaking all other duties and functions in accordance with the Transmission Service Agreement.

4. Scope of Work

4.1 Substation

Independent Engineer shall check in accordance with the provisions of RfP (for TBCB projects):

- 1. SLD & GA prepared by TSP for conformity with the present scope of work as well as future provisions.
- 2. Switching Scheme, Installation type (AIS/GIS/Hybrid/MTS), feeder distribution /bay configuration and ratings of bus-bars/bay equipment of the substation in accordance with the provisions of RfP.
- 3. Detailed specifications of the substation equipment (i.e. Circuit Breakers, Isolators, Instrument Transformers, Surge Arrestors, Protection system, PLCC, Communication equipment, Transformers, Reactors, auxiliaries etc.) installed by TSP with respect to the regulations/standards and specifications mentioned in RfP document by going through GTP, drawings, type test reports provided by TSP.
- 4. Ratings of auxiliary system viz LT Transformers, battery banks, battery chargers, LT switchgear, DG Set, Fire protection system, Visual monitoring system installed by TSP and ensure that selected rating is suitable for the scope of work (present scope & future provisions).
- 5. Coverage/suitability of bus-bar protection and Substation Automation System (SAS) for the complete scope of work (present scope & future provisions).
- 6. Line Gantry/Towers for adjacent future line bay are suitable for extension, wherever applicable.

TSP shall submit copy of GTP, Drawings & Test reports (type, routine, acceptance tests) to the IE as per the bar chart prepared by TSP. The independent Engineer shall review the same and any abnormality, if observed, shall be reported by IE to employer immediately.

4.2 Quality & Construction Monitoring

- 1. The Independent Engineer shall follow up with the TSP to get the approved MQP & FQP submitted after award of contract(s) on priority and maximum within one hundred and twenty (120) days from the Effective Date of TSA.
- 2. The Independent Engineer, through its Field Engineer would check the records maintained by TSP, and verify that the Project is built and completed in good workmanship using sound engineering & construction practices; using materials/equipment that are newly manufactured as per the MQP and following the approved FQP for construction, erection, testing & commissioning.
- 3. The Independent Engineer shall verify, through documentation provided by TSP (i.e. GTP, drawings, test reports, MQP etc.), that following major substation equipment/ items, transmission line materials have been designed, constructed and tested (Type test, Routine tests, Factory Acceptance Test (FAT)) in accordance with relevant CEA Regulations and Indian Standards (in case Indian Standards for any particular equipment/ system/ process is not available, IEC/ IEEE or equivalent International Standards and Codes shall be followed).
 - Transformers, Reactors, Circuit Breakers, Instrument Transformers, Surge Arresters, Protection relays, clamps & connectors, GIS equipment/bus duct etc.
 - Equipment in terminal stations of HVDC installations including Thyristor/ IGBT valves, Converter Transformers, smoothing reactors, Transformer bushings and wall bushings etc.
 - Towers and gantry structures inside the AC/DC substation.
- 4. The Independent Engineer shall monitor the quality of construction materials, foundation and workmanship through visual inspection, documentation &test reports etc. provided by TSP (FQP etc) and through field visits, wherever required.
- 5. The Independent Engineer shall verify that Site Acceptance Test (SAT)/ precommissioning tests of all major substation equipment, component, system, facilities have been successfully carried out before commissioning by checking the records maintained by TSP. Further, Independent Engineer shall ensure that the Type tests, FAT and SAT reports are available at the substation / terminal station of HVDC installations for future ready reference.
- 6. Independent Engineer (Project Manager/ Experts) shall carry out inspections during the Project execution, as and when deemed necessary **or as directed by Employer**.

- 7. Independent Engineer shall check that TSP is following Cyber security compliances, import from neighbouring countries as per Finance ministry regulations, Make in India compliances, MLC compliances and any other statutory regulations imposed by the Govt. from time to time as required under RfP/TSA.
- 8. The Independent Engineer shall assist in taking remedial action to avoid slippages leading to delay in completion of works by the TSP.
- 9. The Independent Engineer shall also assist in any allied activities deemed necessary for successful and timely completion of work during contract execution.

4.3 **Progress Monitoring**

1. The Independent Engineer shall follow up with the TSP to get the Project Execution Plan submitted after award of contract(s) on priority and maximum within one hundred and twenty (120) days from the Effective Date of Transmission Service Agreement (TSA).

The Project Execution Plan submitted by the TSP shall comprise detailed schedule of all the equipment/items/materials required for the Project, right from placement of award till the dispatch from works and receipt at the site. Further, it should also include various stages of the construction schedule up to the commissioning of the Project.

The Independent Engineer shall review Project Execution Plan submitted by the TSP which includes organization structure, time plan and methodology for executing the Project, award of major contracts, designing, engineering, procurement, shipping, construction, testing and commissioning in conformity with the Scheduled COD as specified in Schedule 2 of Transmission Service Agreement (TSA).

- 2. Independent Engineer shall review the monthly progress reports to be submitted by TSP. The forms for submission of monthly progress report shall be finalised by Independent Engineer with the TSP. The reports should mention likely completion date of each Element with regard to the Project and its execution (in accordance with prescribed form).
- 3. The Independent Engineer shall monitor the development of the Project for its timely completion. The progress shall be reviewed by the Independent Engineer against the Project Execution Plan. The Independent Engineer shall prepare its report on monthly basis and submit the same to Employer highlighting the progress achieved till the end of respective month vis-à-vis milestone activities, areas of concern, if any, which may result in delay in the timely completion of the Project.

- 4. The monthly progress report shall include an overview of the status of work at site, quality of construction, safety measures/aspects, the source of materials used and conformity of Construction Works with the Scope of the Project with high resolution photographs of the inspected equipment/site works. Further, status of ROW, forest clearance, PTCC clearance, approval of Supreme Court appointed committee for GIB areas etc. to be mentioned in the progress report.
- 5. The monthly progress report shall include the compliance of all the equipment/ materials received at site in particular month with respect to provisions of RfP/ standards/ regulations. In case of any non-conformity in product/services/work, analysis shall be carried out by the Independent Engineer and corrective actions shall be suggested for any work, whenever there is any deviation observed in the drawings, specifications/ parameters, work methods or construction.
- 6. The Independent Engineer shall review the detailed bar (GANTT) chart of the Project outlining each activity (taking longer than one Month), linkages as well as durations as submitted by the TSP.

The Independent Engineer shall monitor the progress of works as per the approved GANTT bar chart, certify the achievement of contractual milestones defined and keep TSP advised about possible bottlenecks while recommending actions to mitigate the same.

They shall compile systematic records of TSP's site activities to adequately document the progress and performance of the work. These records shall support determination of responsibility for slow progress of contracts.

- 7. Independent Engineer shall verify the readiness of the elements including the statutory clearances & completion of civil works, fixing of all components and finalisation of punch points (if any) prior to charging of the elements.
- 8. The reports/observations of the IE shall be submitted to both the Employer and the TSP and suggest corrective measures, if any.

4.4 Other duties and functions

- 1. Independent Engineer shall undertake all other duties and functions in accordance with the Transmission Service Agreement, whenever referred by the Employer.
- 2. Independent Engineer shall depute its substation/ transmission line experts for witnessing the type tests/ FAT at manufacturers location whenever desired by the Employer. The travel/ accommodation expenses of the same shall be reimbursed as per the rates mentioned in bidding document.

5. Dispute Resolution:

- 5.1 Any disputes with regard to works being executed by the TSP shall be resolved in the most amicable manner in accordance with the provisions of the contract.
- 5.2 The Independent Engineer shall examine and make recommendations on claims received from the TSPs for time extension, extra work or expenses etc. arising due to change in law or Force Majeure. In this respect, the Independent Engineer shall certify positive and negative quantity deviation with respect to the contracted quantities, review justification and costing prepared by the TSP.

The proposals for cost variations shall be processed in the shortest possible time duly coordinated with the TSP and the Employer.

- 5.3 If Transmission Service Agreement (TSA) is terminated on account of Force Majeure Events, non-requirement of any Element or Project during Construction, Employer's non-fulfilment of Role & TSP's Event of Default, the TSP shall be entitled for Termination Payment equivalent to valuation of Project Assets. The Independent Engineer shall determine the valuation of the Project Assets in case of such events as required under Transmission Service Agreement, whenever referred by Employer.
- 5.4 The Independent Engineer shall determine the costs of any works or services and/or their reasonableness during construction phase as required under Transmission Service Agreement, whenever referred by Employer.
- 5.5 The Independent Engineer shall assist the Parties in resolution of Disputes, whenever such dispute is referred by Employer.
- 5.6 Organize and conduct meetings as desired by Employer and submit reports/proceedings of the meetings to Employer.

6. Authorised signatories

Independent Engineer shall designate and notify up to 2 (two) persons employed in its firm to sign for and on behalf of the Independent Engineer, and any communication or document required to be signed by the Independent Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Independent Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.

7. Deliverables:

The Independent Engineer shall be responsible for following deliverables (the "Deliverables") during the course of this Consultancy.

7.1 **Monthly Report**

The progress of the TBCB projects shall be reviewed by the Independent Engineer against the Project Execution Plan of TSP. The Independent Engineer shall prepare its report on monthly basis and submit the same to Employer highlighting the progress achieved till the end of respective month vis-a-vis milestone activities, areas of concern, if any, which may result in delay in timely completion of the Project.

Such progress report shall include an overview of the status, progress, quality and safety of construction, including the work methodology adopted, the materials used and their sources, and conformity of Construction Works with the Scope of the Project and the Specifications and Standards along with High resolution photographs of the inspected equipment. Based on the progress, Employer and/ or CEA shall issue written instructions to the TSP to take corrective measures, as may be prudent for the timely completion of the Project.

7.2 Completion Report

Final completion report of the project in respect of all elements of the Project shall be compiled along with as-built SLD, GA, earthing drawing and shall be submitted to the Employer.

7.3 **Documentation**

The Independent Engineer shall provide to Employer soft copies of the following documents/ details, as and when finalized by TSP:

- ➤ Co-ordinates of substation land.
- > SLD, General Arrangement & Electrical layout drawing of substation
- > Earthmat layout
- > SAS Architecture
- > Bus bar protection scheme
- > Fire Protection system layout
- > LT Switchgear layout
- ➤ Foundation & cable trench layout

8. Team Composition

The Independent Engineer shall provide experienced personnel to carry out the assignment throughout the duration of the project management services in accordance with task/requirement of the project.

8.1 The team shall include the following key personnel:

Terms of Reference(ToR) Rev1

	Terms of Reference(ToR)		
Sl.	Position	Experience and Qualification requirements	
No.		of key experts	
1.	Team Leader cum Project Manager	The Team Leader shall be responsible for overall coordination of the consultancy services to ensure satisfactory fulfillment of contracted services. He shall join important review meetings in Employer offices/ at sites and otherwise, also keep himself updated about the progress of the assignment and provide guidance to team, as needed. He shall be responsible for submission of the progress and other reports included in the assignment. He shall coordinate with all stakeholders (including senior state government officials and Client management) and oversee satisfactory delivery of services. He/ She should be Graduate in Electrical/ Mechanical / Civil Engineering having at least 8 years' experience in EHV transmission projects and have worked in at least two (2) assignments for 345kV or above transmission project as team leader/Project Manager.	
2.	Substation Expert	Graduate in Electrical Engineering having at least 5 years' experience in EHV transmission substation projects and have worked in at least two (2) assignments for 345kV or above substation projects.	
3.	Field Engineer (Substation)	Graduate/Diploma in Electrical/Civil Engineering having at least 2 years' experience in construction of EHV transmission substation projects. Field Engineer shall be posted at site during contract period.	

Note: The Key Personnel shall preferably be an employee of Bidder. In case the Key Personnel is being hired by the bidder, the bidder needs to furnish a declaration with bid mentioning the nature of engagement to ensure his availability in the event of award. After award of contract, hiring agreement between Independent Engineer & Key personnel shall be furnished by successful bidder to CTU within 15 days of award date.

9. Termination of appointment

- 9.1 If the TSP has reason to believe that the Independent Engineer is not discharging its duties and functions in a fair, efficient and diligent manner, it may make a written representation to the Employer and seek termination of the appointment of the Independent Engineer.
 - Upon receipt of such representation, the Employer shall hold a tripartite meeting with the TSP and Independent Engineer for an amicable resolution, and the decision of Employer shall be final.
- 9.2 The Employer may, in its discretion, terminate the appointment of the Independent Engineer at any time.

Package Name: Specification No.:

Price Schedule

(This price schedule is for reference, however bidder has to quote their total price (incl GST) on GeM portal only.)#

Name of The Bidder:

1. Remuneration for Key Personnel

All Prices are in INR

Position	No. of Months	Rate/ month (excl. GST)	Total Amount
Project Management Expert/Team Leader	19		
Substation Expert	19		
Field Engineer (Substation Construction)	19		
Total			
HSN/SAC Code			
GST Rate (in %)			
GST Value (In INR)			
Grand Total incl. GST			

The Man-Month rates for remuneration for Key Personnel quoted above are inclusive of all costs such as salary & allowances etc. for carrying out all activities as per ToR.

Cost to be incurred for carrying out scope of work as detailed in ToR towards support staff and Travel of Key Personnel to site/substation/CTUIL Office where work is to be carried out inclusive in the above rates.

Note: Lab charges for testing, revalidations from third parties (if required) shall be reimbursed by employer as per actual.

2. Reimbursable Expenditure for Key Personnel

Cost of Travel of Project Management expert (Team Leader)/ Substation expert /Transmission Line expert for witnessing the type tests/ FAT at manufacturers location whenever desired by the Employer. The travel/ accommodation expenses of the same shall be reimbursed as per the rates and terms given below:

a) Per diem allowance towards Boarding & lodging, local travels and incidental expenses (Rate/ Day)

Cities	Rate/Day (in INR) excl. Taxes
Metro Cities – Delhi, Mumbai, Bangalore, Hyderabad, Chennai & Kolkata	6,500/-
Principal Cities – Agra, Ahmedabad, Allahabad, Amritsar, Asansol, Bangalore, Bhopal, Chennai, Coimbatore, Delhi, Dhanbad, Faridabad, Greater Mumbai, Hyderabad, Indore, Jabalpur, Jaipur, Jamshedpur, Kanpur, Kochi, Kolkata, Lucknow, Ludhiana, Madurai, Meerut, Nagpur, Nasik, Patna, Pune, Rajkot, Surat, Vadodara, Varanasi, Vijayawada, Vishakhapatnam, state capitals.	5,300/-
Ordinary Cities	4,300/-

b) Outstation Travel Expenses: Economy Class Airfare/Rail (upto 2nd class AC berth)/Road (Taxi- restricted to 2nd class AC Rail fare of equivalent distance). Consultant has to provide documentary evidence/receipt in support of the expenses.

#Note: 1. This price schedule is for reference, however bidder has to quote their total price (incl GST) on GeM portal only and price breakup (on letter head of the company) to be uploaded in line with price breakup field available on GeM portal.

2.Uploading price bid in any form in Technical Bid/Technical Cover will be at the bidder's risk and may result in rejection of its bid.

(Declaration regarding engagement of Experts) (on company's letter head)

To:

Consultant's Name and Address:

		Engineer-In-Charge
Name Address	: :	Central Transmission Utility of India Ltd., "Saudamini", Plot No. 2, Sector 29
		Gurgaon (Haryana) - 122001

Dear Sir,

8.0 With reference to GeM Contract Order dtd xx.xx.xxxx for(Package Name)....., we hereby confirm that following Experts have carried out the requisite activities under the contract and were involved in preparation of monthly report for the month, 2022:

Sl.no.	Experts	Name	Signature
	Project Manager cum Team Leader		
	Substation Expert		

2.0 We understand that any false declaration and/or misrepresentation of facts and/or furnishing of false information may lead to termination of Contract/our debarment from participation in Employer future tenders and that our Contract Performance Guarantee may be forfeited besides other actions as deemed to be appropriate as per the provisions of GeM Contract Order/Integrity Pact.

Project

Date :	Manager:
Place :	Designation:

(Declaration regarding Field Engineer experts (Substation)) (on company's letter head)

Cons	suitar	t's Name and A	aaress:	10:	
				Engineer-I	n-Charge
Nam Add		:		India Ltd., "Saudamir Sector 29	ansmission Utility of ni", Plot No. 2, Haryana) - 122001
Dear	Sir,				
9.0	Name is pre ToR/F	e), we hereby sent at site and h	confirm that followir ave carried out the	ng Field Eng requisite ac	xx for(Package gineer Experts TL/SS tivities mentioned in onth 2023 under
	Expe	rts	Name		Signature
		Engineer Expert station)			
	unde		_		attendance and we attendance of expert
2.0	facts Contr that of action	and/or furnishing act/our debarmer our Contract Perfo	of false information of from participation ormance Guarantee o be appropriate a	on may lea in Employe may be foi	nisrepresentation of nd to termination of or future tenders and feited besides other provisions of GeM
Da	ate :			Project	
				nager:	
Pla	ace:		De	signation	:

Gurgaon (Haryana) - 122001

(Declaration of Key Managerial Person (KMP) and Power of Attorney holder)

Bidder's Name and Address :		То:		
		C&M		
Name	:	Central Transmission Utility of India Ltd.,		
Address	:	"Saudamini", Plot No. 2, Sector 29		

Dear Sir.

10.0 We confirm that the declarations made in our proposal, inter-alia including **Attachment-2** (*Credentials towards Technical Evaluation Criteria*) regarding eligibility/qualification data and documents submitted in our proposal in support of the declarations, are true and correct to the best of our knowledge.

10.1 We are furnishing a declaration regarding nature of engagement of Key personnel as per the following details:

SI. No.	Position	Name Personnel	of	Key	Nature of engagement of Key Personnel
1	Project Manageme nt expert/Tea m Leader				
2	Substation expert				
3	Field Engineer (Substation				

We further confirm that after award of contract, key personnel who are not employees of our firm, the hiring agreement between us and the key personnel shall be submitted to CTU within 15 days from the issue of GeM contract order.

- 11.0 We also confirm that in support of meeting the Qualification Requirements and Technical Evaluation Criteria as per RfP Documents, we have enclosed self-certified copy of documentary evidence in support of the above requirements.
- 12.0 We shall furnish clarification to proposal, if any sought by Employer pursuant to Section-III Clause 20.0. We understand that if we fail to

rectify/furnish the requested documents if any, within 05 working days' notice, our proposal is liable to be rejected.

- 13.0 We further confirm that we shall furnish a declaration as per format provided in Bidding Document regarding key personnel engagement for carrying out requisite activities under the contract along with monthly invoice. We also understand in absence of the declaration our invoice shall be considered as incomplete and may not be processed by employer.
- 14.0 We understand that any false declaration and/or misrepresentation of facts and/or furnishing of false/forged documents /information may lead to our debarment from participation in Employer tenders and that our Contract Performance Guarantee may be forfeited besides other actions as deemed to be appropriate as per the provisions of the RfP Document/Integrity Pact.
- 15.0 Notwithstanding above, we also confirm that the Employer may verify the supporting documents/ details in connection with above declarations. We further understand that in case of any unethical practices inter-alia including any misrepresentation of facts, submission of false and/or forged details/ documents/ declaration by us, we may be debarred from the participation in Employer's tenders in future as considered appropriate by Employer and our Contract Performance Guarantee shall be forfeited besides taking other actions as deemed appropriate.

Date:	
Place:	
(Signature of Power of Atto	orney holder)
	(Printed Name)
	(Designation)
	(Common Seal)
(Signature of Key Manag	erial Person)
	(Printed Name)
	(Designation)
	(Common Seal)

Note: Key Managerial Personnel (KMP) of the company shall include CEO/Managing Director/ Company Secretary/ Director/ CFO/any of the

 ${\color{blue} Attachment-10_Rev2} \\ partner in case of partnership firm/any other officer entrusted with \\$ substantial powers of the management of the affairs of the company/firm.