भारत हैवी इलेक्ट्रिकल्स लिमिटेड
Bharat Heavy Electricals Limited
Transmission Business Group;
10th Floor Plot No.c-20/1A/1,Joy Tower,
Sector-62, Noida - 201309 (Uttar Pradesh)
email: tbsm@bhel.in

Corrigendum No. -04 Date:- 29.07.2021

Ref:

1) **Tender Spec No**: TBSM/STRATEGIC TIE -UP/ RRVPNL/TENDER/21-22 Date: 08.07.2021
2) **NIT No. : 59247 (For BHEL Website) .**
3) **NIT No.: 2021_BHEL_4465_1 (Through** https://eprocurebhel.co.in**)**

Subject of the NIT:- OPEN TENDER ENQUIRY FOR "TENDER SPECIFIC STRATEGIC TIE-UP FOR " CONSTRUCTION OF 400 KV AND 220 KV TRANSMISSION LINE WORK (DETAILS AS BELOW) INCLUDING SUPPLY OF ALL EQUIPMENT/MATERIALS, ERECTION (INCLUDING CIVIL WORKS), ARRANGEMENT / SETTLEMENT OF RIGHT OF WAY, TESTING & COMMISSIONING ON EPC BASIS" FOR M/S RRVPNL AT PACHPADRA IN RAJASTHAN.

Details of Transmission line: -

i) CONSTRUCTION OF LILO OF ONE CKT. OF EXISTING 400KV D/C RAJWEST – KANKANI LINE AT PROPOSED 400KV GSS PACHPADRA (TWIN MOOSE) -(35KMS) ON TURNKEY BASIS (DEPOSIT WORK)
ii) CONSTRUCTION OF LILO OF ALREADY CONSTRUCTED 220KV S/C BALOTARA – HRRL LINE AT PROPOSED 400 KV GSS PACHPADRA – (3 KMS.) ON TURNKEY BASIS (DEPOSIT WORK)
iii) CONSTRUCTION OF 2X220 KV S/C LINE [ON D/C TOWERS] FROM PROPOSED 400KV GSS PACHPADRA TO M/S HRRL – (28 KMS.) ON TURNKEY BASIS (DEPOSIT WORK)
iv) CONSTRUCTION OF LILO OF 220KV S/C BALOTARA – BORANDA LINE AT 400KV GSS HRRL (RVPN LAND) – 10 KMS. ON TURNKEY BASIS (DEPOSIT WORK)

With reference to the above, following Corrigendum may please be noted.

A) "Bidders may please be noted that the additional technical clarification shall be as per the attached "RRVPNL's Pre-Bid Clarification No. 04". In case any dispute in BHEL's tender document and the RRVPNL's Pre –bid clarifications-04 with respect to technical clarifications, the RRVPNL's Pre –bid clarifications-04 shall be prevailed.

Bidders are advised to kindly go through the RRVPNL's Pre Bid Clarifications-04 carefully before submission of their offer. "

- Bidders are requested to submit a copy of Corrigendum no. -04 duly signed & stamped by their authorized signatory and submit along with their Technical bid.
- All other terms & conditions of the tender specifications remain unchanged.
- This corrigendum is to be read along with corrigendum issued earlier.

29/7/21

Mukesh Paswan
Addl. General Manager/ TBSM

Enclosure: M/s RRVPNL's Pre –bid clarifications-04 (Total 12 Page including this page)

PRE BID CLARIFICATION NO. 04

Construction of 400 KV GSS Pachpadra along with its associated lines under Bid enquiry No. RVPN/ BN.-9019002102

S.No.	Document/ Clause No. / Ref. No.	Provisions as per Specification	Clarification Requested	RVPN Reply
1	2. Technical Experience, Annexure B	Refer S.No 39 of Pre-bid clarification No 2 i.e 3) Out of the requirement given at 1 & 2 above , should have atleast constructed & commissioned One(1) No of sub-station any where in India of 400 KV & above voltage class on Turnkey** basis and atleast one order of minimum line length of 19 Km transmission line of 400 KV or 220 KV or above voltage on Turnkey** basis. .** Turnkey means design, supply, erection (including civil works), testing and commissioning	Clarification requested by one of the prospective bidder that " We understand that bidder/ each partner in case of joint venture shall meet the clause 3. Please confirm"	Please read RVPN reply as "**"The Bidder/all bidders combined in case of Joint Venture shall meet this requirement" in place of "confirmed".**
2	Single Line Diagram		Single Line Diagram (SLD) is not available with tender document, hence a copy of SLD showing ampacity of Busbar,equipmet and fault level at various voltage level to be provided.	SLD Uploaded with PBC-01,02,03
3	Vol-II,Part-1, CL-2.0		In 220 kV, bus-section is introduced in either section of Main Bus-I and Main Bus-II, as such no of Bus-coupler bay shall be 2 Nos,to connect Main Bus-I and Main Bus-II in each section. If so, request you to revise Tender SLD, Layout and BOQ for our estimation and costing.	No of Bus coupler Bays are two i.e:- Bay No 1 & 13
4	Layout Section drawing		a) Height of equipment Bus, Main bus and Jack bus is not appearing in 400 kV Layout section drawing, hence we request you to share the heights as stated for our understanding. b) Section drawing of 220 kV voltage level is not available with tender, hence we request you to provide the same for our understanding and estimation. 4 400 kV and 220 kV Line Corridor	Section drawing Uploaded with PBC-01,02,03
5	General		Soil Resistivity value is required for estimation of Earthing material, please provide the same.	Soil Report Uploaded with PBC-01,02,03
6	General		Request to provide the contour/spot level survey data of the Substation site	Uploaded with PBC-01,02,03
7	General		Request to provide Soil Report of the Substation sites with the coordinates of the boreholes. This is requested to correctly assess foundations.	Soil report already uploaded. The detailed soil investigation is in scope of bidder for which refer clause No 2 Geo Technical investigation Vol-III

				of technical specification..
8	General		Please provide the Foundation drawings of Gantry tower as type marked in BOQ.	Please Adhere to the bid document.
9	General		We understand that no extra special external finishing is required for buildings to resemble Regional Architecture. Kindly confirm. If such requirement occurs, reference detail Architectural Drawings are requested at the time of bidding.	Please Adhere to the bid document.
10	Annexure-A (Prequalifying Requirement clause 2.1	**Lead Partner (Minimum Requirement)** Should have at least Constructed and commissioned 1 No. of sub substation with or without supply of power transformer/reactor anywhere in India of 400 KV and above voltage class on Turnkey**. The Contract shall be in satisfactory operation for a period of one (1) year within last three Years.	The bidder must be a substation or switchyard EPC (Engineering, Procurement and Construction) contractor who must have successfully executed at-least **03 (Three) Nos. 400 kV or above voltage class Greenfield AIS** switchyard [involving at-least 03 (Three) Nos. of Feeder Bays* and at-least 1 No. of Transformer bay* with 400 kV voltage Power/ Auto transformer (either supplied by bidder or as utility/ end user supplied item) in last 5 years as on the originally scheduled date of bid opening in India and which should be in satisfactory operation for **at-least 02 (two) years** as on the originally scheduled date of bid opening and the Bidder must have successfully supplied, erected and commissioned 400 KV and above rating Transformers and Reactors at least in 3 Nos. 400 KV or above class Sub-Stations/Switchyards in last 5 years and should be in satisfactory operations for at least 2 years as on the originally scheduled date of bid opening.	Please Adhere to the bid document.
11	New Addition (Clause No 5.2) (Special Test)	Bidder / Manufacturer shall provide Dynamic Short Circuit test carried out on 500MVA, 400/220/33kV, 3-Phase Auto transformer having similar design along with bid. In case bidder/manufacturer has not successfully conducted Dynamic Short Circuit test on above rating Auto transformer then they shall provide the test report before submission of documents for approval of design of transformer after award of contract. The Bidders are required to furnish detailed Short circuit test report as per applicable IS: 2026 (as amended from time to time) for the test conducted at LAB against earlier order of RVPNL or any other power utilities on transformer of similar	Request you to delete this clause as Dynamic Short Circuit Type Test Report is available with BHEL only. Would like to inform that Project Completion Time is very stringent (18 months), hence. conducting of Short Circuit Test for other manufacturers will lead time. **OR** Our Proposal to consider Bidder / Manufacturer shall provide Dynamic Short Circuit test carried out on 315 MVA, 400/220/33kV, 3-Phase Auto transformer having similar design along with bid to make the bid more competitive.	Please Adhere to the bid document.

		rating & design as quoted with same guaranteed No load and Load losses and percentage impedance at normal tap. The Short circuit test reports so furnished shall be (duly attested by Notary Public and should not be older than 7 (seven) years as on the date of technical bid opening.		
12	500MVA, 400/220/33KV Power Transformer - Short Circuit Test	Short Circuit Test: Bidder / Manufacturer shall provide Dynamic Short Circuit test carried out on 500MVA 400/220/33kV3-Phase Auto transformer having similar design along with bid. In case bidder/manufacturer has not successfully conducted Dynamic Short Circuit test on above rating Auto transformer then they shall provide the test report before submission of documents for approval of design of transformer after award of contract . The Bidders are required to furnish detailed Short circuit test report as per applicable IS: 2026 (as amended from time to time) for the test conducted at LAB against earlier order of RVPNL or any other power utilities on transformer of similar rating & design as quoted with same guaranteed No load and Load losses and percentage impedance at normal tap. The Short circuit test reports so furnished shall be (july attested by Notary Public and should not be older than 7(seven) years as on the date of technical bid opening. In absence Short circuit test report as above, the Bidderl Manufacturer shall have to arrange Short circuit test at LAB on first unit at their own cost, in case the Bidder/manufacturer is considered for placement of order. If the Short circuit test is arranged then No load and Load losses shall also be measured at LAB before and after short circuit test at normal and minimum tap (having maximum current)	As per this clause we understood that Bidder / Manufacturer need to submit 500MVA Short Circuit test conducted within last 7 years. In case if it is not conducted the same report need to submit before approval of design of transformer after award of contract. Apart from Cost Effect conducting of SC test will be time taken & it required minimum 6 to 8 months which includes manufacturing, transportation & testing. As per the General Practice of PGCIL, TSTRANSCO, APTRANSCO, OPTCL for supplying of 500MVA Transformer they need 500MVA Type tests (other than SC test) and 315MVA SC test provided that 500MVA design review will be submitting at the time of approval of design. We hereby requesting RVPNL to accept for submitting of 500MVA Type tests along with 315MVA SC test report.	Please Adhere to the bid document.

13	Undertaking for supervision, after sale services and availability of spares	Proforma of undertaking by the equipment Manufacturer along with the bidder for supervision, after sale services and availability of spares - SCHEDULE-X3	We presume that this undetaking is required only for the equipments specified in the Pre qualification criteria to meet the PQ requirement i.e, 500MVA Transformer, Transmission Line Tower, Conductor. Please Confirm.	Please Adhere to the bid document.
14	Service back up guarantee from OEM for all offered items/equipments/materials	Certificate of Technical Compliance	As per this schedule - D Bidder need to Confirm that will provide service back up guarantee from OEM for all offered items/equipments/materials, in the event of an order. Project Scope includes substation and transmission lines which involves many items/equipments , So we kindly request you to please confirm what are all items need for Service backup Guarantee.	Please Adhere to the bid document.
15	Annexure A- PQR Point no. 4	1. 500 MVA, 400/220/33 kV, 3-Phase Transformer, The bidder shall supply 400/220/33 KV EHV Transformers of various MVA Rating from the manufacturer, who must have designed, manufactured, tested, supplied, installed and supervised installation, testing & commissioning of at least 5Nos. of 315 MVA or above rating of transformer /Generator Transformer (or equivalent capacity in banks of 3 single phase units) of 400KV or above voltage class transformers during last seven (7) years in India as on the date of technical bid opening . At least 02(Two) nos of power transformers supplied in India should have satisfactory operation for at least two (2) years in India as on the date of technical bid opening or be authorized by such as manufacturer to supply and provide after sales services with necessary back-up support from the manufacturer as on the date of technical bid opening.	**500 MVA, 400/220/33 kV, 3-Phase Transformer,** 1.1 The bidder may be manufacturer or be authorized by such manufacture who have designed, manufactured, tested, supplied, installed and supervised installation, testing & commissioning of at least 5Nos. of 315 MVA or above rating of transformer /Generator Transformer (or equivalent capacity in banks of 3 single phase units) of 400KV or above voltage class transformers during last seven (7) years in India as on the date of technical bid opening. Out of Above, At least 02(Two) nos of power transformers supplied in India should have satisfactory operation for at least two (2) years in India as on the date of technical bid opening **OR** 1.2 The 400 kV or above class transformer manufacturer who has established production line in India for these equipment's based on technological support of parent company or collaborator provided: a) Such manufacturer has designed, manufactured, type tested, supplied, supervised installation and commissioning of " 220 kV or above class Transformer" Transformer should have been in satisfactory operation for atleast 3 years on the originally scheduled date of technical bid opening.	Please Adhere to the bid document and pre bid clarifications issued.

			b) The parent company (Principals) or collaborator should have designed, manufactured, tested, supplied, installed, and commissioned, supervised installation and testing of at least 5 Nos. 315 MVA, 400 / 220 / 33 kV EHV Transformer or above rating of transformer / Generator transformer (Or equivalent capacity in bank of 3 single phase units) of 400 kV or above voltage class transformer during last seven (7) years as on the date of technical bid opening. Out of above, at least 2 nos. of power transformer supplied should have satisfactory operation for atleast two (2) years on the date of bid opening. c) Such manufacturer furnishes: i) a legally enforceable undertaking (Jointly with the parent company or collaborator) (as per the format Appendix-1(A)) to guarantee quality, timely supply, performance and warranty obligations as specified for the equipment (s)to be manufactured and supplied from his works in India and another undertaking for ensuring after sales service and spares in prescribed schedule ; and ii) An undertaking from the parent company or collaborator along with the bid stating that parent company or collaborator shall furnish performance guarantee up to Contract Performance Guarantee Period for an amount of 10% of the cost of such equipment(s). This performance guarantee shall be in addition to performance guarantee to be submitted by the bidder. Alternatively this undertaking and PBG can be submitted by such manufacturer. We Request you to evaluate the bid as per existing provisions of the tender as Most of the OEM meet the Existing Provision. Kindly confirm.	

16	Technical Specifications (500 MVA 400/220/33 KV Power Transformer	New Addition (Clause No 5.2) (Special Test)	**SHORT CIRCUIT TEST:** Bidder / Manufacturer shall provide Dynamic Short Circuit test carried out on 500MVA 400/220/33kV 3-Phase Auto transformer having similar design along with bid. In case bidder/manufacturer has not successfully conducted Dynamic Short Circuit test on above rating Auto transformer then they shall provide the test report before submission of documents for approval of design of transformer after award of contract. The Bidders are required to furnish detailed Short circuit test report as per applicable IS: 2026 (as amended from time to time) for the test conducted at LAB against earlier order of RVPNL or any other power utilities on transformer of similar rating & design as quoted with same guaranteed No load and Load losses and percentage impedance at normal tap. The Short circuit test reports so furnished shall be (duly attested by Notary Public and should not be older than 7(seven) years as on the date of technical bid opening. In absence Short circuit test report as above, the Bidder / Manufacturer shall have to arrange Short circuit test at LAB on first unit at their own cost, in case the Bidder / manufacturer is considered for placement of order. If the Short circuit test is arranged, then No load and Load losses shall also be measured at LAB before and after short circuit test at normal and minimum tap (having maximum current). The test at LAB shall also be witnessed by purchaser's representative, if test is carried on first unit of purchaser for which programme indicating date and place of short circuit test shall be intimated in advance enabling purchaser to depute his representative. The original preliminary / provisional test results shall have to be forwarded by LAB directly to the purchaser in sealed cover for consideration/ approval of tests as having been satisfactorily withstood by the transformer. Detailed report shall also be forwarded at the earliest. These test reports shall be arranged by supplier for which no extra charges shall be paid. All routine tests (except tests which require measurement of data for type test) will be conducted after type tests. All type tests shall be conducted on the same unit unless otherwise agreed to by the purchaser	Please Adhere to the bid document and pre bid clarifications issued.

			The bidder/manufacturer shall furnish/conduct Type test certificate from LAB i.e a Govt / a Govt. approved / ! a Govt. recognized / NABL accredited laboratory liLAC i.e, International Laboratory Accreditation Cooperation (in case of foreign laboratory) or the certificates of type test conducted at" manufacturer's works duly witnessed by representative of any Electricity Board/ Nigam/ Govt. Agency / PGCIL /NTPC or the certificates of type test conducted in the manufacturer's own lab located in the foreign country duly witnessed by independent Agency of Power/Auto transformers. Since Short Circuit test of required rating is done by most of the OEMs; We request you to modify the New addition as follows to ensure proper participation in the bid and ensure healthy competition : Bidder / Manufacturer shall provide Dynamic Short Circuit test carried out on **500** MVA 400/220/33kV 3-Phase Auto transformer having similar design along with bid. In case bidder/manufacturer has not successfully conducted Dynamic Short Circuit test on above rating Auto transformer then they shall provide the test report before **dispatch of Ist Unit from Manufacturer's works to Project site.** **The design review shall be conducted in line with RRVPNL specification/ CIGRE guidelines after award of contract and manufacturing clearance will be provided based on design review.**	
17	Part-21 clause No 5.2.5	New Addition.	p) No load losses will be measured at site at the time of commissioning of transformer & that will be (technical specification kept as signature / reference for future use to link with rise in gases / higher temperature, if observed for 400 KV These will be measured through normal CT/CVT and standard meter available. Transformer)	Please Adhere to the bid document and pre bid clarifications issued.

18	SSC GCC 6 time for Completion	Completion of Facilities as per scope of work eighteen (18) Months from the date of LOA (PO)	In view of Additional Time required Design Review, Short circuit test and Sequential manufacturing for both transformer, We hereby request to amend the Completion period to **36 months** from the date of LOA (PO).	Please Adhere to the bid document .

S.No.	Document/ Clause No. / Ref. No.	Provisions as per Specification	Clarification Requested	RVPN Reply as per PBC and requested clarification by bidder	Further clarification of RVPN
19	Annexure-A (Pre-qualifying Requirement) Clause 2.2	1. Bidder shall have constructed & commissioned minimum 2 Nos. of substations anywhere in India with or without supply of power transformer/ reactor of 400 KV or higher voltage class S/S at two different locations within last five years on the date of technical bid opening . At least one Sub-Station out of above commissioned under Turnkey** Contract shall be in satisfactory operation for a period of one (1) year within last three Years. (Supporting documents/Certificates of original customer to be submitted.) with Sub-Station Automation System / SCADA as on the date of technical bid opening	1. We presume that 2 Nos of 400kV Substations shall be commissioned in last 5 Years from the date of bid opening & at least one Sub-Station out of above commissioned shall be in satisfactory operation for a period of one (1) year and the performance certificate shall be issued within the last 3 years from the date of bid opening & We presume that Purchase order copy which comprises the BOQ of Sub-Station Automation System / SCADA is sufficient to meet the tender requirement and is not mandatory to mention SAS/SCADA details in Performance certificate Please clarify and confirm whether bidder understanding is correct or Not.	**RVPN Reply as per PBC:-** In case of SAS/SCADA supporting documents be furnished to establish its supply & installation/performance certificate. **Firms Request:-** We understand that Querry is not fully clarified. Kindly clarify on substation performance certificate requirements.	**Please Adhere to the bid document** **&** **No further clarification needed as supporting documents / performance certificate should establish the supply of SAS/SCADA and operation of substation through SAS/ SCADA**
20	Annexure-A (Pre-qualifying Requirement) Clause 2.3	**The bidder shall be a manufacturer, who must have designed, manufactured, type tested, supplied and & commissioned the IEC-61850 based C&R SAS (sub-station Automation system) (consisting of bay control & protection units , application software) on at-lease one no of EHV sub-station (having total bays not less than 5 Nos)during last 5 (five) years in India and which must be in satisfactory operation for at-least 2 (two) years as on the original date of bid opening or be authorized by such a manufacturer to supply and provide after sales services with necessary back-up**	Partner1. Bidder shall have constructed & commissioned minimum 2 Nos. of substations anywhere in India with or without supply of power transformer/ reactor of 400 kV or higher voltage class S/S at two different locations within last five years on the date of technical bid opening OR Bidder shall have substantially completed minimum 2 Nos of substations anywhere in India with or without supply of power transformer/ reactor of 400 KV or higher voltage class S/S at two different locations	**RVPN Reply as per PBC:-** Please Adhere to the bid document. **Firms Request:-** We understand Provision as per specification mentioned in this Querry is not found in the tender document. Kindly clarify.	**No Such provision mentioned** in bid document at Annexure-A(Pre-qualifying Requirement) Clause 2.3 Please refer bid document of Bid No. 9019002102.

		support from the manufacturer.	and shall have constructed & commissioned minimum 2 Nos. of substations anywhere in India with or without supply of power transformer/ reactor of at least 220kV or higher voltage class S/S at two different locations within last five years on the date of technical bid opening within last five years on the date of technical bid opening.		
21	2. Technical Experience, Annexure B	3) Out of the requirement given at 1 & 2 above , should have at least constructed & commissioned One(1) No of sub-station any where in India of 400 KV & above voltage class on Turnkey** basis and atleast one order of minimum line length of 19 Km transmission line of 400 KV or 220 KV or above voltage on Turnkey** basis. .** Turnkey means design, supply, erection (including civil works), testing and commissioning	We understand that bidder/ each partner in case of joint venture shall meet the clause 3. Please confirm	**RVPN Reply as per PBC:-** Confirmed **Firms Request:-** We understand as per Technical Experience, Annexure B, All partners combined should meet the qualification requirements in case of Joint venture. Kindly confirm.	**Please refer PBC – 04 (Sr. No. 01)**
22		1. 500 MVA, 400/220/33 kV, 3-Phase Transformer. The bidder shall supply 400/220/33 KV EHV Transformers of various MVA Rating from the manufacturer, who must have designed, manufactured, tested, supplied, installed and supervised installation, testing & commissioning of at least 5Nos. of 315 MVA or above rating of transformer /Generator Transformer(or equivalent capacity in banks of 3 single phase units) of 400KV or above voltage class transformers during last seven	*The bidder, should have designed, manufactured, tested, supplied, installed and commissioned 345 kV or above class transformers of at least 200 MVA capacity (or equivalent capacity in banks of 3 single phase units) . Transformers should have been in satisfactory operation for atleast two (2) years on the originally scheduled date of technical bid opening* ***OR*** *The 345 kV or above class transformer*	Refer PBC 1.	**Please refer PBC – 04 (Sr. No. 15)**

			equipment (s)to be manufactured and supplied from his works in India and another undertaking for ensuring after sales service and spares in prescribed schedule; and *ii) An undertaking from the parent company or collaborator along with the bid stating that parent company or collaborator shall furnish performance guarantee up to Contract Performance Guarantee Period for an amount of 10% of the cost of such equipment(s). This performance guarantee shall be in addition to performance guarantee to be submitted by the bidder. Alternatively this undertaking and PBG can be submitted by such manufacturer*		