

Doc. No. Technical Corrigendum-01

Project: Pre Bid Tie up for, Tender Enquiry Document for Pooling Substation 400/33 kV, 1200 MW (PSS-1, Phase-I & Phase-II of 600 MW each) of Solar/ Wind/ Hybrid RE Park of 2375 MW Capacity at Great Rann of Kutch Area, Gujarat

Date: 22.06.2022

SL. NO.	DESCRIPTION	REMARKS
1	Annexure-BOQ_GIPL	or the revised requirements, please refer Annexure- BOQ_GIPL REV01. (There is change in Annexure_BOQ_GIPL_SERVICES REV01 only)
	Section-2	Please refer Annexure- Technical Amendment to Section-2 in addition to original Section- .

Note: Amendment addendum clarification corrigendum issued herein shall form part of Technical Specification. All bidders to please note that amendment addendum clarification corrigendum issued will supersede the respective clause sub-clause of Technical Specification Document to the extent for the clause sub-clause or part thereof the amendment is issued.



Annexure- Technical Amendment to Section-2

Amendment to the TED GIPCL/RE Park/PSS/Phase-I

All the Tender Terms & Conditions will remain unchanged other than the below Amended Term

Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
1.	Vol 1 Sec 1 NIT_PSS_1 PH-1 and 2_R3	TABLE A: IMPORTANT DATES	3 of 20	<p>23rd June, 2022 Time: 17:00 hours (IST) On n-procure portal for Bid Submission</p> <p>v. Online (e-tendering) Tender/Offer submission last date (This is mandatory)</p>	<p>5th July, 2022 Time: 17:00 hours (IST) On n-procure portal for Bid Submission</p> <p>v. Online (e-tendering) Tender/Offer submission last date (This is mandatory)</p>
2.	Vol 1 Sec 1 NIT_PSS_1 PH-1 and 2_R3	TABLE A: IMPORTANT DATES	4 of 20	<p>27th June, 2022 Time: 15:00 hours (IST) Venue: GIPCL Corporate Office, PO: Ranoli - 391 350, Dist. Vadodara.</p> <p>vi. Physical receipt of Bid with all the relevant documents last date (By RPAD or Speed Post or By Personal Messenger) (This is mandatory)</p>	<p>7th July, 2022 Time: 17:00 hours (IST) Venue: GIPCL Corporate Office, PO: Ranoli - 391 350, Dist. Vadodara.</p> <p>vi. Physical receipt of Bid with all the relevant documents last date (By RPAD or Speed Post or By Personal Messenger) (This is mandatory)</p>
3.	Vol 1 Sec 2 ITB_PSS_1 PH-1&2_R3	1.1	3 of 14	<p>The current document is the Tender Enquiry Document OR Request for Proposal, which is issued to all the potential Bidders, requesting a proposal for implementation of the Project on a fixed price basis. A Contractor would be selected through competitive bidding process for execution of the 400/33 kV Pooling substation package</p>	<p>The current document is the Tender Enquiry Document OR Request for Proposal, which is issued to all the potential Bidders, requesting a proposal for implementation of the Project on a fixed price basis except the price variation allowed for 400/33/33kV, 340MVA Transformer(s). A Contractor would be selected through competitive bidding process for execution of the 400/33 kV Pooling substation package.</p>
4.	Vol 1 Sec 2 ITB_PSS_1 PH-1&2_R3	2.2.1.3 i)	6 of 14	<p>The bidder must have erected and commissioned at least Six (06) nos. GIS circuit breaker bays (*) of 400kV or above voltage class cumulatively in two (02) GIS substation during last seven (07) years and these bays must be in satisfactory operation### for at least two (02) years as on the date of bid opening mentioned above.</p>	<p>The bidder must have erected and commissioned at least Six (06) nos. GIS circuit breaker bays (*) of 400kV or above voltage class cumulatively in two (02) GIS substation during last seven (07) years and these bays must be in satisfactory operation### for at least two (02) one (01) year as on the date of bid opening mentioned above.</p>
5.	Vol 1 Sec 2 ITB_PSS_1 PH-1&2_R3	2.2.1.3 ii)	6 of 14	<p>The GIS must be offered from Indian manufacturer, who meets the requirement mentioned at 2.2.1, ROUTE-1 & ROUTE-2 above.</p>	<p>The GIS must be offered from Indian manufacturer, who meets the requirement (except erection, testing and commissioning but including erection supervision) mentioned at 2.2.1, ROUTE-1 or ROUTE-2 above.</p>



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6.	Vol I Sec 2 ITB_PSS_1 PH-1&2_R3	2.2.1.3 , iii)	6 of 14	A legally enforceable undertaking (jointly with the GIS Manufacturer) (as per enclosed format in 27(B) of Appendix-27, Section-VII, Volume-I of bidding document) to guarantee quality, timely supply, performance and warranty obligations as specified for the equipment(s) is submitted along with the bid stating that GIS Manufacturer shall furnish performance guarantee for an amount of two (2) % of the total contract price. This performance guarantee shall be in addition to the Contract Performance security to be submitted by the Bidder.	A legally enforceable undertaking (jointly with the GIS Manufacturer(s)) (as per enclosed format in 27(B) of Appendix-27, Section-VII, Volume-I of bidding document) to guarantee quality, timely supply, performance and warranty obligations as specified for the equipment(s) is submitted along with the bid stating that EPC Contractor/Bidder shall furnish performance guarantee for an amount of two (2) % of the total contract price. This performance guarantee shall be in addition to the Contract Performance security to be submitted by the Bidder.
7.	Vol I Sec 2 ITB_PSS_1 PH-1&2_R3	11.6 i)	13 of 14	Security Deposit cum Performance Bank Guarantee (SD/PBG) as per the format given in Appendix 16 (B); Format of Bank Guarantee for Security Deposit/ Performance Bank Guarantee, shall be furnished in favour of Gujarat Industries Power Company Limited (GIPCL). The Successful Bidder shall submit Security Deposit cum Performance Bank Guarantee of 10% of EPC Contract Price, within 30 days after issuance of LOI as per the format given in Appendix 16(B). The validity period of PBG should be for a total period of up to 44 months (i.e. 20 months completion period including both Phase-I & Phase-II + 12 months claim period) from the date of LOI, the PBG shall have to be extended for further 6 months beyond the due date and when asked by GIPCL. However, in case Bidder fails to submit PBG within 30 days after issue of date of LOI, GIPCL reserves the right to cancel LOI and to recover all cost and liability thereof from Bidder. SD Cum PBG shall be returned only after 12 months from Defect Liability Period. Validity including Claim period of SD/PBG shall be of 44 months from date of LOI or, extended further as asked by GIPCL.	Security Deposit cum Performance Bank Guarantee (SD/PBG) as per the format given in Appendix 16 (B); Format of Bank Guarantee for Security Deposit/ Performance Bank Guarantee, shall be furnished in favour of Gujarat Industries Power Company Limited (GIPCL). The Successful Bidder shall submit Security Deposit cum Performance Bank Guarantee of 10% of EPC Contract Price, within 30 days after issuance of LOI as per the format given in Appendix 16(B). The validity period of PBG should be for a total period of up to 44 months (i.e. 20 months completion period including both Phase-I & Phase-II + 12 months claim period) from the date of LOI, the PBG shall have to be extended for further 6 months beyond the due date and when asked by GIPCL. However, in case Bidder fails to submit PBG within 30 days after issue of date of LOI, GIPCL reserves the right to cancel LOI and to recover all cost and liability thereof from Bidder. SD Cum PBG shall be returned only after 12 months from Defect Liability Period. Validity including Claim period of SD/PBG shall be of 44 months from date of LOI or, extended further as asked by GIPCL.
8.	Vol I Sec 2 ITB_PSS_1 PH-1&2_R3	11.6 ii)	13 of 14	The Contractor shall also furnish Performance Bank Guarantee (PBG) equivalent to 3% (three percent) of the Contract Value within 30 days before expiry of Defect Liability Period. The validity period of Security Deposit cum PBG should be for a total period up to 60 months from the date of Taking over of the 1200MW PSS-1.	Bank guarantee for an amount equal to 3% of the EPC contract price shall be furnished by the successful bidder for Power Transformer and Gas Insulated Switchgear (GIS) as per format enclosed (Appendix-16 (B)). The said Bank Guarantee for has to be furnished 30 days before the completion of Defect Liability Period and should be valid up to 60 months from the date of taking over by GIPCL/ Owner. For the Other equipment/ Systems/ Plants the Contract performance bank guarantee period shall be as per clause above.
9.	Vol I Sec 4 GCC_PSS_1 PH-1&2_R3	43.3	33 and 34 of 52	Contractor's Responsibilities The Contractor shall arrange, at his (Contractor) own cost, for training abroad as below: a. buying round trip air ticket between India and the place of training b. arranging lodging and boarding including local transportation for the Owner's personnel from their arrival abroad to the date of their departure. The Contractor shall arrange, at his (Contractor) own cost, for training within India as below: • Local transport, Boarding and Lodging for the period of training.	<ul style="list-style-type: none"> Deleted



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10.	Vol I Sec 4 GCC_PSS_1 PH-1&2_R3	80.1	47 of 52	The rate(s) quoted against the work shall remain firm during the entire Contract period.	<p>The rate(s) quoted against the work shall remain firm during the entire Contract period basis except the price variation allowed for the item listed below.</p> <p>A) Price variation clause for Power Transformer above 33kV up to 400kV Voltage level</p> <p>In case of any variation in these prices and index numbers, the price payable shall be subject to adjustment, up or down in accordance with the following formula:</p> $P = \frac{P_0}{100} \left(6 + 32 \frac{C}{C_0} + 27 \frac{ES}{ES_0} + 12 \frac{IS}{IS_0} + 4 \frac{IM}{IM_0} + 9 \frac{TO}{TO_0} + 10 \frac{W}{W_0} \right)$ <p>Wherein, P = Price payable as adjusted in accordance with the above formula. In case of upward price variation. P₀ = Rs. 20,00,00,000/- (Fixed by GIPCL- Ex-works and Excluding GST/Ex-works price excluding Quoted by Bidder in the schedule of price 5A and 5B whichever is lower. This is price of one 400/33/33 KV, 340MVA Transformer) In case of downward price variation. P₀ = Rs. 20,00,00,000/- (Fixed by GIPCL- Ex-works and Excluding GST/Ex-works price excluding GST Quoted by Bidder in the schedule of price 5A and 5B whichever is lower. This is price of one 400/33/33 KV, 340MVA Transformer)</p> <p>C₀ = Price of CC copper wire rods (refer notes) This price is as applicable for the month, TWO months prior to the date of Bid Submission. ES₀ = Price of CRGO Electrical Steel Lamination (refer note) This price is as applicable for the month, TWO months prior to the date of Bid Submission. IS₀ = Average price of steel Plates 10 mm thick (refer notes) This price is as applicable for the month, TWO months prior to the date of Bid Submission. IM₀ = Price of Insulating Materials (refer notes) This price is as applicable for the month, TWO months prior to the date of Bid Submission. TO₀ = Price of Transformer Oil (refer notes) This price is as applicable for the month, TWO months prior to the date of Bid Submission. W₀ = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2016 = 100) This index number is as applicable for the month, THREE months prior to the date of Bid Submission. For example, if date of Bid submission falls in June 2022, applicable prices of Copper wire Rods (C0), Steel Plates 10 mm thick (IS0), CRGO Electrical Steel Laminations (ES0) and Insulating material (IM0) and Transformer Oil (TO0) should be for the month of April-2022 and all India average consumer price index no. (W0) should be for the month of March-22 The above prices and indices are as published by IEEEMA shall be considered. C = Price of CC copper wire rods (refer notes) This price is as applicable for the month, TWO months prior to the date of delivery. ES = Price of CRGO Electrical Steel Lamination (refer note)</p>



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					<p>This price is as applicable for the month, TWO months prior to the date of delivery.</p> <p>IS = Average price of Steel Plates 10 mm thick (refer notes)</p> <p>This price is as applicable for the month, TWO months prior to the date of delivery.</p> <p>IM = Price of Insulating Materials (refer notes)</p> <p>This price is as applicable for the month, TWO months prior to the date of delivery.</p> <p>TO = Price of Transformer Oil (refer notes)</p> <p>This price is as applicable for the month, ONE month prior to the date of delivery.</p> <p>W = All India average consumer price index number for industrial workers, as published by the Labour Bureau, Ministry of Labour, Govt. of India (Base: 2016 = 100)</p> <p>This index number is as applicable for the month, THREE months prior to the date of delivery.</p> <p>For example, if date of delivery in terms of clause given below falls in December 2022, applicable prices of Copper wire Rods (C), Insulating material (IM), CRGO Electrical Steel Lamination (ES), Plates 10 mm thick (IS) should be for the month of October 2022 and Transformer Oil (TO) should be for the Month of November 2022 and all India average consumer price index no. (W) Should be for the month of September 2022.</p> <p>The date of delivery is the date on which the GIPCL gives the dispatch clearance to the EPC contractor (in the absence of such notification, the date of manufacturer's dispatch note is to be considered as the date of delivery) or the contracted delivery date as per approved bar chart/PERT chart (including any agreed extension thereto), whichever is earlier.</p> <p>Note: All prices are exclusive of GST and exclusive of any other central, state or local taxes, transportation etc.</p> <p>The details of prices are as under:</p> <ol style="list-style-type: none"> Price of copper wire rod (in Rs/MT) is ex-works price as quoted by the primary producer. The price of CRGO is the price of CRGO Electrical Steel Lamination in Rs/MT suitable for Transformers of voltage above 33 KV and up to 400 KV Price of Steel is the average retail price of steel plates 10 mm thick as published by Joint Plant Committee (JPC) in Rs./MT The price of Insulating materials (in Rs./Kg) of pre-compressed pressboards of size 10 mm thick 3200 mm x 4100 mm. The price of Transformer Oil (in Rs./K.Ltr) is the average price on ex-refinery basis as quoted by primary producers for supply in drums. <p>General:</p> <ol style="list-style-type: none"> All above price/index used for application in price variation formula shall be as per published price/index by IIEEMA for applicable months. All Ex-Works Price Components for Spares, Maintenance & Testing Equipment, etc. and other items not specifically mentioned above shall remain firm and no price adjustment shall be applicable for the price components of these items.



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					<p>3. Other Charges viz. inland transportation, inland insurance, computer studies (if any) & training charges etc. shall be firm and no price variation shall be payable for these components.</p> <p>4. No price increase shall be allowed if project completion gets delayed beyond the completion period and contractor is in LD zone, i.e. 14 Months for the Phase-1 and 20 Months for the Phase-2 from the date of LoI, unless specifically stated in the Time Extension Letter, if any, issued by the GIPCL. The GIPCL will, however, be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of project completion gets delayed beyond the completion period and contractor is in LD zone. Therefore, in case, the liability of the Employer shall be limited to the lower of the price adjustment amount which may work out from the date on which the GIPCL gives the dispatch clearance to the EPC contractor.</p> <p>5. To claim the price variation successful bidder has to submit the supporting document like certified copy of IEEMA circulars, P.V Calculation sheet etc. along with their invoices. P.V claim shall be submitted after contractual period.</p> <p>6. Example for Price variation for delivery of transformer is as follows.</p> <p>Scenario-1 : Bidder supplied the transformer within time schedule and completed the project within time line and without application of liquidity damage:</p> <p>P₀ = Rs. 20,00,00,000/- (Fixed by GIPCL- Ex-works and Excluding GST/ Quoted by Bidder in the schedule of price 5A and 5B whichever is lower as applicable). For example, P₀= Rs. 20,00,00,000/- (For example, in the schedule of price 5A and 5B bidder has quoted Rs. 22,00,00,000/-)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>C₀ = Rs. 8,33,925/-</td> <td>C = Rs. 9,00,000/-</td> </tr> <tr> <td>ES₀ = Rs. 6,05,727/-</td> <td>ES = Rs. 7,00,000/-</td> </tr> <tr> <td>IS₀ = Rs. 80,512/-</td> <td>IS = Rs. 85,000/-</td> </tr> <tr> <td>IM₀ = Rs. 657,01/-</td> <td>IM = Rs. 700/-</td> </tr> <tr> <td>TC₀ = Rs. 1,38,718/-</td> <td>TO = Rs. 1,50,000/-</td> </tr> <tr> <td>W₀ = Rs. 362.88</td> <td>W = Rs. 400/-</td> </tr> </table> <p>Then the P= 21,88,46,414/- In above, case Bidder is eligible to claim additional claim above EPC price of Rs. 1,88,46,414/- + GST for the transformer for which above calculation is made. In case bidder has quoted P₀= Rs. 18,00,00,000/- in the schedule of price 5A and 5B, then the revised price, P=Rs. 19,69,61,773/-.</p> <p>Scenario-2 : Bidder supplied the transformer within time schedule and completed the project within time line and without application of liquidity damage:</p> <p>P₀ = Quoted by Bidder in the schedule of price 5A and 5B. For example, P₀= Rs. 25,00,00,000/-(more than Rs. 20,00,00,000/-)</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>C₀ = Rs. 8,33,925/-</td> <td>C = Rs. 7,00,000/-</td> </tr> <tr> <td>ES₀ = Rs. 6,05,727/-</td> <td>ES = Rs. 5,00,000/-</td> </tr> <tr> <td>IS₀ = Rs. 80,512/-</td> <td>IS = Rs. 70,000/-</td> </tr> <tr> <td>IM₀ = Rs. 657,01/-</td> <td>IM = Rs. 500/-</td> </tr> <tr> <td>TC₀ = Rs. 1,38,718/-</td> <td>TO = Rs. 1,20,000/-</td> </tr> <tr> <td>W₀ = Rs. 362.88</td> <td>W = Rs. 400/-</td> </tr> </table>	C ₀ = Rs. 8,33,925/-	C = Rs. 9,00,000/-	ES ₀ = Rs. 6,05,727/-	ES = Rs. 7,00,000/-	IS ₀ = Rs. 80,512/-	IS = Rs. 85,000/-	IM ₀ = Rs. 657,01/-	IM = Rs. 700/-	TC ₀ = Rs. 1,38,718/-	TO = Rs. 1,50,000/-	W ₀ = Rs. 362.88	W = Rs. 400/-	C ₀ = Rs. 8,33,925/-	C = Rs. 7,00,000/-	ES ₀ = Rs. 6,05,727/-	ES = Rs. 5,00,000/-	IS ₀ = Rs. 80,512/-	IS = Rs. 70,000/-	IM ₀ = Rs. 657,01/-	IM = Rs. 500/-	TC ₀ = Rs. 1,38,718/-	TO = Rs. 1,20,000/-	W ₀ = Rs. 362.88	W = Rs. 400/-
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11.	Vol I Sec 5 SCC_PSS_1 PH-1&2_R3	21. (a) & (b)	14 of 19	<p>Then the P= 17,48,68,050/- In above scenario GIPCL shall reduce EPC price of Rs. 2,51,31,950/- for that particular transformer and similar calculation made for remaining transformer for recovery of the price from EPC contractor. In case quoted price by contractor is Rs. 18,00,00,000/- (less than Rs. 20,00,00,000/-) then P= Rs. 15,73,81,245/-</p> <p>Scenario-3 : Bidder supplied the transformer within time schedule and not completed project on time and Liquidity damage is applicable:</p> <table border="1" style="width: 100%;"> <tr> <td> <p>C₀ = Rs. 8,33,925/- ES₀ = Rs. 6,05,727/- IS₀ = Rs. 80,512/- IM₀ = Rs. 657,01/- TC₀ = Rs. 1,38,718/- W₀ = Rs. 362.88</p> </td> <td> <p>C = Rs. 9,00,000/- ES = Rs. 7,00,000/- IS = Rs. 85,000/- IM = Rs. 700/- TO = Rs. 1,50,000/- W = Rs. 400/-</p> </td> </tr> </table> <p>No price escalation shall be payable by GIPCL to contractor, however in case of reduction in price shall be recovered by GIPCL from the contractor as per Scenario-4 described below.</p> <p>Scenario-4: Bidder supplied the transformer within time schedule/ delayed supplied of transformer and not completed project on time and Liquidity damage is applicable: P₀ = Quoted by Bidder in the schedule of price 5A and 5B. The example P₀ = Rs. 25,00,00,000/- (more than Rs. 20,00,00,000/-)</p> <table border="1" style="width: 100%;"> <tr> <td> <p>C₀ = Rs. 8,33,925/- ES₀ = Rs. 6,05,727/- IS₀ = Rs. 80,512/- IM₀ = Rs. 657,01/- TC₀ = Rs. 1,38,718/- W₀ = Rs. 362.88</p> </td> <td> <p>C = Rs. 7,00,000/- ES = Rs. 5,00,000/- IS = Rs. 70,000/- IM = Rs. 500/- TO = Rs. 1,20,000/- W = Rs. 400/-</p> </td> </tr> </table> <p>Then the P= 17,48,68,050/-</p> <p>In above scenario GIPCL shall reduce EPC price of Rs. 2,51,31,950/- for that particular transformer and similar calculation made for remaining transformer for recovery of the price from EPC contractor.</p> <p>In case quoted price by contractor is Rs. 18,00,00,000/- (less than Rs. 20,00,00,000/-) then P= Rs. 15,73,81,245/-</p> <p>a. Indigenous supplies: - The equipment to be supplied under this Contract shall be inspected during manufacturing as per the quality plan to be finalized. Material verification and stage inspection at all important stages as well as final testing and inspection fall within this scope. The inspection shall be carried out by a third-party inspection agency to be appointed by the Owner for indigenous supplies. The cost towards this inspection shall be borne by the Owner.</p> <p>b. In the case of imported supplies: - For imported materials or non-indigenous supplies, the inspection shall be carried out either by a foreign agency of repute to be appointed by the contractor as approved by the Owner or will be witnessed by the</p>	<p>C₀ = Rs. 8,33,925/- ES₀ = Rs. 6,05,727/- IS₀ = Rs. 80,512/- IM₀ = Rs. 657,01/- TC₀ = Rs. 1,38,718/- W₀ = Rs. 362.88</p>	<p>C = Rs. 9,00,000/- ES = Rs. 7,00,000/- IS = Rs. 85,000/- IM = Rs. 700/- TO = Rs. 1,50,000/- W = Rs. 400/-</p>	<p>C₀ = Rs. 8,33,925/- ES₀ = Rs. 6,05,727/- IS₀ = Rs. 80,512/- IM₀ = Rs. 657,01/- TC₀ = Rs. 1,38,718/- W₀ = Rs. 362.88</p>	<p>C = Rs. 7,00,000/- ES = Rs. 5,00,000/- IS = Rs. 70,000/- IM = Rs. 500/- TO = Rs. 1,20,000/- W = Rs. 400/-</p>	<p>a) Indigenous supplies: - The equipment to be supplied under this Contract shall be inspected during manufacturing as per the quality plan to be finalized. Material verification and stage inspection at all important stages as well as final testing and inspection fall within this scope. The inspection shall be carried out by a third-party inspection agency to be appointed by the Owner for indigenous supplies. The cost towards this inspection shall be borne by the Contractor.</p>
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12.	Vol I, Sec 6 ECC_PSS_1 PH-1&2_R3	3.1	4 & 5 of 27	<p>b) In the case of imported supplies: - For imported materials or non-indigenous supplies, the inspection shall be carried out either by a foreign agency of repute to be appointed by the contractor as approved by the Owner or will be witnessed by the Owner. All costs (travel, local transport, lodging and boarding) related to inspection of imported supplies shall be borne by the Contractor.</p> <p>The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with various applicable labour laws like the Factories Act, the Minimum Wages Act, 1948, Payment of Wages Act and Contractor Labour (Regulation and Abolition Act), ESI Act, the Workman's compensation act, EPF Act, or any other law and the rules made there under in respect of any employee or workman employed or engaged by him or his sub-contractor and all other statutory requirements as amended from time to time to the entire satisfaction of Central/State Govt. Authorities, shall be the responsibility of the Contractor and he shall have to make good loss, if any, suffered by GIPCL on account of default in this regard by the Contractor.</p>	<p>Owner. All costs (travel, local transport, lodging and boarding) related to inspection of imported supplies shall be borne by the Owner.</p> <p>The Contractor shall comply with all the rules and regulations of local authorities during the performance of his field activities. He shall also comply with various applicable labour laws like the Factories Act, the Minimum Wages Act, 1948, Payment of Wages Act and Contractor Labour (Regulation and Abolition Act), ESI Act, the Workman's compensation act, EPF Act, or any other law and the rules made there under in respect of any employee or workman employed or engaged by him or his sub-contractor and all other statutory requirements as amended from time to time to the entire satisfaction of Central/State Govt. Authorities, shall be the responsibility of the Contractor and he shall have to make good loss, if any, suffered by GIPCL on account of default in this regard by the Contractor. Bidder shall consider BOCW cess only on the Civil & Erection works as per the BOCW Act.</p>
13.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	2.2.0	6 of 64	<p>Power Quality Meters (PQM) at GIPCL PSS end and CTUUL / ISTS Substation end</p> <p>The system shall be designed for 2375MW. In the Phase-I, the items required for monitoring & control of 1200MW (PSS-1) shall be procured. Those materials required for 1200MW (PSS-2) shall not be in the scope of this tender. However, the engineering & design shall be done for complete 2375MW (PSS-1 & 2) and required provisions for integrating these systems shall be kept and also required space arrangement shall be kept for smooth execution of the project.</p>	<p>Power Quality Meters (PQM) at GIPCL PSS end and CTUUL / ISTS Substation end. Matching Line Differential Relay & Distance Relay and associated items at CTUUL / ISTS substation for GIPCL Incoming 400kV Transmission Line.</p>
14.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	2.2.0, k)	5 of 64	<p>Technical Parameters indicated in drawings and detailed technical specification for equipment is minimum requirement. Actual rating shall be as per system studies (except for items listed below) conducted by bidder. Any change in parameter shall be at no extra cost to Owner.</p>	<p>Technical Parameters indicated in drawings and detailed technical specification for equipment is minimum requirement. Actual rating shall be as per system studies (except for items listed below) conducted by bidder. Any change in parameter shall be at no extra cost to Owner.</p> <p>However, following items shall remain fixed:</p> <ol style="list-style-type: none"> 1. Basic Rating and Quantity of 400/33/33 KV, 340/170/170 MVA Step-up Power transformers 2. Number and Ratings of Incoming and Outgoing Feeders of 33kV Switchgear including in-come and its basic rating. 3. Size and number of 33kV Cable from SPPWPP to 33kV GIPCL Switchgear (Not in bidders scope) 4. Number and Ratings of Incoming and Outgoing Feeders of 415V Park Infrastructure DB. 5. Number of GIS Bays and its basic rating. 6. Number of Capacitive Bank and its Power Rating.
15.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	2.5.0	7 of 64	<p>Technical Parameters indicated in drawings and detailed technical specification for equipment is minimum requirement. Actual rating shall be as per system studies conducted by bidder. Any change in parameter shall be at no extra cost to Owner.</p>	<p>Technical Parameters indicated in drawings and detailed technical specification for equipment is minimum requirement. Actual rating shall be as per system studies (except for items listed below) conducted by bidder. Any change in parameter shall be at no extra cost to Owner.</p> <p>However, following items shall remain fixed:</p> <ol style="list-style-type: none"> 1. Basic Rating and Quantity of 400/33/33 KV, 340/170/170 MVA Step-up Power transformers 2. Number and Ratings of Incoming and Outgoing Feeders of 33kV Switchgear including in-come and its basic rating. 3. Size and number of 33kV Cable from SPPWPP to 33kV GIPCL Switchgear (Not in bidders scope) 4. Number and Ratings of Incoming and Outgoing Feeders of 415V Park Infrastructure DB. 5. Number of GIS Bays and its basic rating. 6. Number of Capacitive Bank and its Power Rating.



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16.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	2.9.0	8 of 64	<p>The scope of supply shall also include the following:</p> <ul style="list-style-type: none"> • First fill of consumables, if any • Spare parts required for successful commissioning. Bidder shall submit the list. • Mandatory Spares as listed in Annexure-C. • Recommended Spares for three years operation & maintenance (O&M), for the equipment which are not covered in Annexure-C. • Special tools for operation & maintenance (O&M) as listed in Annexure-D. • AMC support for 400KV GIS, 400KV Transformers with NIFPS, Battery Chargers, UPS, PLCC, FOTE Panel & related system, SAS, HPCMS, Fire Protection system, EOT, crane, Capacitor Bank, DG Sets (Mechanical & Electrical both). • AMC support for all the software Stationaries & Consumables for all the Workstations and printers for a period of one year. <p>The item-wise price of all these items shall be given by the Vendor in the relevant schedule. O&M spares shall be considered for evaluation of bid. It shall not be binding on the Owner to procure all the O&M spares.</p> <p>O&M spares, Mandatory spares and special tools & tackles being purchased by the Owner shall not be used during the commissioning of the equipment. Any spares and special tools and tackles required for commissioning purpose shall be in the scope of the Vendor. The Vendor shall submit the list of commissioning spares based on his experience.</p>	Bidder shall refer Annexure-I.
17.	Volume-II, Sec-1- GTS_PSS_Rev 3_Revised	Annexure-B Phase-I, 15)	19 of 64	Spare ABT Meters (Duty Tested) for 33 KV system	Deleted
18.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	Annexure-B, Phase-I, 38)	20 of 64	230V AC UPS system - 4 Set	230V AC UPS system - 2 Sets
19.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	Annexure -B Phase-I, 72)	22 of 64	Maintenance Free Dehydrating Breather system	Maintenance Free Dehydrating Breather system Set 4
20.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	Annexure-B Phase-I, 111)	24 of 64	Outdoor storage yard (Not less than 20Mx40M)	Deleted
21.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	Annexure-B Phase-II, 13)	27 of 64	Maintenance Free Free Dehydrating Breather system	Maintenance Free Dehydrating Breather system Set 4
22.	Volume II, Sec-1- GTS_PSS_Rev 3_Revised	ANNEXURE- E: VENDOR LIST, 67)	55 of 64	a) Secure	a) Secure b) Supplied by CTUIL



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23.	Volume II, FOC-1721125-EL-DWG-SLD-2100-001, Rev.04	Bay no 303 SST Feeder	NA		<p>MFM Meter</p> <p>Addition of Gas Barrier for Line Bay EMVT</p>
24.	Volume II, FOC-1721125-EL-DWG-SLD-2100-001, Rev.04	401-EMVT 401-89	NA		
25.	Volume II, Sec-2-1-DTS Design Aspects_PSS_Rev 3_Revise	4.10.0	6 of 8	<p>SAS room shall accommodate Substation automation system servers and operator workstation and operator work station for tariff meters, Workstation for Disturbance recorder & Printers.</p> <p>Transformers shall withstand, without damage, injurious heating due to the combined voltage and frequency fluctuations which produce the following over fluxing conditions: 110 % continuously 125 % for 1 minute 140 % for 5 seconds</p>	<p>Server room shall accommodate Substation automation system & HPCMS servers. Control Room shall accommodate operator cum engineering workstation(s) for tariff meters, Workstation for Disturbance recorder & Printers.</p> <p>Transformers shall withstand, without damage, injurious heating due to the combined voltage and frequency fluctuations which produce the following over fluxing conditions: 110 % continuously 125 % for 1 minute 140 % for 5 seconds</p>
26.	Volume II, Sec-2-2-DTS_Stepup PT_PSS_Rev 3_Revise	4.13.0	3 of 50	<p>Transformers shall withstand, without damage, injurious heating due to the combined voltage and frequency fluctuations which produce the following over fluxing conditions: 110 % continuously 125 % for 1 minute 140 % for 5 seconds</p> <p>Withstand time for 150% & 170% over fluxing condition shall be indicated. Over fluxing characteristics up to 170 % shall be submitted. The air core reactance of transformer shall not be less than 20%. External or internal reactors shall not be used to achieve the specified HV/LV or HV/LV1 and HV/LV2 impedances.</p>	<p>Withstand time for 150% & 170% over fluxing condition shall be indicated. Over fluxing characteristics up to 170 % shall be submitted. The air core reactance of HV winding of transformer shall not be less than 20%. External or internal reactors shall not be used to achieve the specified HV/LV or HV/LV1 and HV/LV2 impedances. Only Internal Reactor (buried or terminals brought out) is permitted for 5 limb core construction only if it is required.</p>
27.	Volume II, Sec-2-2-DTS_Stepup PT_PSS_Rev 3_Revise	5.3.0 j)	10 of 50	<p>Tan delta of new transformer winding measured in supplier's works before dispatch must be less than 0.005 (0.5%)</p>	<p>Tan delta of new transformer winding measured in supplier's works before dispatch must be less than or equal to 0.005 (0.5%)</p>
28.	Volume-II, Sec-2-2-DTS_Stepup PT_PSS_Rev 3_Revise	5.6.0 i)	12 of 50	<p>To minimise the ingress of moisture, two dehydrating breathers in series of identical size shall be connected to OLTC Conservator.</p>	<p>To minimise the ingress of moisture, two maintenance free type of dehydrating breather in-series-of-identical-size shall be connected to OLTC Conservator.</p>
29.	Volume II, Sec-2-2-DTS_Stepup PT_PSS_Rev 3_Revise	5.10.0, f)	16 of 50	<p>Make & Model shall be Qualitrol make T/Guard 408.</p>	<p>Make & Model shall be Qualitrol make T/Guard 408 or equivalent model of vendors listed in Annexure-E of Sec-1-GTS_PSS_Rev 3_Revise.</p>



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30.	Volume II, Sec-2-2- DTS_Stepup PT_PSS_Rev_3_Revised	5.12.0 a)	16 of 50	Bushing for voltage of above 72.5kV shall be of the oil filled condenser type. 36 kV bushing shall be solid porcelain or oil communicating type.	Bushing for voltage of above 72.5kV shall be of the oil filled condenser type. 36 kV bushing shall be solid porcelain or oil communicating type. Bushing ratings shall be as follows: <table border="1"> <thead> <tr> <th>S. No</th> <th>Description</th> <th>Voltage Rating (kV)</th> <th>Bushing Type</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>HV</td> <td>420</td> <td>O/P (Oil Impregnated Paper)/RIP/Resin Impregnated Paper)</td> </tr> <tr> <td>2</td> <td>HV Neutral</td> <td>36</td> <td>Solid Porcelain or O/P/RIP</td> </tr> <tr> <td>3</td> <td>LV1/LV2</td> <td>52</td> <td>O/P/RIP</td> </tr> <tr> <td>4</td> <td>LV1/LV2 Neutral</td> <td>52</td> <td>O/P/RIP</td> </tr> <tr> <td>5</td> <td>Tertiary (if Provided for 5 limb construction only). No bushing shall be provided for buried tertiary winding.</td> <td>52</td> <td>O/P/RIP</td> </tr> </tbody> </table>	S. No	Description	Voltage Rating (kV)	Bushing Type	1	HV	420	O/P (Oil Impregnated Paper)/RIP/Resin Impregnated Paper)	2	HV Neutral	36	Solid Porcelain or O/P/RIP	3	LV1/LV2	52	O/P/RIP	4	LV1/LV2 Neutral	52	O/P/RIP	5	Tertiary (if Provided for 5 limb construction only). No bushing shall be provided for buried tertiary winding.	52	O/P/RIP
S. No	Description	Voltage Rating (kV)	Bushing Type																										
1	HV	420	O/P (Oil Impregnated Paper)/RIP/Resin Impregnated Paper)																										
2	HV Neutral	36	Solid Porcelain or O/P/RIP																										
3	LV1/LV2	52	O/P/RIP																										
4	LV1/LV2 Neutral	52	O/P/RIP																										
5	Tertiary (if Provided for 5 limb construction only). No bushing shall be provided for buried tertiary winding.	52	O/P/RIP																										
31.	Volume II, Sec-2-2- DTS_Stepup PT_PSS_Rev_3_Revised	5.28.0, b)	32 of 50	The cooler control cabinet, marshalling box, Junction box and all other outdoor cubicles and OLTC Drive Mechanism box shall be made of stainless steel sheet of minimum grade of SS 304 or better and of minimum thickness of 1.6 mm. Digital RTCC panel shall be made of CRCA sheet of minimum thickness of 2.5mm and shall be painted considering C5-M corrosion zone as per ISO 12944 for very high saline zone.	The cooler control cabinet, marshalling box, Junction box and all other outdoor cubicles and OLTC Drive Mechanism box shall be made of stainless steel sheet of minimum grade of SS 304 or better and of minimum thickness of 1.6 mm. Digital RTCC panel shall be made of CRCA sheet of minimum thickness of 2.5mm and shall be painted considering C5-M corrosion zone as per ISO 12944 for very high saline zone. OLTC Drive Mechanism box made of aluminum sheet (minimum thickness of 1.6mm) with C5-M Paint is also acceptable.																								
32.	Volume II, Sec-2-2- DTS_Stepup PT_PSS_Rev_3_Revised	10.0.0, 10)	48 of 50	Type of cooling ONAN : 204	Type of cooling ONAN : 272																								
33.	Volume II, Sec-2-2- DTS_Stepup PT_PSS_Rev_3_Revised	10.0.0, 26)	49 of 50	Percentage impedance of nominal tap at 75°C at 170 MVA Base HV-LV1 & HV-LV2: % : 15 (min. on principal tap) LV1-LV2 : % : 27 (approx. maximum)	Percentage impedance of nominal tap at 75°C at 170 MVA Base HV-LV1 & HV-LV2: % : 15 (min. on principal tap) LV1-LV2 : % : 27 (± 15% tolerance)																								
34.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev_3	2.2.1. (i)	2 of 25	UHF sensors in GIS for PD (Partial Discharge) detection: Adequate number of UHF sensors shall be provided in the offered GIS (of 5 pc and above as per IEC 60270). The number and location of these sensors shall be based on laboratory test on typical design of GIS as per recommendations of CIGRE Document No. 654 (Application Guide for sensitivity verification for UHF Partial discharge detection system for GIS)	UHF sensors in GIS for PD (Partial Discharge) detection: Adequate number of UHF sensors shall be provided in the offered GIS (of 5 pc and above as per IEC 60270). The number and location of these sensors shall be based on laboratory test on typical design of GIS as per recommendations of CIGRE Document No. 654 (Application Guide for sensitivity verification for UHF Partial discharge detection system for GIS) or OEM Type tested design. OEM has to do sensitivity check using calibrator on site to see if the sensors are receiving signal and also the amplitude of the same in presence of Owner/GIPCL.																								
35.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev_3	2.2.4. a)	3 of 25	One (1) three phase SF6 insulated circuit breaker complete with spring operated mechanism.	One (1) three phase SF6 insulated circuit breaker (having single pole individual operation) complete with spring operated mechanism.																								
36.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev_3	2.2.13.1.	8 of 25	EOT crane for 400kV GIS Hall of suitable capacity shall be provided for erection and maintenance of largest/heaviest GIS components/assembly. The crane shall consist of all special requirements for erection and maintenance of GIS equipment.	Single Girder EOT crane for 400kV GIS Hall of suitable capacity shall be provided for erection and maintenance of largest/heaviest GIS components/assembly. The crane shall consist of all special requirements for erection and maintenance of GIS equipment.																								



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37.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	2.2.14	9 of 25	Continuous on-line monitoring and diagnostics systems to monitor gas density, gas pressure, leakage, moisture, etc., operating parameters such as current, voltage, temperature, etc. complete with sensors and integration of the systems with plant SAS & HPCMS system. Hybrid density monitor shall be provided.	Continuous on-line monitoring and diagnostics systems to monitor gas density, gas pressure, leakage, moisture, etc., operating parameters such as current, voltage, temperature, etc. complete with sensors and integration of the systems with plant SAS & HPCMS system. Hybrid density monitor shall be provided.
38.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	6.0.0	13 of 25	Degree of protection for various enclosures as per IS:13947 shall be considered.	Degree of protection for various enclosures shall be considered as per IEC 60529 or applicable standards. The degree of protection shall be in accordance with IS/IEC60947: IS/IEC60529. Type test report of Ingress Protection test for applicable equipment shall be submitted for approval.
39.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	7.3.0	14 of 25	Gas enclosures shall be designed to withstand high vacuum by provision of suitable reinforcement(s) at all the required locations. The gas filled enclosures shall conform to code of ANSI/IEC	Gas enclosures shall be designed to withstand high vacuum by provision of suitable reinforcement(s) at all the required locations. The gas filled enclosures shall conform to relevant pressure vessel code of ASME/CENELEC/DIN for pressure Vessel.
40.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	7.8.0	14 of 25	The bus bars shall be rated for the duty specified and current rating shall be derived considering maximum possibilities.	The bus bars shall be rated for the duty specified and current rating shall be derived considering maximum possibilities. The bus bar shall be as per OEM type tested design.
41.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	7.10.0	14 of 25	The enclosures shall be such as to eliminate dangerous electrostatic charges. The enclosures shall meet the pressure vessel requirement as per ASME or equivalent. The modular design shall offer maximum flexibility from the design, operation and maintenance point of view. The enclosures shall be sectionalized with gas tight barriers between sections or compartments. The wall thickness of the enclosure shall be based on the design pressure as well as considering a burn through duration of 0.1 sec.	The enclosures shall be such as to eliminate dangerous electrostatic charges. The enclosures shall meet the pressure vessel requirement as per ASME/CENELEC/DIN. The modular design shall offer maximum flexibility from the design, operation and maintenance point of view. The enclosures shall be sectionalized with gas tight barriers between sections or compartments. The wall thickness of the enclosure shall be based on the OEM's Type Tested Design. The burn through duration shall be as per IEC Standard.
42.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	7.18.0	15 of 25	The thermal rating of all current carrying parts shall be minimum one second for the rated symmetrical short circuit current.	The thermal rating of all current carrying parts shall be minimum three seconds for the rated symmetrical short circuit current.
43.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	11.3.0	17 of 25	Separate circuits with switches, fuses, etc. of adequate rating shall be provided for control of space heater, lighting and power receptacle. These shall be on 240 V, ph AC supply, unless specified otherwise.	Separate circuits with switches, fuses, etc. of adequate rating shall be provided for control of space heater, lighting and power receptacle. These shall be on 240 V, single phase AC supply or 220 V DC supply, unless specified otherwise.
44.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	16.1.0	18 of 25	Window type alarm annunciation shall be provided on local control panels of each bay for the specified abnormal conditions. The alarm windows shall have provision for differentiating cleared and uncleared faults and flashing for new faults. Annunciator shall have RS-485 Modbus two way communication with remote reset by potential free contact integrated to SCADA system.	Window type (or OEM's Type Tested Design type) alarm annunciation shall be provided on local control panels of each bay for the specified abnormal conditions. The alarm windows shall have provision for differentiating cleared and uncleared faults and flashing for new faults. Annunciator shall have RS-485 Modbus two way communication with remote reset by potential free contact integrated to SCADA system.
45.	Volume II, Sec-2-3- DTS_400 kV GIS SWGR_PSS_Rev 3	19.6.0	20 of 25	The GIS floor shall be of epoxy. The outdoor switchyard shall be of PCC flooring.	The GIS floor painting shall be of epoxy or PU. The outdoor switchyard shall be of PCC flooring.



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46.	Volume II, Sec-2-3- DTS_400 KV GIS SWGR_PSS_Rev 3	22.1.0	22 of 25	Type tests including the Short Circuit Test should be conducted at CPR1 / ERDA / KEEMA / PEHLA / CESI / CERDA / JSIC / Intertek (ASTA). GIS make shall be indigenous.	Type tests including the Short Circuit Test should be conducted at CPR1 / ERDA / KEEMA / KERI / PEHLA / CESI / CERDA / JSTC / Intertek (ASTA). GIS make shall be indigenous.
47.	Volume II, Sec-2-3- DTS_400 KV GIS SWGR_PSS_Rev 3	22.1.0	22 of 25	The Contractor shall submit the type tests reports for the tests conducted on the equipment similar to those to be supplied under this contract and the test(s) should have been conducted at an independent laboratory not earlier than ten (10) years from date of Letter of Intent (LoI).	The Contractor shall submit the type tests reports for the tests conducted on the equipment similar to those to be supplied under this contract and the test(s) should have been conducted at an independent laboratory not earlier than Fifteen (15) years from date of Letter of Intent (LoI).
48.	Volume II, Sec-2-4 DTS_400 KV GIS Equipment PSS_Rev 3	3.1.0 h)	1 of 17	Rated Closing Time: Not more than 45 ms	Rated Closing Time: As per OEM Type Tested design subject to ceiling of 150 ms.
49.	Volume II, Sec-2-4 DTS_400 KV GIS Equipment PSS_Rev 3	3.2.0 iv)	7 of 17	Class : M2-E1	Class : M2-E0
50.	Volume II, Sec-2-4 DTS_400 KV GIS Equipment PSS_Rev 3	4.1.0	2 of 17	Rated Operating Duty Cycle O-0.3 sec. – CO- 1 min-CO	Rated Operating Duty Cycle O-0.3 sec. – CO- 3 min-CO
51.	Volume II, Sec-2-4 DTS_400 KV GIS Equipment PSS_Rev 3	4.8.0	2 of 17	Trip Circuits: Two independent tripping circuits, valves, pressure switches and coils to be provided for connection to different set of relay. The circuits shall operate correctly under all operating conditions upto rated breaking capacity and at all values of supply voltage between 70% to 100% of rated supply voltage. However even at 50% of rated supply voltage the breaker shall be able to operate. Trip coil supervision to be provided in both open and close position.	Trip Circuits: Two independent tripping circuits, valves, pressure switches and coils to be provided for connection to different set of relay. The circuits shall operate correctly under all operating conditions upto rated breaking capacity, and at all values of supply voltage between 70% to 110% of rated supply voltage. However even at 50%-of rated supply voltage the breaker shall be able to operate. Trip coil supervision to be provided in both open and close position.
52.	Volume II, Sec-2-5- DTS_CVT_PSS_Rev 3	8.0.0, 4)	4 of 5	System fault level : 63kA for 1sec	System fault level : 63kA for 3 secs
53.	Volume II, Sec-2-8- DTS_SS Automation_PSS_Rev 3_Revised	17.0.0, o)	48 of 48	Remote workstation including HMI and along with Two numbers dot matrix printer (A3/A4 paper)	Remote workstation including HMI and along with Two numbers dot matrix printers and One number color laser jet printer (A3/A4 paper)
54.	Volume II, Sec-2-10- DTS_Power line carrier commun_PSS_Rev 3_Revised	8.0.0, e.	13 of 41	Prospective symmetrical fault current: 63kA / 1 sec.	Prospective symmetrical fault current: 63kA / 3 sec.



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55.	Volume II, Sec-2-22-Misc Items_PSS_Rev_3	-	16 of 17	-	<p>Addition.</p> <p>1.28.0 Display Board</p> <p>One (1) LED display board screen (Multi color) shall conform to IP67 degree of protection with a minimum dimension of 4 meters x 3 meters for display of PSS-1 Substation Details. The display board shall be interfaced with the HPCMS system for making changes in the information displayed from the Control Room for which the bidder shall provide appropriate software, cables, hardwares ,etc. The sign board shall be mounted on SS-316 structures.</p> <p>Make: Signagex, Navi Mumbai/ Micromax, Pune/ Galaxy Signage, Harayana/JSR Sign Systems, Telengana/ Ambika LED, Ahmedabad/ Design Enterprises, Mumbai.</p>
56.	Volume II, Sec-2-22-Misc Items_PSS_Rev_3	-	16 of 17	-	<p>Addition.</p> <p>3.29.0 Fire stop cable sealing system</p> <p>Cable entry to 420kV GIS Building, Control Room, LV Panel Room, Electrical Battery Room, Server Room, Conference Room and Laboratory shall be of Modular Multi-diameter type of cable sealing system with minimum 20% spares for each type of entry, & cable size. Conventional cable sealing system shall be adopted for other buildings/room including 33kV Prefab Building with minimum 20% spares for each type of entry & cable size.</p> <p>For Centralised AC units, AC Scheduler / AC Controllers shall be provided to control and monitoring of AC units and shall have the following facilities:</p> <p>a) 100% Standby units (one working & one standby) shall be provided for rooms where control system & server equipment are there and 50% standby units shall be provided for all other rooms (office room, conference room etc.).</p> <p>b) Main and standby units shall be changed over periodically.</p> <p>c) Following minimum alarms shall be provided:</p> <ul style="list-style-type: none"> • Compressor On/OFF condition of each unit • Compressor failure of each unit • Cooling water Pressure and Temperatures • Power Supply failure to AC unit <p>d) Integration with SCADA for annunciation of alarms / failures /control and configuration</p> <p>For Decentralised AC units; Wherever decentralised AC units are envisaged like Ductable split type AC units/ High wall type split AC units/ Cassette type split AC units etc, then the system shall be as follows:</p> <p>a) 2x100% Main Units shall be provided and changed over periodically.</p> <p>b) 20% Standby additional units shall be provided and shall come into operation automatically when the running main unit fails or is taken for maintenance.</p> <p>c) Following alarms shall be provided:</p> <ul style="list-style-type: none"> • Power Supply failure to AC unit • High temperature in room. <p>d) Integration with SCADA for annunciation of alarms / failures</p>
57.	Volume-II, Sec-2-24- AC&Vent_PSS_Rev 3_Revised	4.4.0	4 of 5	<p>AC Scheduler / AC Controllers shall be provided, one controller for each room where air conditioning system is provided, to control and monitoring of AC units and shall have the following facilities:</p> <p>a) Standby units shall come in to operation automatically when the running main unit fails</p> <p>b) Main and standby units shall be changed over periodically.</p> <p>c) Following alarms shall be provided:</p> <ul style="list-style-type: none"> • Compressor failure of each unit • Power OFF to AC unit • High temperature in room. <p>d) Integration with SCADA for annunciation of alarms / failures</p>	<p>FIGHTNER INDIA</p>



Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
58.	Volume II, Sec-2-17-DTS UPS System_ PSS_ Rev 3	10.0.0, C, 1	7 of 7	Non-Compartmentalized. In built in UPS enclosure. Two (02) nos. UPS DB interconnected with Tie cable. For each output both UPS DB shall have MCB with Aux monitoring relay which shall generate alarm in SCADA on its failure.	e) AC Scheduler/ AC Controllers shall have facility for site configuration as per operational requirement from local as well as SCADA/HPCMS system
59.	Volume II, Sec-2-18-DTS Power and control cables_ PSS_ Rev 3	4.4.0	2 of 9	Power cables shall be XLPE insulated. Control cables shall be PVC / XLPE insulated.	Power cables shall be XLPE insulated. Control cables shall be PVC XLPE insulated.
60.	Volume II, Sec-2-18-DTS Power and control cables_ PSS_ Rev 3	4.28.0	4 of 9	Multicore 1.1 KV earthed grade cables shall constitute the following: <ul style="list-style-type: none"> • Circular / shaped, stranded aluminium conductor (compacted for >10 sq. mm) • Extruded XLPE insulation • Extruded PVC inner sheath • Galvanized steel formed wire/strip • Extruded FRLS PVC outer sheath 	Deleted
61.	Volume II, Sec-2-18-DTS Power and control cables_ PSS_ Rev 3	4.31.0	4 of 9	Multicore 1.1 KV earthed grade control cables shall constitute the following as per IS:1554-1 / 7098-1: <ul style="list-style-type: none"> • Multi stranded annealed copper conductor • Extruded PVC / XLPE insulation • Extruded PVC inner sheath • Galvanised steel formed wire/strip • Extruded FRLS PVC outer sheath 	Multicore 1.1 KV earthed grade control cables shall constitute the following as per IS:1554-1 / 7098-1: <ul style="list-style-type: none"> • Multi stranded annealed copper conductor • Extruded PVC XLPE insulation • Extruded PVC inner sheath • Galvanised steel formed wire/strip • Extruded FRLS PVC outer sheath
62.	Volume II, Sec-2-19-DTS_DG set_ PSS_ Rev 3	4.4.0,1.c)	2 of 18	48V DC Battery Chargers	Deleted
63.	Volume II, Sec-2-26-Civil_ PSS_ Rev 3	4.8	4 of 40	The works include contouring the entire plot area within the pooling substation boundary as per technical specification. High Flood level (HFL) is required to be arranged by Contactor for finalization of Finished ground level (FGL) of Pooling substation and will be fixed during detailed engineering. Finished ground floor level (FFL) for GIS building and Main control building shall be minimum 1000mm above Finished Ground level (FGL). Any other building ground floor (FFL) shall be minimum 700mm above finished ground level (FGL). Switchyard equipment foundations plinth shall be minimum 600mm above Finished Ground level (FGL). These are minimum elevation and can be increased. Roads, storm water drains, cable trench top levels shall be decided during detail engineering. Where the storm water drain comes in direct contact of the metal paving, 50mm dia hole shall be provided in drain wall just above FGL, in order to drain surface rain water into storm water drain and avoid flooding of water over metal paving.	The works include contouring the entire plot area within the pooling substation boundary as per technical specification. High Flood level (HFL) is required to be arranged by Contactor for finalization of Finished ground level (HFL) of Pooling substation and will be fixed during detailed engineering. Finished ground floor level (FFL) for GIS building and Main control building shall be minimum 1000mm above Finished Ground level (FGL). Any other building ground floor (FFL) shall be minimum 700mm above finished ground level (FGL). Switchyard equipment foundations plinth shall be minimum 600mm above Finished Ground level (FGL). These are minimum elevation and can be increased. Roads, storm water drains, cable trench top levels shall be decided during detail engineering. All bought out earth material required to raise the FGL and FFL shall be non-expansive soil. Where the storm water drain comes in direct contact of the metal paving, 50mm dia hole shall be provided in drain wall just above FGL, in order to drain surface rain water into storm water drain and avoid flooding of water over metal paving.



Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
64.	Volume II, Sec-2-26- Civil_PSS_Rev 3	9.1	15 of 40	<p>Grading of Concrete Unless required otherwise, cement used shall be Sulphate Resistant Cement conforming to IS 12330. Special cement, as appropriate, shall be used for structures, or portions of structures, exposed to chemicals. The type of cement shall be as per the soil investigation report. All structural concrete shall be design mixes only. Ready mix concrete may be used where feasible, minimum cement content shall be 350 kg / m3 of concrete unless otherwise specified in the detailed soil investigation report. Contractor shall produce concrete from fully automatic batching plant which shall be set up at project site. The Batching plant shall have sufficient capacity to complete the work within time schedule, efficient and calibrated. Contractor shall submit batch report of each concrete batch or engage concrete mixer equipment (batching plant) having facility of batch report of each concrete batch. All necessary test related to materials of concrete mix like cement, sand, steel, aggregates etc shall be carried out regularly as per relevant IS code.</p>	<p>Grading of Concrete Unless required otherwise, cement used shall be Sulphate Resistant Cement conforming to IS 12330. Special cement, as appropriate, shall be used for structures, or portions of structures, exposed to chemicals. The type of cement shall be as per the soil investigation report. All structural concrete shall be design mixes only. Ready mix concrete may be used where feasible, minimum cement content shall be 350 kg / m3 of concrete unless otherwise specified in the detailed soil investigation report. Contractor shall produce concrete from fully automatic batching plant which shall be set up at project site. The Batching plant shall have sufficient capacity to complete the work within time schedule, efficient and calibrated. Contractor shall submit batch report of each concrete batch or engage concrete mixer equipment (batching plant) having facility of batch report of each concrete batch. All necessary test related to materials of concrete mix like cement, sand, steel, aggregates etc shall be carried out regularly as per relevant IS code.</p>
65.	Volume II, Sec-2-26- Civil_PSS_Rev 3	9.4	16 of 40	<p>Excavation and backfilling shall be accordance to IS standards. Contractor shall carry out deep / shallow excavation by considering safety at side against any collapse. Temporary design against sliding and supports shall be providing by contractor. Backfilling shall be with non-expansive soil. Excavated non-expansive soil can also be used for backfilling. Any organic matter like roots and barks of trees shall be removed, if found at foundation level and surplus excavation shall be filled with PCC 1:4:8.</p>	<p>Excavation and backfilling shall be accordance to IS standards. Contractor shall carry out deep / shallow excavation by considering safety at side against any collapse. Temporary design against sliding and supports shall be providing by contractor. Backfilling shall be with non-expansive soil. Excavated non-expansive soil can also be used for backfilling. Any organic matter like roots and barks of trees shall be removed, if found at foundation level and surplus excavation shall be filled with PCC 1:4:8.</p>
66.	Volume II, Sec-2-27- DTS_HPCMS_PSS_Rev 3_Revised DKS (1)	1.1.0	1 of 51	<p>A complete Hybrid Park Control & monitoring system with all hardware and software as required shall be provided for the proposed 2375 MW, Khavada Hybrid Park Project. HPCMS shall be selected in a manner that it has been designed, manufactured, tested, installed, commissioned and in satisfactory operation for at least two(02) years as on date of bid opening.</p>	<p>A complete Hybrid Park Control & monitoring system with all hardware (for PSS-1) and software (for PSS-1 & capable to interface with PSS-2) as required shall be designed and supply for the proposed 2375 MW, Khavada Hybrid Park Project. HPCMS shall be selected in such a manner that it has been designed, manufactured, tested, installed, commissioned and in satisfactory operation for at least two(02) years as on date of bid opening. The engineering & design shall be done for complete 2375MW (PSS-1 & 2) and required space & provisions for integrating these systems shall be kept for smooth execution of the project.</p>
67.	Volume II, Sec-2-27- DTS_HPCMS_PSS_Rev 3_Revised DKS (1)	1.10.0	2 of 51	<p>The communication system shall be capable to provide integration with supervisory control and data acquisition system, wide area measurement system, video conferencing system, automatic meter reading, electronic private automatic branch exchange, voice over internet protocol and tele-protection.</p>	<p>The communication system shall be capable to provide integration with supervisory control and data acquisition system, wide area measurement system, video conferencing system, automatic meter reading, electronic private automatic branch exchange, voice over internet protocol and tele-protection. The protections for transmission line shall have hundred percent back up communication channels i.e. two channels for tele- protection in addition to one channel for speech plus data for each direction.</p>
68.	Volume II, Sec-2-27- DTS_HPCMS_PSS_Rev 3_Revised DKS (1)	3.0.0	8 of 51	<p>DESIGN REQUIREMENTS</p>	<p>Addition. (i) The HPCMS SCADA system shall include one additional Workstation with all required hardware, licensed software, Next Generation Firewall and all required accessories at both end (i.e. GIPCL Vadodara end and GIPCL PSS-1 at Khavda). The workstation shall be installed at GIPCL Vadodara Control Room for control and monitoring the RE Park operations from Vadodara. Separate authorization shall be provided for control and monitoring based on the operation philosophy of the Owner/GIPCL finalised during detailed engineering. The programming, graphics screen, trends, alarms, reports etc. shall be same as that of Khavda Engineering cum Operator Workstation. Data transfer from Khavda to Vadodara shall be through PowerTel broad band connection. The bidder shall do all the required things and deeds for communication between both ends.</p>



Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
69.	Volume II, Sec-2-27-DTS_HPCMS_PSS_Rev 3_Revised DKS (1)	3.0.0	16 of 51		<p>(ii) Data from HPCMS SCADA to Vadodara Central Monitoring system shall also be provided on FTPs (File Transfer Protocol Secured).</p> <p>Addition. 3.11.0 Common Communication Panel Common communication panels shall be used for interfacing with the SPP/WPP. This panel shall host the communication equipments like ethernet switches, firewall, etc. which will be used for communicating with the individual SPP/WPP from HPCMS. All the interface cable between HPCMS/PLC/OPGW/PLCC and common communication panel shall be in the scope of the bidder. However, for the cable from SPP/WPP to PSS-1 end Common communication panel shall be in scope of the individual SPP/WPP. All the glanding, splicing, termination, ferruling of the interfacing cables shall be in the scope of SPP/WPP.</p>
70.	Volume II, Sec-2-27-DTS_HPCMS_PSS_Rev 3_Revised DKS (1)	4.7.2	17 of 51	The SCADA shall be provided with the 2 nos. / as required gateway with Next Generation Firewall (NGFW), one gateway shall be connected with the ISP (internet service provider) and the other gateway shall be connected with the VPN, which is connected with the ERP server in Vadodara.	<p>The SCADA shall be provided with the 2 nos. / as required gateway with Next Generation Firewall (NGFW), one gateway shall be connected with the ISP (internet service provider) and the other gateway shall be connected with the VPN, which is connected with the ERP server in Vadodara.</p>
71.	Volume II, Sec-2-27-DTS_HPCMS_PSS_Rev 3_Revised DKS (1)	4.7.39	36 of 51	The communication network shall have the possibility of adopting "open architecture" to enable the user to get the benefit of flexibility in choosing hardware & software. Network shall also be provided with external surge protection system and industrial firewall	<p>Replaced by: The communication network shall have the possibility of adopting "open architecture" to enable the user to get the benefit of flexibility in choosing hardware & software. Network shall also be provided with external surge protection system and industrial Next Generation Firewall (NGFW).</p> <p>Technical Specifications for Next Generation Firewall (NGFW) A. General Description 1) All ethernet based applications (e.g. PMU, VOIP, SAS/SCADA etc.) shall be terminated in the firewall ports directly. Each port of firewall shall work as a separate zone. Firewall shall be hardware based with functionality of Block/Allow/drop and IPSec VPN (network encryption). 2) Minimum 16 Nos. of ports/interfaces shall be provided in each firewall (i.e. Main & Standby) Owner can use either single firewall or multiple firewalls to meet this interfaces requirement, each for main as well as standby firewall. Minimum throughput of firewall shall be 300 Mbps. 3) The Firewall shall be managed/ configured as standalone at present and shall also have compatibility to manage/configure through Centralized Management Console (CMC) remotely in future. 4) Firewall shall be tested and certified for ISO15408 Common Criteria for least EAL4+. Further, the OEM must certify that it conforms to Secure Product Development Life Cycle requirements as per IEC62443-4-1. The firewall shall generate reports for NERC-CIP Compliance.</p>



Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
					<p>B. Specifications of Next Generation Firewall (NGFW)</p> <ol style="list-style-type: none"> 1) NGFW shall have following features including but not limited to: Encryption through IPsec VPN (Virtual Private Network), Deep Packet Inspection (DPI), Denial of service (DoS) & Distributed Denial of Service (DDoS) prevention, Port Block/ Allow, rules/ policies for block/allow, IP (Internet Protocol) & Media Access Control (MAC) spoofing protection, threat detection, Intrusion Prevention System (IPS), Anti-Virus, Anti-Spyware, Man In The Middle (MITM) attack prevention. 2) The proposed firewall shall be able to handle (alert, block or allow) unknown unidentified applications e.g. unknown TCP & UDP packets. It shall have the provision to define application control list based on application group and/or list. 3) Firewall shall have feature and also have capability to update the definition/ Signatures of Anti-Virus online as well as offline. Firewall shall also be compatible to update the definitions/signatures through CMC. There shall be a defined process for security patching and firmware up-gradation. There shall be a feature to field validate firmware checksum. The same shall also be validated before using the OEM provided file/binary in the process of firmware up-gradation and security patching. 4) Firewall shall have Management Console port to configure remotely. 5) Firewall shall be EMI/EMC compliant in Substation environment as per IEC 61850-3. 6) Firewall shall be rack mounted in existing standard equipment cabinets. 7) Firewall shall have support of SCADA applications (IEC-60870-5-104), IEC-61850 (IEEC C37.118), Sub-Station Automation System (IEC 61850), Ethernet and other substation environment protocols. 8) Client based Encryption/ VPN must support different Operating System platforms e.g. Windows, Linux & Mac. 9) The solution must have content and comprehensive file detection policies, blocking the files as function of their types, protocols and directions. 10) Firewall shall have logging facility as per standard logs/events format. Firewall shall have features to export the generated/stored logs/events in csv (Comma Separated Value) and also any other standard formats for offline usage, analysis and compliance. Firewall shall have suitable memory architecture and solution to store and be able to export all logs/events for a period of last 90 days at any given time. 11) Firewall shall have features and be compatible with local as well as central authentication system (RADIUS, LDAP, or TACACS+) for user account and access right management. It shall also have Role Based User management feature. 12) Firewall shall have the capability to configure sufficient number of VLANs. 13) Firewall shall have the capability to support sufficient number of sessions. 14) Firewall shall have provision to configure multiple IP Sec VPNs, at least 100 nos., (one-to-many or many-to-one). Shall support redundant operation with a similar router after creation of all the IP Sec VPN. IPsec VPN shall support encryption protocols as AES128, AES256 and hashing algorithms as MD5 and SHA1. IPsec VPN throughput shall support at least 300 Mbps.



Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
72.	Volume II, Sec-2-27- DTS_HFCMS_PSS_Rev 3_ Revised DKS (1)	4.7.42	38 of 51	Power Supplies for SCADA/PPC	<p>15) Firewall shall be capable of SNMP v3 for monitoring from Network Management system. It shall also have SNMPv3 encrypted authentication and access security.</p> <p>16) Firewall shall support in Active/Passive or Active-Active mode with High Availability features like load balancing, failover for firewall and IPsec VPN without losing the session connectivity.</p> <p>17) Firewall should have integrated traffic shaping (bandwidth, allocation, prioritisation, etc.) functionality.</p> <p>18) Firewall shall support simultaneous operation with both IPv4 and IPv6 traffic.</p> <p>19) Firewall shall be compatible with SNT/NT/TP or any other standards for clock synchronization.</p> <p>20) Firewall shall have the features of port as well as MAC based security.</p> <p>21) Firewall shall support exporting of logs to a centralized log management system (e.g. syslog) for security event and information management.</p> <p>22) Firewall time shall be kept synchronised to official Indian Timekeeping agency, time.nplindia.org.</p> <p>23) Firewall product shall be provided with all applicable updates at least until 36 months since the applicable date of product shipping to the concerned utility.</p>
73.	Vol II PSS Layout Drawing	-	1	GPS Coordinates	<p>Additional: point no iii</p> <p>For RIO PPC at GTUJL for transmitting 400KV Line PQ meter data. Universal power supply card shall be provided or bidder shall provide suitable power supply card as per the available power provided by GTUJL.</p> <p>Addition.</p> <p>Indicative coordinates (Latitude and Longitude) are as follows. The final coordinates can be finalized during detailed engineering based on space required for entire PSS.</p> <p>South West Corner- 24.05846 N, 69.608969 E North West Corner- 24.060058 N, 69.608977 E North East Corner- 24.060053 N, 69.610295 E South East Corner- 24.058455 N, 69.610267 E</p>
74.	Vol II PSS Layout Drawing	-	1	System Description Table 5. Rated Short Circuit Current/Time – 63kA/1 sec	<p>Rated Short Circuit Current/Time – 63kA/ 3 sec</p>
75.	Vol II PSS Layout Drawing	-	1	-	<p>Addition:</p> <p>4" IPS AL bus pipe shall be used for connection between 340/170/170MVA, 400/33/33KV Step-up power transformer and outdoor Lightning Arrester (LA) next to the said transformer. Balance all connections for outdoor substation equipment shall be with flexible AL59 Quad Conductors (equivalent to MOOSE).</p>
76.	Vol II PSS Layout Drawing	-	1	Length of Approach Road to PSS-1	Length of each Approach Roads to PSS-1 from RE Park Road shall be approximately 50m each.
77.	Vol II PSS Layout Drawing	-	1	Length of Connecting Drain to PSS-1 from RE Park Main Drain.	One sided RCC Drain for PSS-1 internal roads shall be provided. Finally, these drains shall flow along each approach road and get connected to drain along the RE park Road. Length of each Drain from PSS-1 to RE Park Drain shall be approximately 50m each.



Sl.No	Volume/Section	Clause No	Page No	Original Term	Amended Term
78.	Volume II	General	NA	"AL59 Twin Moose conductor AL59 Twin bundle conductor Twin AL59 conductor AL59 conductor AL59 Moose Conductor AL59 Moose Conductors AL59 AL59 twin bundle moose conductor AL59 Twin bundled conductor"	Rephrasing. "AL59 Twin Moose conductor AL59 Twin bundle conductor Twin AL59 conductor AL59 conductor AL59 Moose Conductor AL59 Moose Conductors AL59 AL59 twin bundle moose conductor AL59 Twin bundled conductor" shall be read as AL59 Quad Conductor (equivalent to MOOSE) throughout the tender document.
79.	Volume II	General	NA	Basic Wind Speed	Basic wind speed for all civil structures shall be considered as 55m/s.
80.	Volume II	General	NA		Bidder is permitted to carry out optimization of the following: 1. Overall PSS-1 Layout, GIS building, Control Room building, 33KV PEB size subject to minimum requirement including clearances of tender specification. 2. DG Set and Station Service Transformer Size
81.	Volume II	General	NA	-	Addition Specification for CCTV for PSS-I is added as Annexure-II_Sec-2-32-CCTV_PSS_Rev 3



Annexure-I

The scope of supply shall include the following:

- First fill of consumables, if any
- Spare parts required for successful commissioning. Bidder shall submit the list.
- Mandatory Spares as listed in Annexure-C.
- Recommended Spares for three years operation & maintenance (O&M), for the equipment which are not covered in Annexure-C.
- Special tools for operation & maintenance (O&M) as listed in Annexure-D.
- **AMC support for 400kV GIS, 400kV Transformers with NIFPS, Battery Chargers, UPS, PLCC, FOTE Panel & related system, SAS, HPCMS, Fire Protection system, EOT crane, Capacitor Bank, DG Sets (Mechanical & Electrical both).**
- AMC support for all the software
- Stationaries & Consumables for all the Workstations and printers for a period of one year.

The item-wise price of all these items shall be given by the Vendor in the relevant schedule. O&M spares shall be considered for evaluation of bid. It shall not be binding on the Owner to procure all the O&M spares.

O&M spares, Mandatory spares and special tools & tackles being purchased by the Owner shall not be used during the commissioning of the equipment. Any spares and special tools and tackles required for commissioning purpose shall be in the scope of the Vendor. The Vendor shall submit the list of commissioning spares based on his experience.

Non-Comprehensive Annual Maintenance Contract

1.0.0

Scope of Works

1.1.0

Bidder shall arrange for Non-Comprehensive AMC for the following equipments from the OEM of particular equipment supplier:

1. 400kV GIS
2. NIFPS of 400kV Transformers
3. Battery Chargers
4. UPS
5. PLCC
6. FOTE Panel & related items
7. SAS
8. HPCMS
9. Fire Protection System
10. EOT Crane
11. Capacitor Banks
12. Diesel Generator (750 kVA & 500 kVA) (Mechanical & Electrical)

1.2.0 Scope of service contract during routine as well as breakdown maintenance:

1. Problem attending work in case of problem / breakdown
2. Equipment cleaning
3. Replacement of component provided by Owner/GIPCL in case of failure
4. Equipment healthiness checks as per protocol/OEM Manual
5. All protection checks & simulations wherever applicable.
6. Compliances of statutory requirements from time to time as per applicable rules and regulations e.g. PF, EPC, Minimum Wages, wages and payment of Bonus, Workman compensation policy etc..



- 1.3.0 OEM shall depute well qualified and competent manpower to attend routine as well as breakdown maintenance.
- 1.4.0 All types of internal as well as external transportation of material & manpower are in party's scope. Lodging and boarding of manpower is in scope of AMC service provider.
- 1.5.0 The contract is initially for a period of three years. The contract price shall be fixed for the total tenure. The contract shall be reviewed after three years and may be extended as required based on mutual consent. The requirement of actual manpower may vary according to the need and may be reviewed/ reduced/enhanced as and when required.
- 1.6.0 The annual service maintenance of the sub-station equipment shall be carried out as per the respective equipment's OEM manuals/Schedule applicable from time to time. The work shall be carried out through authorized personnel.
- 1.7.0 The Bidder shall note that work shall be carried out in close co-ordination with other contractors' agencies working in the same premises and GIPCL.
- 1.8.0 AMC services shall consist of minimum 1 visit per Quarter and further visits shall be as per the recommendation of the respective equipment's OEM guidelines/ recommendation / as per prudent industrial practices. Bidder shall attend to and make visits for all breakdowns and there shall be no additional charge for visits due to breakdown.
- 1.9.0 AMC awarded to OEM by PSS-1 EPC contractor shall be in favour of GIPCL. The cost of AMC will be included in bid evaluation.
- 1.10.0 Commencement of AMC will be immediately after completion of 1 Year Defect Liability Period as per TED of PSS-1 EPC Package.
- 1.11.0 Period of AMC shall be 3 years after completion of Guarantee Period.
- 1.12.0 Payment for AMC will be directly done by Owner/GIPCL to the OEMs.

2.0.0 Safety

- 2.1.0 Specifications and standards: The maintenance shall be in conformity with relevant Indian Standard specification, National Electric codes, Indian Electricity Rules and OEM Manuals.
- 2.2.0 The OEM, his agents, representatives, workmen etc. shall strictly observe the orders pertaining to fire/LV/HV/EHV (Electrical) precautions prevailing within the restricted areas/electrical substations etc.
- 2.3.0 The OEM, his agents, representatives, workmen, etc shall strictly adhere to the fire/electric shock precautionary measures while working near Fire prone areas/EHV/HV/Electrical substation areas. During such times, the workmen should be headed by their site supervisor as a precautionary measure. The working personnel shall be very well aware of fire fighting, Cardio-Pulmonary Resuscitation, first aid etc.
- 2.4.0 While working at height, Personal Protective Equipments (PPE) like safety belts, helmet, ladder and scaffoldings etc. shall be used as per the recommended safety guidelines.

3.0.0 Materials, Spares, Consumables & Tools etc.:



- 3.1.0 For performance of contract, the bidder will arrange all the consumables, tools & machines/ testing equipment required for execution, which shall be included in quoted rates. No extra payment for the same will be made by the Owner. A minimum quantity of consumable/spares for breakdown maintenance may be kept at site to minimize time of maintenance. All consumable/spare parts shall be of same make & type as installed as far as possible or approved list of Owner.
- 3.2.0 In the contract the major repair does not include i.e. replacement of major parts such as 400kV Circuit Breaker, 400kV Disconnectors & Earth Switch, Instrument Transformers. The bidder shall intimate about major repairs in advance (to the extent possible/ feasible) so that necessary suitable action can be taken timely by the Owner for the arrangement of material/parts.
- 3.3.0 Owner shall provide the special tools & tackles mentioned in ANNEXURE- D: SPECIAL TOOLS of the tender specification "Sec-1-GTS_PSS_Rev 3_ Revised" during AMC phase only. Further, if any special tools & tackles are required for AMC then the same shall be provided by the OEM without any additional cost to Owner.
- 3.4.0 Owner shall provide the spares that might be required during AMC free of cost. Any damages caused by the OEM staff, his agents, representatives, workmen, etc to the spares provided by Owner shall be fully borne by the AMC service provider.
- 3.5.0 During AMC if any relay/card gets failed or if repairing is required then the same shall be borne/arranged by Owner at their own cost. No additional cost shall be borne by the OEMs. Maintenance of records
- 3.6.0 The OEM shall maintain all records such as log books, schedule of maintenance activity, complaint register, maintenance activity record, attendance register, work permit file, tags file, event register, test records for various tests conducted, material requisition book and other statutory registers for manpower employed etc.
- 3.7.0 These records shall be handed over to Owner/GIPCL on time-to-time basis (minimum quarterly basis). The cost of stationery required for maintenance of the above record shall be borne by the OEM.
- 3.8.0 The contractor shall also submit the following records after every visit:
1. Spares (and consumables given by OEM) available with the Owner and spares and required for next visit operation/maintenance, if any.
 2. Action points pending from Owner side, if any.
 3. Materials/Spares consumed in the last visit, if any and cumulative visits.
- 4.0.0 Exclusions**
- 5.1.0 AMC for the following items are not in the scope of the bidder:
1. 400kV Transformers except NIFPS
 2. 400kV Transmission Line System
 3. Civil Works
- 5.2.0 Waste Disposal During AMC phase.

Name of the Bidder/ Bidding Firm / Company :														
PRICE SCHEDULE														
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity*GST) in Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) in Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
1.01	SUPPLY- GIS: 400KV, 3150A, SF6 BUS BAR MODULE WITH BUS PT & BUS EARTH SWITCH BAY MODULE (INCLUDING SF6 GAS WITH ADDITIONAL REQUIREMENT, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item1	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.02	SUPPLY- GIS: 400KV, 3150A, SF6 BUS COUPLER BAY MODULE (INCLUDING SF6 GAS WITH ADDITIONAL REQUIREMENT, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item2	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.03	SUPPLY- GIS: 400KV, 3150A, SF6 TRANSFORMER FEEDER BAY MODULE (INCLUDING SF6 GAS WITH ADDITIONAL REQUIREMENT, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item3	4	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.04	SUPPLY- GIS: 400KV, 4000A, SF6 GIS LINE FEEDER BAY MODULE (INCLUDING SF6 GAS WITH ADDITIONAL REQUIREMENT, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item4	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.05	SUPPLY- GIS : 400KV, CONTROLLED SWITCHING DEVICE (CSD) FOR GIS 3-PHASE CIRCUIT BREAKER	item5	4	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.06	SUPPLY- GIS : 400KV, 3150A, SINGLE PHASE GAS INSULATED BUS DUCT OUTSIDE GIS HALL (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item6	550	MTRS			0.00			0.00		0.000	0.000	INR Zero Only
1.07	SUPPLY- GIS : 400KV, ONLINE CONTINUOUS PD MONITORING SYSTEM FOR 400KV GIS MODULE	item7	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
1.08	SUPPLY- GIS : 400KV, ONLINE CONTINUOUS GAS MONITORING SYSTEM FOR 400KV GIS MODULE	item8	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
1.09	SUPPLY- GIS : LOCAL CONTROL CUBICLES	item9	6	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.10	SUPPLY- GIS: 400kv, 4000A, SF6 END PIECE/ INTERFACE MODULE FOR FUTURE EXTENSION	item10	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.11	SUPPLY- GIS : 400KV, 4000A, SINGLE PHASE SF6 TO AIR BUSHING (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item11	15	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.12	SUPPLY- GIS : 400kv, SURGE ARRESTER (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item12	6	SET			0.00			0.00		0.000	0.000	INR Zero Only
2.01	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS FILLING, EVACUATING & RECOVERY PLANT	item13	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.02	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: PORTABLE GAS MEASURING ANALYSER WITH PUMP BACK FACILITY OF SF6 GAS	item14	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.03	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS MULTI ANALYZER KIT	item15	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.04	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS LEAKAGE / POINTER	item16	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.05	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS SERVICE CART	item17	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.06	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS REFILLING DEVICE	item18	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.07	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS DEW POINT MEASUREMENT KIT	item19	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
2.08	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: BREAKER OPERATION ANALYZER WITH TRANSDUCESR	item20	1	Set			0.00			0.00		0.000	0.000	INR Zero Only

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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity*GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
3.01	SUPPLY- GIS: SPARES: GIS- SF6 Gas Pressure Relief Devices of Each Type Along With O- Rings	item21	4	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.02	SUPPLY- GIS: SPARES: GIS- SF6 Pressure Gauge Cum Switch or Density Monitors and Pressure Switch As Applicable Each Type (1 Lot= 8% of total population, max 7 nos. and min. 2 nos.)	item22	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
3.03	SUPPLY- GIS: SPARES: GIS- Coupling Device Of Each Type For Pressure Gauge Cum Switch For Connecting Gas Handling Plant	item23	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.04	SUPPLY- GIS: SPARES: GIS- Rubber Gaskets, "O" Rings And Seals for SF6 Gas of each type	item24	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.05	SUPPLY- GIS: SPARES: GIS- Molecular Filter for SF6 Gas With Filter Bags (1 Lot= 5% of total weight)	item25	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
3.06	SUPPLY- GIS: SPARES: GIS- All types of Control Valves for SF6 Gas of each type	item26	3	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.07	SUPPLY- GIS: SPARES: GIS- SF6 Gas In Non-Returnable Cylinders (1 Lot= 20% of total gas quantity)	item27	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
3.08	SUPPLY- GIS: SPARES: GIS- Locking Device to keep the Dis-Connectors (Isolators) And Earthing Switches in Close Or Open position in case of removal of the Driving Mechanism	item28	3	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.09	SUPPLY- GIS: SPARES: GIS- Spares for Local Control Cabinet Including MCB, Fuses, Timers, Aux. Relays, Contactor, Push Buttons, Switches, Lamps, Annunciation Windows etc. of each type & rating and terminal of each type	item29	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.10	SUPPLY- GIS: SPARES: GIS- UHF PD Sensors of each type (1 Lot= 5% of total population, max 5 Nos. and min. 1 No.)	item30	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
3.11	SUPPLY- GIS: SPARES: GIS- Support Insulator/ Gas Barrier of each type along with associated contacts & shields	item31	5	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.12	SUPPLY- GIS: SPARES: GIS- SF6 to Air Bushing of each type & rating along with conductor and enclosure	item32	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.13	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Complete Circuit Breaker (1 Phase Unit) of each type & rating complete with Interrupter, Main Circuit, Enclosure And Marshaling Box With Operating Mechanism to enable Replacement of Any Type/ Rating Of CB by spare, as applicable	item33	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.14	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Fixed, moving and arcing contacts including insulating nozzles of each type - for Main Chamber	item34	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.15	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Trip Coil Assembly With Resistor, as applicable, (1 Set= 3 Nos. of each type)	item35	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.16	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Closing Coil Assembly With Resistor, As Applicable, (1 Set= 3 Nos. of each type)	item36	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.17	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Relays, Power Contactors, Push Buttons, Timers & MCBs etc. of each type and rating	item37	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.18	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Auxiliary Switch Assembly, (1 Set= 3 Nos. of each type)	item38	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.19	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Operation Counter, (1 Set= 3 Nos. of each type)	item39	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity*GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
3.20	SUPPLY- GIS: SPARES: CIRCUIT BREAKER- Window-scope/ Observing Window, 3 Nos. of each type	item40	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.21	SUPPLY- GIS: SPARES: SPRING OPERATED MECHANISM- Complete Spring Operating Mechanism Including Charging Mechanism etc. of each type	item41	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.22	SUPPLY- GIS: SPARES: SPRING OPERATED MECHANISM- Spring Charging Motor	item42	3	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.23	SUPPLY- GIS: SPARES: ISOLATOR- For Maintenance Earth Switch: 3 No. of Single Phase Maintenance Earthing Switch Of Each Type, Dimension, Current & Voltage Including Main Circuit, Enclosure, Driving Mechanism And Support Insulator etc. to enable replacement of any Type/Rating of Earth Switch by spare	item43	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.24	SUPPLY- GIS: SPARES: ISOLATOR- Complete set of 3-phase dis-connector of each type including main circuit, enclosure, driving mechanism and support Insulator etc. to enable complete one to one replacement of all applicable type of Isolator by spare	item44	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.25	SUPPLY- GIS: SPARES: ISOLATOR- For Fast Earthing Switch: 3 No. of Single Phase Fast Earthing Switch of each Type, Dimension, Current & Voltage Rating Including Main Circuit, Enclosure, Driving Mechanism and Support Insulator etc. to enable replacement of any Type/Rating Of Earth Switch by spare, If Applicable	item45	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.26	SUPPLY- GIS: SPARES: ISOLATOR- Copper contact fingers for isolator male & female contact along with corona shield- for one complete (3 phase) isolator of each type and rating	item46	3	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.27	SUPPLY- GIS: SPARES: ISOLATOR- Copper contact fingers for Maintenance Earthing switch male & female contacts along with corona shield, for one complete (3 phase) earthing switch of each type and rating	item47	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.28	SUPPLY- GIS: SPARES: ISOLATOR- Copper contact fingers for Fast Earthing switch male & female contacts along with corona shield, for one complete (3 phase) earthing switch of each type and rating (if applicable)	item48	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.29	SUPPLY- GIS: SPARES: ISOLATOR- For Isolator: Open / Close Contactor Assembly, Timers, Key Interlock, Interlocking Coils, Relays, Push Buttons, Indicating Lamps Power Contactors, Resistors, Fuses, MCBs & Drive Control Cards etc. for one complete MOM Box (3 - Phase Gang Operated or 1 - Phase Unit) of each type and rating.	item49	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.30	SUPPLY- GIS: SPARES: ISOLATOR- For Maintenance Earth Switch: Open / Close Contactor Assembly, Timers, Key Interlock, Interlocking Coils, Relays, Push Buttons, Indicating Lamps Power Contactors, Resistors, Fuses, MCBs & Drive Control Cards etc. for one complete MOM Box (3 - Phase Gang Operated or 1 - Phase Unit) of each type and rating.	item50	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.31	SUPPLY- GIS: SPARES: ISOLATOR- For Fast Earthing Switch: Open / Close Contactor Assembly, Timers, Key Interlock, Interlocking Coils, Relays, Push Buttons, Indicating Lamps Power Contactors, Resistors, Fuses, MCBs & Drive Control Cards etc. for one complete MOM Box (3 - Phase Gang Operated or 1 - Phase Unit) of each type and rating.	item51	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.32	SUPPLY- GIS: SPARES: ISOLATOR- For Isolator: Limit Switch and Aux. Switches for complete 3-Phase Equipment	item52	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.33	SUPPLY- GIS: SPARES: ISOLATOR- For Maintenance Earth Switch: Limit Switch And Aux. Switches for complete 3-Phase Equipment	item53	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.34	SUPPLY- GIS: SPARES: ISOLATOR- For Fast Earthing Switch: Limit Switch And Aux. Switches for complete 3-Phase Equipment	item54	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.35	SUPPLY- GIS: SPARES: ISOLATOR- For Isolator: Drive Mechanism of each type	item55	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.36	SUPPLY- GIS: SPARES: ISOLATOR- For Maintenance Earth Switch: Drive Mechanism of each type	item56	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.37	SUPPLY- GIS: SPARES: ISOLATOR- For Fast Earthing Switch: Drive Mechanism of each type	item57	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.38	SUPPLY- GIS: SPARES: ISOLATOR- For Isolator: Motor for Drive Mechanism of each type	item58	3	NO			0.00			0.00		0.000	0.000	INR Zero Only

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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity*GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
3.39	SUPPLY- GIS: SPARES: ISOLATOR- For Maintenance Earth Switch: Motor for Drive Mechanism of each type	item59	3	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.40	SUPPLY- GIS: SPARES: ISOLATOR- For Fast Earthing Switch: Motor for Drive Mechanism of each type	item60	3	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.41	SUPPLY- GIS: SPARES: CURRENT TRANSFORMER- Complete 400kV CT of each Type And Rating with enclosure to enable replacement of any type/ rating of CT by spare	item61	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.42	SUPPLY- GIS: SPARES: VOLTAGE TRANSFORMER- Complete EMVT of each type and rating with enclosure to enable replacement of any type/rating of EMVT by spare	item62	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.43	SUPPLY- GIS: SPARES: CONTROLLED SWITCHING DEVICE- Controlled Switching Device along with Transducers, Sensors, Contactors, Switches etc. (1 Set= 1 set of each make)	item63	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.44	SUPPLY- GIS: SPARES: SURGE ARRESTOR- Complete Surge Arrester with insulating base and Terminal connector & structure with Surge counter/ Monitor of each type and rating	item64	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.45	SUPPLY- GIS: SPARES: SURGE ARRESTOR- Surge counter/ monitor. (In addition to above)	item65	6	NO			0.00			0.00		0.000	0.000	INR Zero Only
4.00	Spares-GIS: Recommended O&M Spares for 400kV, 63kA for 3sec, Gas Insulated Switchgear (GIS) as per TS	item66	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
5.01	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR CIRCUIT BREAKER COMPLETE IN ALL RESPECT	item67	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.02	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR DISCONNECTOR	item68	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.03	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH COMPLETE IN ALL RESPECT	item69	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.04	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR FAST ACTING/ HIGH SPEED GROUNDING SWITCH COMPLETE IN ALL RESPECT	item70	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.05	SUPPLY- GIS: SPARES: 400KV, MAINTENANCE EARTHING SWITCH COMPLETE IN ALL RESPECT	item71	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.06	SUPPLY- GIS: SPARES: 400KV, FAST ACTING/ HIGH SPEED GROUNDING SWITCH COMPLETE IN ALL RESPECT	item72	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.07	SUPPLY- GIS: SPARES: 400KV, SINGLE PHASE BUS BAR	item73	1	Mtrs			0.00			0.00		0.000	0.000	INR Zero Only
5.08	SUPPLY- GIS: SPARES: 400KV, GIS METALLIC ENCLOSURE	item74	50	Kgs			0.00			0.00		0.000	0.000	INR Zero Only
5.09	SUPPLY- GIS: SPARES: 400KV, EXPANSION JOINTS	item75	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.10	SUPPLY- GIS: SPARES: 400KV, FLEXIBLE CONNECTIONS	item76	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.11	SUPPLY- GIS: SPARES: 400KV, BARRIER INSULATOR	item77	1	Set			0.00			0.00		0.000	0.000	INR Zero Only

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
5.12	SUPPLY- GIS: SPARES: 400KV, NON-BARRIER INSULATOR	item78	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.13	SUPPLY- GIS: SPARES: 400KV, GAS SEALS	item79	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.14	SUPPLY- GIS: SPARES: 400KV, GAS DENSITY MONITOR SWITCH	item80	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.15	SUPPLY- GIS: SPARES: 400KV, GAS PRESSURE SWITCH	item81	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.16	SUPPLY- GIS: SPARES: 400KV, TEE BEND	item82	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.17	SUPPLY- GIS: SPARES: 400KV, ANGLE BEND	item83	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
5.18	SUPPLY- GIS: SPARES: 400KV, L-BEND	item84	1	Set			0.00			0.00		0.000	0.000	INR Zero Only
6.01	SERVICES- GIS: SUPERVISION OF ERECTION: 400KV, SF6 GIS BAY MODULE (INCLUDING LCC, SF6 GAS WITH ADDITIONAL REQUIREMENT, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item85	6	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.02	SERVICES- GIS: TESTING & COMMISSIONING: 400KV, SF6 GIS BAY MODULE (INCLUDING LCC, SF6 GAS WITH ADDITIONAL REQUIREMENT, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item86	6	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.03	SERVICES- GIS: SUPERVISION OF ERECTION: 400KV, SINGLE PHASE GAS INSULATED BUS DUCT OUTSIDE GIS HALL (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item87	550	MTRS			0.00			0.00		0.000	0.000	INR Zero Only
6.04	SERVICES- GIS: TESTING & COMMISSIONING: 400KV, SINGLE PHASE GAS INSULATED BUS DUCT OUTSIDE GIS HALL (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item88	550	MTRS			0.00			0.00		0.000	0.000	INR Zero Only
6.05	SERVICES- GIS: SUPERVISION OF ERECTION: 400KV, SINGLE PHASE SF6 TO AIR BUSHING (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item89	15	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.06	SERVICES- GIS: TESTING & COMMISSIONING: 400KV, SINGLE PHASE SF6 TO AIR BUSHING (POLYMER) (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item90	15	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.07	SERVICES- GIS: SUPERVISION OF ERECTION: 400KV, SINGLE PHASE SF6 TO CABLE TERMINATION MODULE (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item91	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.08	SERVICES- GIS: TESTING & COMMISSIONING: 400KV, SINGLE PHASE SF6 TO CABLE TERMINATION MODULE (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item92	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.09	SERVICES- GIS: SUPERVISION OF ERECTION: 360KV, 20kA, CLASS-4 SURGE ARRESTER (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item93	6	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.10	SERVICES- GIS: TESTING & COMMISSIONING: 360KV, 20kA, CLASS-4 SURGE ARRESTER (INCLUDING SF6 GAS, SUPPORT STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item94	6	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.11	SERVICES- GIS: FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	item95	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
6.12	SERVICES- GIS: SUPERVISION OF ERECTION: 400KV, CONTROLLED SWITCHING DEVICE (CSD) FOR GIS THREE PHASE CIRCUIT BREAKER	item96	7	SET			0.00			0.00		0.000	0.000	INR Zero Only

Name of the Bidder/ Bidding Firm / Company :														
PRICE SCHEDULE														
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity*GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
6.13	SERVICES- GIS: TESTING & COMMISSIONING: 400KV, CONTROLLED SWITCHING DEVICE (CSD) FOR GIS THREE PHASE CIRCUIT BREAKER	item97	7	SET			0.00			0.00		0.000	0.000	INR Zero Only
6.14	SERVICES- GIS: INSULATION CO-ORDINATION STUDIES GIS SYSTEM COMPLETE	item98	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
6.15	SERVICES- GIS: ANNUAL MAINTENANCE SERVICE SUPPORT FOR 400KV GIS PACKAGE	item99	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
7.01	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	item100	10	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
7.02	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	item101	10	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
7.03	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	item102	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
8.01	SERVICE: TRAINNG: TRAINING IN CONSTRUCTION, INSTALLATION, COMMISSIONING AND O&m OF GIS BEING SUPPLIED AT MANUFACTURES WORKS/ FACILITY	item103	70	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
Total in Figures												0.000	0.000	Zero Only
Quoted Rate in Words												INR Zero Only		