

Amendment No. 1

Date: 15.12.2017

Tender Package Name: "Design, Manufacturing, Supply, Erection, Testing & Commissioning of 160 MVA, 220/33 kV Gas Insulated Substation (GIS) at Lassipora on Turnkey Basis associated with Strengthening of Transmission System of JKPDD under PMDP Scheme-15

Tender Specification No- RECTPCL/PIA/JKPDD/SS- 02 Dated: 18-11-2017

S. No.	Clause No.	Existing Clause	To be Read as
A. INVITATION FOR BIDS, SECTION-I, VOL-I			
1	Clause 5.0 under table for Important date	Starting Date & Time of Bid Submission: 12/11/2017, 10:00 Hrs Onward	Starting Date & Time of Bid Submission: 01/01/2018, 10:00 Hrs Onward
		Close of Registration on MSTC portal: 19/12/2017 at 15:00 Hrs(IST)	Deleted
		Last Date & Time of Submission of Bid: 19/12/2017 at 15:00 Hrs(IST)	Last Date & Time of Submission of Bid: 05/01/2018 at 15:00 Hrs(IST)
		Date of opening of Technical bid: 19/12/2017 at 16:00 Hrs(IST)	Date of opening of Technical bid: 05/01/2018 at 17:00 Hrs (IST)
B. INSTRUCTION TO BIDDER, SECTION-II, VOL-I			
1	Clause No. 11.3	11.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules. Where no Price Schedules are included in the Bidding Documents, Bidders shall present their prices in the following manner: Separate numbered Schedules shall be used	11.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules. Where no Price Schedules are included in the Bidding Documents, Bidders shall present their prices in the following manner: Separate numbered Schedules shall be used for

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		<p>for each of the following elements. The total amount from each Schedule 1 to 5 shall be summarized in a grand summary of Price Proposal (Schedule 6) giving the total bid price(s) to be entered in the Bid Form.</p> <p>Schedule 1 Plant and Equipment (including mandatory Spares) to be supplied including Type Test Charges</p> <p>Schedule 2 Local Transportation, Insurance and loading and unloading.</p> <p>Schedule 3 Installation Services</p> <p>Schedule 4 Charges for Training to be imparted</p> <p>Schedule 5 Taxes and Duties not included in Schedule 1 to 4</p> <p>Schedule 6 Grand Summary (Schedule Nos. 1 to 5)</p> <p>Schedule 7 Break-up of Type Test Charges</p> <p>Bidders shall note that the plant and equipment included in Schedule No. 1 above exclude materials used for civil, building and other construction works. All such materials shall be included and priced under Schedule No. 3, Installation Services.</p>	<p>each of the following elements. The total amount from each Schedule 1 to 5 shall be summarized in a grand summary of Price Proposal (Schedule 6) giving the total bid price(s) to be entered in the Bid Form.</p> <p>Schedule 1 Plant and Equipment (including mandatory Spares) to be supplied including Type Test Charges</p> <p>Schedule 2 Local Transportation, In -Transit Insurance, loading and unloading.</p> <p>Schedule 3 Installation Services</p> <p>Schedule 4 Charges for Training to be imparted</p> <p>Schedule 5 Taxes and Duties not included in Schedule 1 to 4</p> <p>Schedule 6 Grand Summary (Schedule Nos. 1 to 5)</p> <p>Schedule 6 (After Discount)(GRAND SUMMARY: AFTER DISCOUNT)</p> <p>Schedule 7 Break-up of Type Test Charges</p> <p>Bidders shall note that the plant and equipment included in Schedule No. 1 above exclude materials used for civil, building and other construction works. All such materials shall be included and priced under Schedule No. 3, Installation Services</p>												
2	Clause No-16.3	<table border="1" data-bbox="596 1166 1192 1377"> <thead> <tr> <th data-bbox="596 1166 762 1377">Name of the Bank and Address</th> <th data-bbox="762 1166 968 1377">IFSC Code</th> <th data-bbox="968 1166 1192 1377">RECTPCL Current A/c No.</th> </tr> </thead> <tbody> <tr> <td data-bbox="596 1300 762 1377">ICICI BANK, 9A, PHELPS, CONNAUGHT</td> <td data-bbox="762 1300 968 1377">ICIC0000007</td> <td data-bbox="968 1300 1192 1377">000705041872</td> </tr> </tbody> </table>	Name of the Bank and Address	IFSC Code	RECTPCL Current A/c No.	ICICI BANK, 9A, PHELPS, CONNAUGHT	ICIC0000007	000705041872	<table border="1" data-bbox="1266 1166 1967 1399"> <thead> <tr> <th data-bbox="1266 1166 1537 1300">Name of the Bank and Address</th> <th data-bbox="1537 1166 1740 1300">IFSC Code</th> <th data-bbox="1740 1166 1967 1300">RECTPCL Current A/c No.</th> </tr> </thead> <tbody> <tr> <td data-bbox="1266 1300 1537 1399">ICICI BANK, 9A, PHELPS, CONNAUGHT</td> <td data-bbox="1537 1300 1740 1399">ICIC0000007</td> <td data-bbox="1740 1300 1967 1399">000705041872</td> </tr> </tbody> </table>	Name of the Bank and Address	IFSC Code	RECTPCL Current A/c No.	ICICI BANK, 9A, PHELPS, CONNAUGHT	ICIC0000007	000705041872
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S. No.	Clause No.	Existing Clause		To be Read as	
			XXXXXXXX	XXXXXXXXXXXX	PLACE, NEW DELHI- 110001
C. QUALIFICATION REQUIREMENT, SECTION-III, VOL-I					
1	Clause No-1.1	<p>The Bidder must have Designed, Manufactured, Type Tested (As per IEC or equivalent standard), Supplied, Erected, Tested & commissioned of atleast two (2) number of GIS substations having cumulatively atleast 12 (Twelve) circuit breaker bays* of 220kV or above in India only. The two (2) nos. GIS substations above should have been in satisfactory operation# for atleast two (2) years as on the originally scheduled date of bid opening i.e. xx.xx.2017. Further, at least one (1) number of above GIS substation must have been commissioned within last seven (7) years as on the date of bid opening.</p> <p>(#) Satisfactory operation – means certificate issued by the employer certifying the operation without any adverse remark.</p>		<p>The Bidder must have Designed, Manufactured, Type Tested (As per IEC or equivalent standard), Supplied, Erected, Tested & commissioned of atleast two (2) number of GIS substations having cumulatively atleast 12 (Twelve) circuit breaker bays* of 220kV or above in India only. The two (2) nos. GIS substations above should have been in satisfactory operation# for atleast two (2) years as on the originally scheduled date of bid opening i.e. 19.12.2017. Further, at least one (1) number of above GIS substation must have been commissioned within last seven (7) years as on the date of bid opening.</p> <p>(#) Satisfactory operation – means certificate issued by the employer certifying the operation without any adverse remark.</p>	
2	Clause No-1.2	<p>Alternatively, in case the bidder is an Indian entity (subsidiary or affiliate) of a foreign Company and if such foreign company meets all the qualification criteria stated at para 1.1 except Manufacturing in India and desires that the contract be entered into with its Indian entity, then the following is</p>		<p>In case the bidder is an Indian entity (subsidiary or affiliate) of a foreign Company not meeting the requirement stipulated in clause 1.1 above but has established manufacturing and testing facilities in India for 220 kV or above voltage level GIS, he shall also be considered provided he meets the following</p>	

S. No.	Clause No.	Existing Clause	To be Read as
		<p>necessarily to be met by the Indian arm,</p> <p>a. The bidder must have manufactured at least one (1) 220kV or above voltage level GIS Circuit Breaker bay* based on the technological support of the Collaborator(s) and the bidder should have supplied and it should have been in satisfactory operation# for at least 01 (One) year as on the originally scheduled date of bid opening provided that the Collaborator(s) of the bidder meets the qualification requirements as stated in para 1.1 above.</p> <p>b. The bidder shall enter into a valid Technical Collaboration agreement with the aforesaid foreign firm for technology transfer / license to design, manufacture, test and supply of 220 kV or above voltage class GIS equipment in India.</p> <p>c. Such bidder shall have to submit the Type Test Reports for GIS identically manufactured by the Collaborator/Parent Company /Principals for 220 kV class or above GIS and furnish certificate to this effect from the Collaborator /Parent Company/Principals that since manufacturing procedure is same, the tests are applicable to product manufactured in India under phased manufacturing programme. Also the material for GIS should be similarly certified by the Collaborator.</p> <p>d. The bidder shall furnish a legally enforceable</p>	<p>requirement.</p> <p>a) The bidder must have manufactured and supplied at least one (1) no. 220kV or above voltage level GIS Circuit Breaker bay* in India based on the technological support of the Collaborator(s)/parent company as on the originally scheduled date of bid opening provided further that the Collaborator(s)/parent company of the bidder meets the qualification requirements as stated in para 1.1 above.</p> <p>b) Further, the bidder shall also submit the following along with the bid</p> <p>i. The bidder shall enter into a valid Technical Collaboration agreement with the aforesaid foreign firm for technology transfer / license to design, manufacture, test and supply of 220 kV or above voltage class GIS equipment in India.</p> <p>ii. Such bidder shall have to submit the Type Test Reports for GIS identically manufactured by the Collaborator/Parent Company /Principals for 220 kV class or above GIS and furnish certificate to this effect from the Collaborator /Parent Company/Principals that since manufacturing procedure is same, the tests are applicable to product manufactured in India under phased manufacturing programme. Also the material for GIS should be similarly certified by the Collaborator.</p>

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		<p>undertaking (jointly with Parent Company/Principals or Collaborator) to guarantee quality, timely supply, performance and warranty obligations and be responsible under the contract in accordance with the requirement of the contract.</p> <p>e. The Collaborator /Parent Company /Principal should undertake backup support for 5 years for successful operation of the offered GIS.</p> <p>f. A confirmation letter from the Collaborator/Parent Company / Principals along with the bid stating that Collaborator /Parent Company/ Principals shall furnish an additional performance guarantee for an amount of 10% of the value of Supply portion as quoted by the bidder of such GIS equipment(s). This performance guarantee shall be to guarantee their obligations toward the owner as referred hereinbefore or else wherein the NIT conditions. This performance guarantee shall be in addition to the Contract Performance Guarantee to be submitted by the bidder.</p> <p>All the above documents shall be submitted by the bidder along with the bid.</p>	<p>iii.The bidder shall furnish a legally enforceable undertaking (jointly with Parent Company/Principals or Collaborator) to guarantee quality, timely supply, performance and warranty obligations and be responsible under the contract in accordance with the requirement of the contract.</p> <p>iv.A confirmation letter from the Collaborator/Parent Company / Principals along with the bid stating that Collaborator /Parent Company/ Principals shall furnish an additional performance guarantee for an amount of 10% of the value of Supply portion as quoted by the bidder of such GIS equipment(s). This performance guarantee shall be to guarantee their obligations toward the owner as referred hereinbefore or else wherein the NIT conditions. This performance guarantee shall be in addition to the Contract Performance Guarantee to be submitted by the bidder.</p>

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3.	2.0	Financial Position:	Financial Position: Note: In case bidder has established manufacturing facility in India and yet to complete three (3) financial years, the Net Worth and average of the turnover as per financial statement for completed financial years shall be considered for the purpose of compliance to the specified Net Worth and MAAT requirements.
4.	3.0	Joint Venture Bids :	Joint Venture Bids : However, for a JV to be qualified, the partner(s) of JV must also meet the following minimum criteria : 1) The Lead partner of JV shall meet the Technical Experience criteria as per para 1.0 2) The remaining partner(s) of JV shall meet criteria mentioned at clause no. 1.1 or clause no. 1.2 (excluding sub clause (b)) or must have erected, tested and commissioned atleast two (2) nos. GIS

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			<p>Circuit Breaker equipped bays(*)of 220 kV or above voltage level in one (1) substation or switchyard during the last seven (7) years in India and these bays(*) must be in satisfactory operation# as on the originally schedule date of bid opening.</p> <p>Note :</p> <p><i>(#) Satisfactory operation means certificate issued by the Employer certifying the operation without any adverse remark</i></p>
D. GENERAL CONDITIONS OF CONTRACT, SEC-IV, VOL-I			
1	<p>Clause no- 32 (ii)</p>	<p>Procedure to order variation:</p> <p>The Engineer-in-Charge shall notify the Contractor of the nature and form of the variation considered necessary. After having received such notice, the Contractor shall submit to the Engineer-in-Charge.</p> <ul style="list-style-type: none"> a) a description of work, if any, to be performed and a programme for its execution, and b) the Contractor's proposal for any modifications to the programme, if considered necessary, according to Clause-25 hereof or to any of the Contractor's obligations under the Contract, and c) the Contractor's proposals for adjustment to the Contract Price. <p>Following the receipt of the Contractor's</p>	<p>Procedure to order variation:</p> <p>The Engineer-in-Charge shall notify the Contractor of the nature and form of the variation considered necessary. After having received such notice, the Contractor shall submit to the Engineer-in-Charge.</p> <ul style="list-style-type: none"> a) a description of work, if any, to be performed and a programme for its execution, and b) the Contractor's proposal for any modifications to the programme, if considered necessary, according to Clause-25 hereof or to any of the Contractor's obligations under the Contract, and c) the Contractor's proposals for adjustment to the Contract Price. <p>Following the receipt of the Contractor's submission, the Engineer-in-Charge shall, decide as soon as possible</p>

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		<p>submission, the Engineer-in-Charge shall, decide as soon as possible whether or not the variation shall be carried out.</p> <p>If the Engineer-in-Charge decides that the variation shall be carried out, he shall notify the Contractor to proceed with the variations. If the Engineer-in-Charge and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause (iii) of this Clause shall apply.</p>	<p>whether or not the variation shall be carried out.</p> <p>1. <u>Changes Originating from Employer</u></p> <p>a. The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If such rates and prices are inequitable, the parties thereto shall agree on specific rates for the valuation of the Change.</p> <p>b. The Contract Price for (i) the items for which quantities have been indicated as lumpsum or lot or set and/or (ii) where the quantities are to be estimated by the Contractor shall remain constant unless there is change made in the Scope of Work by Employer. The quantities and unit prices (i) subsequently arrived while approving the Bill of Quantities (BOQ)/Billing breakup of lumpsum quantities/lot/Set and/or (ii) estimated by the Contractor shall be for on account payment purpose only. In case additional quantities, over and above the quantities in BOQ/billing breakup and /or estimated by the Contractor, are required for successful completion of the scope of work as per Technical Specification, the Contractor shall execute additional quantities of these items for which no additional payment shall be made over and above the lumpsum Contract Price. In case quantities of these items supplied at site are in</p>

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			<p>excess of that required for successful completion of scope of work, such additional quantities shall be the property of the Contractor and they shall be allowed to take back the same from the site for which no deduction from the lumpsum Contract Price shall be made. Further, in case actual requirement of quantities for successful completion of scope of work is less than the quantities identified in the approved BOQ /billing breakup and/or estimated by the Contractor, the lumpsum contract price shall remain unchanged and no deduction shall be made from the lumpsum price due to such reduction of quantities.</p> <p>It shall be the responsibility of the Contractor to pay all statutory taxes, duties and levies to the concerned authorities for such surplus material which would otherwise have been, lawfully payable in case of non-deemed export contracts. The Contractor shall submit an indemnity bond to keep Employer harmless from any liability, before release of such material to the Contractor by Employer.</p> <p>Set/Lot/Lumpsum shall be governed as per the requirement of the corresponding item description read in conjunction with relevant provisions of Technical Specifications and the Billing breakup referred to above shall be issued by the Employer based on Contractor's request,</p>

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			<p>if and as may be required during the currency of the Contract.</p> <p>c. If rates and prices of any change are not available in the Contract, the parties thereto shall agree on specific rates for the valuation of the change and all matters therein related to the change. Based on the same, the Employer shall, if it intends to proceed with the Change, issue the Contractor with a Change Order.</p> <p>d. The Employer shall issue the Contractor with a Change Order by way of amendment to the Contract or in any other manner deemed appropriate. Even if the Employer and the Contractor cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters related to the Change Proposal, the Employer may nevertheless instruct the Contractor to proceed with the Change by issue of a “Pending Agreement Change Order” (“Pending Agreement Amendment”).</p> <p>Upon receipt of a Pending Agreement Change Order, the Contractor shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal.</p>

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			<p>If the parties cannot reach agreement within sixty (60) days from the date of issue of the Pending Agreement Change Order, then the matter may be referred to the Arbitrator in accordance with the provisions of GCC Clause 48.</p> <p>If the Engineer-in-Charge decides that the variation shall be carried out, he shall notify the Contractor to proceed with the variations. If the Engineer-in-Charge and the Contractor are unable to agree the adjustment of the Contract Price, the provisions of Sub-Clause (iii) of this Clause shall apply.</p>
2	<p>Clause No-32 (vi) New sub clause</p>	No Such Clause	<p>Variations in quantities:</p> <ul style="list-style-type: none"> • Variations by the employer: The employer will have the right to vary the quantities by $\pm 20\%$. No compensation shall be applicable for reducing the quantity. The increased quantity executed shall be built on the same item rates as given in the price schedule. In case of unforeseen circumstances, the Employer reserves his right to delete any Activity Schedule or part thereof. • Variation during actual execution: There may be variation in the executed quantities as per the site conditions. Variation in actual number of quantity required may be more or less than given in price schedule such variations shall be billed by the contractor on the item rates given in the price schedule for the actually executed quantities.

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3	Clause No-43	<u>Increase or Decrease of Costs:</u> Deleted	<u>Increase or Decrease of Costs:</u> The Contract Price shall be subject to adjustment in accordance with the provisions of Appendix 2 (Price Adjustment) to the Contract Agreement. The Contract Price shall be increased or reduced on account of variation in quantity in accordance with Clause 32 of GCC.
E. SAMPLE FORMS AND PROCEDURES, SEC-IX, VOL-I			
1	Appendix-2	4.2 PRICE ADJUSTMENT	Revised Appendix-2 in respect of Price Adjustment is enclosed as Annexure - A to Amendment-1
F. VOL-III, First Envelope (BID FORMS & ATTACHMENTS)			
1	First Envelope	First Envelope- Bid Forms & Attachments	Bidders may note that Bid Forms & attachments (First Envelope) is enclosed as Annexure -B to Amendment-1 in excel file. Bidders are requested to fill the required information in the same excel file and upload the same in the e-bidding portal.

(Annexure-A to Amendment-1)

REVISED PRICE ADJUSTMENT

Appendix - 2

PRICE ADJUSTMENT

1. General

1.1 Prices for work and materials covered under the scope of this Specification shall be furnished by the bidder in the manner specified in the Bid Form & Price Schedules. The bidder shall quote base prices for the Ex-Works Price Component of Equipment/Materials for (Transformers/Reactor, CVT, SA), the complete equipment procured as spares (Transformers/Reactor, CVT, SA), Substation Structures and installation (including civil works) price component of the equipment/materials. These price components for certain equipment/ materials, as specified, shall be subject to price adjustment to reflect changes in the cost of labour and material components as per the provisions given below:

1.2 All Ex-Works Price Components for GIS equipment Installation Hardware, Control and Relay Panels, PLCC Equipment, Wave Traps, Bus Post Insulators, Fire Protection Systems, Illumination System, L.T. Switchgear, IPS Aluminium Tube, Spares, Maintenance & Testing Equipment, for tower accessories such as danger plate, phase plate, circuit plates, number plate, anti-climbing device, span marker, bird guards, pipe, counterpoise earthing, obstruction lights, Flexible Copper Bond etc. and other items not specifically mentioned below shall remain firm and no price adjustment shall be applicable for the price components of these items..

1.3 Other Charges viz. inland transportation, inland insurance, type test charges, computer studies (if any) & training charges survey, soil investigation & painting of towers etc. shall be firm and no price variation shall be payable for these components.

2. Ex-Works Price Component

The formulae for calculating the price adjustment to be applied to the Ex-works price component of the main equipment will be as follows:

a i) Auto Transformer/Reactor

The formula for calculating the price adjustment to be applied to the Ex-works price component of the main equipment for Auto Transformer/Reactor (excluding Insulating Oil) will be as follows:

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + d \times (D_1/D_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P1 = Price adjustment amount, expressed in currency of bid, payable to Contractor, for each shipment (if it works out negative, that would mean the amount to be recovered by the Employer from the Contractor).

P0 = Ex-works price component of main equipment for Auto Transformer/Reactor (excluding Insulating Oil) in the currency of bid, shipment-wise.

A, B, C, D & L = Corresponding Published recognized price indices for various materials used in the equipment (except insulating oil) and Labour respectively.

a, b, c & d = Coefficients for copper, electrical lamination steel, construction steel & insulating material respectively for Reactor. The coefficients are estimated percentage of major raw material component involved in the Price of the equipment such that the sum of these coefficients shall be between 0.65 and 0.73

l = Coefficient of labour, value of which shall be between 0.12 and 0.20
Further the coefficient a, b, c, d & l should be so selected that their summation shall be equal to 0.85

a)(ii) Insulating Oil for Auto Transformer/Reactor:

$$P_2 = P_0 \times \{0.15 + 0.85 \times (E_1/E_0)\} - P_0$$

P2 = Price adjustment amount for insulating oil for Auto Transformer/Reactor, expressed in currency of bid, payable to Contractor, for each shipment (if it works out negative, that would mean the amount to be recovered by the Employer from the Contractor).

P0 = Ex-works price component of insulating oil for Auto Transformer/Reactor in the currency of bid, shipment-wise.

E = Published recognized price indices for Insulating oil.

b. Circuit Breaker, Capacitive Voltage Transformer, Current Transformer, Isolator and Surge Arrestor (AIS) (as applicable)

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + d \times (D_1/D_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P1 = Price adjustment amount expressed in currency of Bid, for each shipment.

P0 = Ex-works price of the respective equipment, in currency of Bid.

A, B, C, D & L = Published recognized price indices of raw materials used in the equipment and labour.

a, b, c & d = Value of corresponding coefficients of raw materials used and the sum of which should be between 0.55 to 0.65.

l = Coefficient for labour component.

These coefficients are estimated percentage of major raw material/labour component involved in the Ex-works price of equipment such that their summation shall be equal to 0.85.

c. PVC/XLPE Insulated Power and Control Cables

$$P_1 = P_0 \times \{0.85 + 0.15 \times (A_1/A_0)\} - P_0 + (M_1 - M_0)$$

Where,

P_1 = Price adjustment amount per Km. of cable.

P_0 = Ex-works price per Km. of cable.

A = Price index for PVC/XLPE as published by IEEMA.

$M_1 - M_0$ = Change in metal component of the ex-works price of particular type & size of cable.

Where,

M = Weight in MT of metal per Km. of Cable x Price index of metal per MT as published by IEEMA.

The Bidder has to specify in his Bid metal component per Km. for each type and size of cable.

d. Sub Station Structures (including Bolts & Nuts)

For Lattice & Pipe Structures (including washers, foundation bolts and Bolts & Nuts).

$$P_1 = P_0 \times \{0.15 + 0.58 \times (A_1/A_0) + 0.16 \times (B_1/B_0) + 0.11 \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount expressed in currency of Bid, for each shipment.

P_0 = Ex-works price, in currency of Bid.

A = Average Indicative Market Price of Steel Angles of size 50 x 50 x 6 mm of all cities in Rs/MT as published by Joint Plant Committee(JPC), excluding applicable Excise Duty component.

B = Price indices of electrolytic zinc as published by IEEMA.

L = Indian field labour index - namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

These coefficients are estimated percentage of major raw material/labour component involved in the Ex-works price such that their summation shall be equal to 0.85.

e. **L.T. Transformer**

$$P_1 = P_0 \times \{0.15 + a \times (A_1/A_0) + b \times (B_1/B_0) + c \times (C_1/C_0) + d \times (D_1/D_0) + e \times (E_1/E_0) + l \times (L_1/L_0)\} - P_0$$

Where,

P_1 = Price adjustment amount expressed in currency of Bid, for each shipment.

P_0 = Ex-works price of L.T. Transformer, in currency of Bid, shipment wise.

A, B, C, D, E & L = Published recognized price indices for the materials identified as below and Labour respectively.

a, b, c, d, e = Value of corresponding co-efficients for Copper, Electrical lamination Steel, Construction Steel, Insulating Material and Oil respectively. The sum of these coefficients shall be between 0.65 and 0.73.

l = The coefficient of labour, which shall be between 0.12 and 0.20.

Further the coefficient a, b, c, d, e & l should be so selected so that their summation shall be equal to 0.85.

- 2.1 i) Subscript '0' refers to indices as on thirty (30) days prior to date of opening of Bids, for materials & labour.
- ii) Subscript '1' refers to indices as applicable on:
- a) Sixty (60) days prior to the date of shipment for Labour.
 - b) At the expiry of two third (2/3) period from the date of base index to the shipment of material in case of CVT and SA.
 - c) Sixty (60) days prior to the date of shipment for materials in case of LT Transformer/Transformer/Reactor, Cable and Substation Structure.

- 2.2 The total adjustment for CVT, SA, PVC/XLPE insulated Power & Control Cables and Sub-Station Structures (including bolts & nuts) shall be subject to a ceiling of $\pm 20\%$ individually of respective Ex-Works price of CVT, SA, PVC/XLPE insulated Power & Control Cables and Sub-Station Structures (including bolts & nuts).

The price adjustment for the Ex-Works price component for LT Transformer, Transformer, and Reactor for each shipment will not be subject to any ceiling.

3. **Installation (including Civil Works) Price Component**

The formula for calculation of the monthly price adjustments for Installation (including civil works) price component shall be as under:

A. **Installation price component (including Civil Works but excluding 'Supply & Placement of Reinforcement Steel' and 'Concreting')**

$$ER_1 = ER_0 [0.20 + b \times (B_1/B_0) + c \times (EC_1/EC_0)] - ER_0$$

Where,

ER₁ = Price adjustment amount for the Installation price component (excluding supply & placement of steel and concreting) for each billing

ER₀ = Price for Installation (excluding supply & placement of steel and concreting and including civil works), done in billing period as established by the Contract.

B = Indian field labour index - namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

EC = Expatriate field Labour index for the foreign bidder. In case of Indian bidder, this shall be same as 'B' above.

b = Value of Co-efficient of Indian field labour component of the Erection value as indicated by Bidder in his proposal.

c = Value of Co-efficient of Expatriate field labour component of the Erection value as indicated by Foreign Bidder in his proposal.

These coefficients are estimated percentage of Indian field and Expatriate labour component involved in the Installation such that their summation shall be equal to 0.80. In case of Indian Bidder, 'c' shall be equal to zero.

B. **Supply and Placement of Reinforcement Steel:**

$$ER_1 = ER_0 [0.20 + 0.10 \times (A_1/A_0) + 0.05 \times (L_1/L_0) + 0.65 \times (B_1/B_0)] - ER_0$$

Where,

ER₁ = Price adjustment amount payable on price components of Supply and Placement of Steel.

ER₀ = Value of supply & placement of steel in billing period as established by Contract.

A = Wholesale Price Index Number for 'High Speed Diesel'(Individual Commodity) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

B = Wholesale Price Index Number for `Ferrous Metals'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

C. **Concreting**

$$ER_1 = ER_0 [0.20 + 0.20 \times (A_1/A_0) + 0.10 \times (L_1/L_0) + 0.30 \times (B_1/B_0) + 0.20 \times (C_1/C_0)] - ER_0$$

Where,

ER₁ = Price adjustment amount payable on price components of concreting.

ER₀ = Value of concreting in billing period as established by Contract.

A = Wholesale Price Index Number for `High Speed Diesel'(Individual Commodity) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

L = Indian field labour index – namely All India average consumer price index for Industrial Workers (monthly) (Base: 2001= 100), as published by Labour Bureau, Shimla, Government of India (www.labourbureau.nic.in).

B = Wholesale Price Index Number for `Cement & Lime'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry (www.eaindustry.nic.in).

C = Wholesale Price Index Number for `Structural Clay Products'(Group Item) (monthly) (Base: 2004-05=100), as published by Office of Economic Advisor, Ministry of Commerce & Industry(www.eaindustry.nic.in).

3.1 i) Subscript '0' will correspond to thirty (30) days prior to date of opening of Bids.

ii) Subscript '1' will correspond to the month of billing.

3.2 The total price adjustment amount for Installation (including civil works) price component shall not be subject to any ceiling whatsoever.

4. The bidder shall indicate in his bid the actual values of the coefficients a, b, c, d etc to be adopted, keeping in view the range/total values given in para 2 & 3 above.

5. The above price adjustment provision shall be invoked by either party subject to the following further conditions:

- a) For the purpose of Price Adjustment on ex-works price components of the equipment, the date of shipment for Goods shall mean scheduled date of shipment or actual date of shipment, whichever is earlier. Scheduled date of shipment will be ex-works date of despatch, governed by the accepted PERT Network/Bar Chart. Similarly, for the purpose of Price Adjustment on Installation price component, the Billing period shall mean the billing period as per Contract time schedule i.e., the agreed Bar Chart or actual period, whichever is earlier. The Billing period for various Installation activities will be as per agreed Installation Bar Chart indicating monthly schedule of Installation activities for completion of works. However, when the Employer's specific approval for advancement of shipment/installation activities has been obtained in such case the said advanced date shall be treated as the schedule date of shipment/installation activities for the purpose of working out the price adjustment payable.

No price increase shall be allowed beyond the original delivery/ Installation dates unless specifically stated in the Time Extension Letter, if any, issued by the Employer. The Employer will, however, be entitled to any decrease in the Contract Price which may be caused due to lower price adjustment amount in case of delivery of Goods/ Installation beyond the original delivery/Installation dates. Therefore, in case of delivery of Goods/ Installation beyond the original delivery/ Installation dates, the liability of the Employer shall be limited to the lower of the price adjustment amount which may work out either on schedule date or actual date of despatch of Goods/ Installation.

- b) For the purpose of price adjustment, the bidder shall indicate in his proposal as to whether the Bid is based on the use of raw materials such as copper, electrical lamination steel, construction steel, insulating material, Aluminium, Structural Steel, zinc etc. and insulating oil at local or international prices. The bidder shall indicate the indices for such raw materials and insulating oil (transformer oil) which are recognized published indices in the Country of origin form where these materials are proposed to be procured or any other Internationally recognized indices in case recognized indices are not available in the Country of Origin.
- c) In case of non-publication of applicable indices on a particular date, which happens to be the applicable date for Price Adjustment purposes, the published indices prevailing immediately prior to the particular date shall be applicable.
- d) If the Price Adjustment amount works out to be positive, the same is payable to the Contractor by the Employer and if it works out to be negative, the same is to be recovered by the Employer from the Contractor.
- e) The Contractor shall promptly submit price adjustment invoices for the supplies made/work done, positively within 3 months of the dispatch or within ten(10) days of publication of all relevant indices, whichever is earlier, whether it is positive or negative.