



HP POWER TRANSMISSION CORPORATION LIMITED

(A State Government Undertaking)

BAROWALIAS HOUSE, KHALINI, SHIMLA - 171002

Ph:- 0177-2626784, (Telefax: 0177 - 2620227)

Reference: HPPTCL / DGMC / L & T - ERECTION / 2013 ~~LS69-08~~ DATED: 8/03/13

From,

Dy. GENERAL MANAGER (CONTRACTS),
BAROWALIAS HOUSE, KHALINI,
SHIMLA - 171002

To,

M/S LARSEN & TOUBRO LIMITED,
ENGINEERING CONSTRUCTION & CONTRACTS DIVISION,
MOUNT POONAMALLEE ROAD, MANAPAKKAM,
P. B. No. 979, CHENNAI - 600089

FAX No.: 044 - 22493317; 044 - 22526345

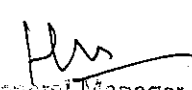
Subject: LETTER OF AWARD (LOA) No.: HPPTCL / DGMC / L & T - ERECTION / 2010 - 5099 - 5104 DATED 23.12.2010 (SECOND CONTRACT) FOR CIVIL WORKS AND ERECTION OF EQUIPMENTS / MATERIALS FOR CONSTRUCTION OF 220 / 33 kV GIS SUBSTATION AT PHOJAL (EARLIER PALCHAN) - AMENDMENT THEREON

Reference: This has reference to the following: -

- ✓ 1) This office Letter of Award No.: HPPTCL / DGMC / L & T - Erection / 2010 - 5099 - 5104 dated 23.12.2010
- 2) This office letter No.: HPPTCL / Palchan S / Str. / 2011 - 12 - 6113 dated 03.12.2011
- 3) Minutes of Meeting held on 06.01.2012 in Shimla
- 4) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2403 dated 21st April, 2012
- 5) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2404 dated 24th April, 2012
- 6) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2405 dated 10th May, 2012
- 7) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2406 dated 18th May, 2012
- 8) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2409 dated 11th June, 2012

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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

- 9) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station - 12 - 516 - 17 dated 21.07.2012
- 10) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2410 dated 30th July, 2012
- 11) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2411 dated 1st August, 2012
- 12) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2412 dated 6th August, 2012
- 13) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station - 12 - 573 - 74 dated 07.08.2012
- 14) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station - 12 - 834 - 35 dated 28.09.2012
- 15) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station - 12 - 884 - 85 dated 03.10.2012
- 16) Your Letter No.: LTCD / DLRO / HPTCL / PHOZAL / 002 dated 5th October, 2012

Sir,

I have been directed to issue Amendment to this office Letter of Award (LOA) No.: HPPTCL / DGMC / L & T - Erection / 2010 - 5099 - 5104 dated 23.12.2010 for Civil Works and Erection of Equipments / Materials (also referred to as 'Second Contract') required for Construction of 220 / 33 kV GIS Sub Station at Phozal (earlier Pakhan) in Kullu District of Himachal Pradesh amounting to Rs. 7,93,12,180 (Rupees Seven Crores Ninety Three Lakhs Twelve Thousand One Hundred Eighty) only.

The Scope of Work under this Contract shall also include all such Items, Equipment, and Materials, which are not specifically mentioned in the Bill of Material attached with this Amendment (Annexure - ECW1, Annexure - ECW2 and Annexure - MC) but are necessary for successful completion of the Scope of Work under the Contract.

This 'Second Contract' includes performance of all other activities including Inland Transportation, Insurance, Delivery on F. O. R. Destination Site(s) basis, Loading, Unloading, Handling, Storage (including watch and ward), Erection including associated Civil Works, Testing and Commissioning of all Equipment and Materials, including the Equipment and Material supplied under the 'First Contract', including Civil Works, training etc for complete execution of Construction of 220 / 33 kV GIS Sub Station at Phozal in Kullu on Single Source Responsibility basis.

Major terms and conditions of this amendment are as under:-

1. The detailed Civil Works and Erection of Equipment / Material along with their tentative Quantities and Unit Rates under the subject LOA are given in Annexure - ECW1, Annexure - ECW2 and Annexure - MC to this Letter of Award.
2. Payments shall be released for the Quantities as finalised during detailed engineering and approved Bill of Material / actually measured by HPPTCL's Engineer at Site, based on per Unit Rates as per Award.

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 Dy. General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2

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3. Size of 33 kV XLPE Cable viz. 630 sq. mm. / 1000 sq. mm. shall be finalised during detailed engineering and payment of the same along with suitable Termination shall be released on the Unit Rates specified in this Award.
4. It is expressly understood by you that any breach under the contract for supplies (First Contract) awarded, shall automatically be deemed as breach of this Contract and any such breach or occurrence giving us a right to terminate the 'First Contract' and / or recover damages under that Contract shall give us right to terminate this Contract and / or recover damages under this Contract as well. However, such breach or occurrence in the 'First Contract' shall not automatically relieve you of any of your obligations under this Contract. It is expressly understood and agreed by you that the Equipment / Materials supplied under this 'First Contract', when erected, tested, and commissioned shall give satisfactory performance in accordance with the Bidding Document.
5. It will be your responsibility to take delivery, unload, and store the Equipment / Materials to be supplied by you under 'First Contract' and execute an Indemnity Bond. You shall execute Indemnity Bond in favour of HPPTCL against loss, damage and any risks involved for the full value of the Equipment / Materials. This Indemnity Bond shall be furnished before commencement of the Supplies at Site and shall be valid till the testing and commissioning and handing over of the complete Construction of 220 kV GIS Phojal Sub Station.
6. The Maintenance of the Sub Station for the first year shall be carried out by your Firm for which Annual Charges amounting to Rs. 1,19,74,232.00 (Rupees One Crore Nineteen Lakhs Seventy Four Thousand Two Hundred Thirty Two) only shall be paid at the end of the Maintenance Period.
7. **CONTRACT PRICE:**
- 7.1 The Contract Price for the complete Scope of Work under this Amended LOA is as per the following break up: -

Sr. No.	PRICE COMPONENT	VALUE in Rupees
1	Erection of Material / Items (As per Annexure - ECW1)	2,44,22,485
2	Civil Works (As per Annexure - ECW2)	4,29,15,463
3	Annual Charges for Maintenance of Sub Station for the first year	1,19,74,232
	TOTAL CONTRACT PRICE	7,93,12,180

Rupees Seven Crores Ninety Three Lakhs Twelve Thousands One Hundred Eighty only

- 7.2 Further breakup of the Contract Price for the purpose of payment is given at Annexure - ECW1, Annexure - ECW2 and Annexure - MC of this LOA.

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 Dy. General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2

7.3 Notwithstanding the breakup of the Contract Price, the Contract shall at all times be construed as a 'Single Source Responsibility Contract' and any breach in any part of the Contract shall be treated as breach of the entire Contract.

7.4 The Price of Items indicated at Annexure – ECW1, Annexure - ECW2 and Annexure – MC for, which quantities are assessed by you and are on lump sum basis, shall remain constant irrespective of any increase or decrease in quantities of any Items, addition of any new item or deletion of any existing item for completion of Scope of Work as per Technical Specification unless there is any change of Scope of Work by the Purchaser / Owner.

In case, the actual requirement of quantity of such Items is more than the quantities identified in the LOA / Contract Agreement / approved BOQ / Billing break up or some additional Items are required for the successful completion of the Scope of Work as per the Technical Specification, such additional Items / quantities shall be supplied by you without any additional cost to HPPTCL. Further, in case actual requirement of quantities for successful completion of Scope of Work is less than the quantities identified in the LOA / Contract Agreement / approved BOQ / Billing break up or some existing Items are not required, the lump sum price for these Items / Civil Works shall remain unchanged and no deduction shall be made from the lump sum price due to such reduction of quantities.

In case quantities of these Items supplied at Site are in excess of that required for successful completion of Scope of Work as detailed in the Bidding Documents, such additional quantities shall be your property and you shall be allowed to take back the same from the Site for which no deduction from lump sum price shall be made. It shall, however, be your responsibility to pay all statutory taxes, duties, and levies to the concerned authorities for such surplus material, which would otherwise have been lawfully payable. You shall submit an indemnity bond to keep HPPTCL harmless from any such liability, before release of such material to you by HPPTCL.

8. TAXES AND DUTIES:

8.1 The Contract Price is inclusive of all Taxes and Duties such as Excise Duty, Sales Tax / VAT, Service Tax for all Materials required for Civil Works and Erection of Equipment / Materials under the Contract and no claim on this behalf will be entertained by HPPTCL. Further any such Taxes and Duties as aforesaid payable including statutory variation thereon will be to your account and no claim on this behalf will be entertained by HPPTCL.

8.2 The above Contract Price is inclusive of Service Tax and Surcharge / Cess etc on it as applicable and HPPTCL shall not entertain any claim whatsoever in this regard.

8.3 The above Contract price is inclusive of Sales Tax on Works Contract, Turnover Tax or any other similar taxes under the Sales Tax Act. HPPTCL shall not entertain any claim whatsoever for sales tax on Works Contract on the above Contract Price during the execution of the Contract.

8.4 HPPTCL shall be entitled to deduct Income Tax, Surcharge on Income Tax and other Corporate Taxes / other Taxes at source in accordance with the provisions of the Income Tax / other Laws as applicable from time to time. TDS so deducted shall be deposited with the relevant tax Authority and necessary TDS Certificate shall be issued to you by HPPTCL.

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By: General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

9. **PRICE ADJUSTMENT:**

Rates for Civil Works are VARIABLE as per IEEMA Circular with Base Date as 1st September 2011 i.e. after stipulated completion period as per Original Award.

10. **TIME SCHEDULE OF CONTRACT:**

- 10.1 The basic consideration and the essence of the Contract is strict adherence to the Time Schedule of the Contract. You shall so organise your resources and perform your work as to complete successful testing and commissioning of the GIS Palchan Sub Station covered under the subject Contract within 14 (fourteen) months from the date of issue of this Amendment and the same shall be applicable for all contractual purposes.
- 10.2 You shall develop and furnish a detailed Schedule in the form of a Bar Chart indicating relating to allied Civil Works and Erection of all the Equipment and Materials covered under this Contract within 15 days of this Letter of Award.
- 10.3 For the purpose of levy of Liquidated Damages for delay, the time for completion of work of construction, testing and successful commissioning of 220 / 33 kV GIS Sub Station at Phojal shall be reckoned as 14 months from the date of this Amendment.

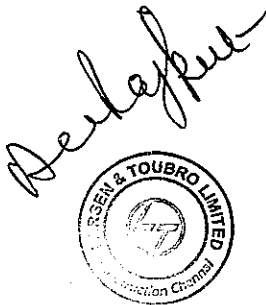
11. **LIQUIDATED DAMAGES (LD) FOR DELAY:**

- 11.1 If you fail to successfully complete the Commissioning of the Sub Station within the Time Schedule stipulated (14 months) under the Contract, you shall pay to HPPTCL as Liquidated Damages and not as a penalty, a sum of one half of one percent (0.5 %) of the Contract Price for each calendar week or part thereof of delay.
- 11.2 The Total Amount of Liquidated Damages for delay under the Contract shall be subject to a Maximum of 10 % of the Contract Price.

12. **SIGNING OF CONTRACT:**

You shall execute a Contract Agreement at the office HPPTCL, on the Terms and Conditions envisaged in the Tender Documents and this detailed Letter of Award, within 30 (Thirty) calendar days of the receipt of Notification of this Amendment. It is a legitimate obligation of you to execute and to stamp the Contract, in accordance with the Indian Stamp Act and to supply Six Copies of Contract Drawings, Technical Particulars as finally approved by HPPTCL and other Literature and Instruction Books regarding Handling, Use and Maintenance of Equipment / Material. The cost of all these and such other items have been included in the Prices and you will not be entitled to any extra payment on these accounts. However, non - execution of the Contract Agreement by you shall not absolve you of the responsibility of the faithful execution of the Contract.

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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

13. It is understood and agreed by both the parties to the contract that no claim, whatsoever, shall be raised by either of the parties on account of the period already lapsed under the contract.
14. All other Terms and Conditions shall be as per Original Letter of Award No.: HPPTCL / DGMCL / L & T - Supply / 2010 - 5099 - 5104 dated 23.12.2010 (SECOND CONTRACT) and Tender Document No. DGMCL/PALCHAN SUBSTATION/02/2009

Please acknowledge receipt of the Letter of Award and take necessary action to commence the work immediately.

Enclosure:

Annexure - ECW1, ECW2 & MC

Yours faithfully,


Dy. General Manager (Contracts)

Reference: HPPTCL / DGMCL / L & T - ERECTION / 2013 -

DATED:

Copy for information and necessary action to:-

1. P. S. to Director (Planning & Contracts), HPPTCL, Barowalia House, Khalini, Shimla - 171002.
2. P. S. to Director (Projects), HPPTCL, Barowalia House, Khalini, Shimla - 171002.
3. General Manager (Projects), HPPTCL, Barowalia House, Khalini, Shimla - 171002.
4. DGM & Head Transmission, HPPTCL, Anu, Hamirpur.
5. DGM(Finance), HPPTCL, Sangla House, Khalini, Shimla - 171002.
6. Sr. Manager, HPPTCL, Sarabai, Bhunter, District Kullu - 175125 (H. P.)

Enclosures:

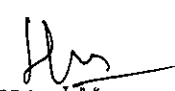
Annexure - ECW1, ECW2 & MC


Dy. General Manager (Contracts)

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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

ANNEXURE - ECH-1

NAME OF WORK : CONSTRUCTION OF 33 / 220 KV SUB STATION AT PHOZAL IN KULLU DISTRICT

ERECTION PORTION

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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A POWER TRANSFORMER

1	26.66 / 33.33 MVA, 33 / 220 KV Single Phase Transformer including Bushing, Accessories and First Filling of Oil	Nos.	4		4,82,759
2	Oil Storage Tank	No.	1		
3	Oil Sampling Bottle	Nos.	4		
4	Micro Gas Analyzer / On-line DGA / PPM Meter	Nos.	1		
5	260 KVA, 33 / 0.433 KV Three Phase Transformer including Bushing, Accessories and First Filling of Oil	Nos.	1	1,35,040	1,35,040

SUB TOTAL - A

6,17,799

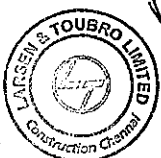
B 245 KV GIS EQUIPMENT

1	245 KV, 1680 A, 50 kA SF ₆ Gas Insulated Transformer Bay Module each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two Bus Bar Disconnectors with Grounding Switch, with Surge Arresters (198 KV), SF ₆ Gas Monitoring System for complete Bay, LCC, Three 1 - Phase SF ₆ Ducts and SF ₆ / Oil Bushing to connect to 33 / 220 KV, 26.66 / 33.33 MVA Transformers and Accessories with GIS etc to complete Transformer Bay Module	Nos.	1	5,17,959	5,17,959
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2	245 KV, 2000 A, 50 kA SF ₆ Gas Insulated Feeder Bay Module each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two Bus Bar Disconnectors with Grounding Switch, Line	Nos.	2	5,17,959	10,35,918
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DSM/Contracts

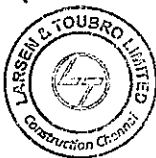
ECH-1



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Dy. General Manager (Contracts)
 T.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2



Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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Disconnector with Safety Grounding Switch, High Speed Fault Making Grounding Switch, SF₆ Gas Monitoring System for complete Bay, LCC, GIS Duct and Air / SF₆ Bushing Termination Enclosure and Accessories with GIS etc to complete Feeder Bay Module

3 245 KV, 4000 A, 50 kA, 3 Single Phase (Isolated) Units SF₆ Gas Insulated, Metal Enclosed Bus Bars each Unit, enclosed in Bus Enclosures running along the Length of the Switchgear to interconnect each of the Circuit Breaker Bay Modules Each Bus Bar Set shall be complete with Voltage Transformers complete with Safety Grounding Switch Nos. 2 4,57,323 9,14,646

4 245 KV, 4000 A, 50 kA SF₆ Gas Insulated Bus Coupler Bay Module comprising of SF₆ Gas Insulated Circuit Breaker, Current Transformers, Two Disconnectors with Safety Grounding Switches, SF₆ Gas Monitoring System for complete Bay, LCC etc Nos. 1 5,17,959 5,17,959

5 245 KV, CVT with Junction Box Nos. 6 8,662 51,972

6 198 KV Lightning Arrester with Counter and Leakage Meter Nos. 7 5,197 36,379

SUB TOTAL - B 30,74,833

C 36 KV, 2000 A, 40 kA for 3 sec., SF₆ Gas Insulated, Metal Enclosed BUS BARS each Unit, enclosed in Bus Enclosures running along the Length of the Switchgear to interconnect each of the Circuit Breaker Bay Module. Each Bus Bar Set shall be complete with Voltage Transformer complete with Safety Grounding Switch

1 36 KV, 1600 A SF₆ Gas Insulated Feeder Bay Module each comprising of SF₆ Gas Insulated Circuit Breaker, Current Transformers, Two Bus Bar Disconnectors with Grounding Switch, Line Disconnector Nos. 6 51,974 3,11,844

with Safety Grounding Switch, High Speed Fault Making Grounding Switch, SF₆ Gas Monitoring System for complete Bay, LCC, Enclosure and Accessories with GIS etc to complete Feeder Bay Module

DGM (Contracts)

EDW1-2

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By. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

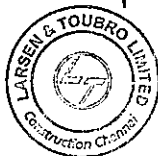
Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
2	35 KV, 2000 A SF ₆ Gas Insulated Bus Coupler Bay comprising of SF ₆ Gas Insulated Circuit Breaker Current Transformers, Two numbers of Bus Bar Disconnectors with Earthing Switch, SF ₆ Gas Monitoring System for complete Bus Coupler Panel	Nos.	1	51,974	51,974
3	35 KV, 1600 A SF ₆ Gas Insulated Power Transformer Panel each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two numbers of Bus Bar Disconnectors with Earthing Switch, Surge Arrester (30 KV), SF ₆ Gas Monitoring System for complete Power Transformer Panel	Nos.	1	51,974	51,974
4	35 KV, 630 A SF ₆ Gas Insulated 250 KVA, L. T. Transformer Panel each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two numbers of Bus Bar Disconnectors with Earthing Disconnect Switch, Surge arrester (30 KV), SF ₆ Gas Monitoring System for complete LT Transformer Panel	Nos.	1	51,974	51,974
SUB TOTAL - C				4,67,786	
D	SUBSTATION AUTOMATION SYSTEM complete including Hardware and Software complete Sub Station Automation System including Hardware and Software for the Sub Station and Remote Control Station alongwith Associated Equipments as per Technical Specification	Ld (9 Bays)	1	1,55,921	1,55,921
BAY CONTROL UNITS					
1	220 KV Bays	Nos.	3	INCLUDED ABOVE	1,55,921
2	33 KV Bays	Nos.	6		
SUB TOTAL - D					1,55,921
E1	220 KV CONTROL AND RELAY PANEL				
1	Circuit Breaker Control Panel				
a)	With Auto Reclose	Nos.	2	17,324	34,648
b)	With Out Auto Reclose	Nos.	3	17,324	51,972
2	Line Protection Panel (Main I + Main II)	Nos.	2	17,324	34,648
DGM (Contracts)					ECMT - 3

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Deviya

HS
 Dy. General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2



Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
3	220 KV (Double Bus Bar Protection)	Set	1	17,324	17,324
4	Transformer Protection Panel - H. V. Side including one number for Spare Single Phase Transformer	Nos	2	17,324	34,648
	SUB TOTAL - E1				1,73,240

E2	33 KV CONTROL AND RELAY PANEL				
1	Circuit Breaker Control Panel	Nos.	6	17,324	1,03,944
	a) With Auto Reclose	Nos.	4	17,324	69,296
	b) With Out Auto Reclose	Nos.	6		
2	Line Protection Panel	Nos.	2		
3	Transformer Protection Panel - L. V. Side including one number for Spare Single Phase Transformer	Nos.	2		
	SUB TOTAL - E2				1,73,240

F	PLCC FOR 220 KV LINE FEEDER				
1	2000 A, 0.5 mH / 1.0 mH, 50 kA Line Traps	Nos.	4	13,859	55,436
2	Coupling Device (Phase to Phase)	Nos	4	10,395	41,580
3	HF Cable	LS	2	8,662	17,324
4	Carrier Equipment (for Speech + Protection and for Speech + Data)	Nos	6	10,395	62,370
5	Protection Coupler	Nos	4	10,395	41,580
6	Print Testing Kit	Set	1	10,395	10,395
7	EPBAX (24 / 8) with Telephone Sets	Set	1	10,395	10,395
	SUB TOTAL - F				2,39,080

F.1	FOTE Equipment	Set	1	48,41,813	48,41,813
	SUB TOTAL - F1				48,41,813

G	AIR CONDITIONER AND VENTILATION SYSTEM				
1	Split AC (Capacity - 2T)	Nos	10	17,324	1,73,240
2	Ventilation System for 220 KV & 33 KV GIS Hall	LS	1	23,72,488	23,72,488
	SUB TOTAL - G				25,45,728

ECWT - 4

[Signature]
DGM(Contracts)

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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khelini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
H LT SWITCHBOARD					
1	415 V Main Switchboard	Nos	1	1,47,259	1,47,259
2	415 V A.C Distribution Board	Nos	1	1,03,947	1,03,947
3	220 V DCD8	Nos	2	86,623	1,73,246
4	48 V, DC DB	Nos	2	86,623	1,73,246
	SUB TOTAL - H				5,97,598
I BATTERIES					
1	220 V, 400 AH	Set	2	86,623	1,73,246
2	48 V, 400 AH	Set	2	51,794	1,03,588
	SUB TOTAL - I				2,76,834
J BATTERY CHARGER SYSTEM					
1	220 V	Set	2	17,324	34,648
2	48 V	Set	2	17,324	34,648
	SUB TOTAL - J				69,296
K DG SET ALONGWITH CONTROL PANEL (100 KVA, 440 V for 220 KV Sub Station)					
	SUB TOTAL - K				86,623
L FIRE PREVENTION AND EXTINGUISHING SYSTEM					
1	Nitrogen Injection Fire Prevention & Extinguishing System for Transformer	Set	4	3,14,718	12,58,872
2	Fire Protection for GIS cum Control Room Building, etc. (Portable type the Extinguishers System)	Lot	1	5,12,322	5,12,322
	SUB TOTAL - L				17,71,194
M ILLUMINATION SYSTEM					

DGM(Contracts)

ECMT-5



By. General Manager (Contracts)
H.P. Power Transmission Corp. Ltd.
Barowalla House, Khalini, Shimla-2



See copy

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
1.0	MLDB	Nos.	1	38,870	38,870
2.0	ELDB	Nos.	1	28,504	28,504
3.0	GIS cum Control Room Building Illumination with CFL / Metal Halide Lamps a 2 x 36 Watts Fluorescent Lamp in Industrial Reflector type Fixtures suitable for surface / pendant CGL Cat Ref. IBA1424EB	Nos.	37	1,940	68,080
	b 230 V, 5 / 15 A, Indoor Receptacle 3 Pin type - R1	Nos.	20	648	12,960
	c 15 A, 1 - Ph, 3 Pin Industrial Type Switch Socket Outlet	Nos.	4	778	3,112
	d 32 A, SPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket for A.C (indoor)	Nos.	3	1,555	4,665
	e 32 A, SPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket for A.C (outdoor)	Nos.	3	2,073	6,219
	f 450 mm Exhaust Fan	Nos.	2	1,684	3,368
	g 450 mm Acid Proof Exhaust Fan (for Battery Room)	Nos.	1	4,146	4,146
	h 1400 mm Ceiling Fans with Electronic Regulator	Nos.	6	1,684	10,104
	i Point Wiring	Nos.	72	1,425	1,02,600
	j Indoor Lighting Panel (ACP - 1 type) as per Technical Specification	Nos.	2	41,461	82,922
	k DC Lighting Panel (DCP type) as per Technical Specification	Nos.	1	41,461	41,461
4.0	220 / 33 KV GIS Building Illumination				
	a 1 x 250 W - Industrial Metal Halide Luminaire CGL Cat ref. No. FAD 1314	Nos.	14	2,073	29,022
	b 1 x 60 W GLS Bulk Head Light Fixture of CGL type 1BH 1110 BC or equivalent	Nos.	8	648	5,184
	c 230 V, 5 / 15 A, Indoor Receptacle 3 Pin type - R1	Nos.	9	648	5,832
	d 32 A, SPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket for A.C (indoor)	Nos.	4	1,555	6,220
	e 32 A, SPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket (outdoor)	Nos.	4	2,073	8,292
	f 1 x 11 W Portable Battery operated (3 hrs. Backup) CFL Emergency Lamp (MS BPL make)	Nos.	4	2,202	8,808
	g Point Wiring	Nos.	43	1,425	61,275
	h Indoor Lighting Panel (ACP-1 type) as per Technical Specification	Nos.	2	41,461	82,922
	i DC Lighting Panel (DCP type) as per Technical Specification	Nos.	2	41,461	82,922
	j 32 A, TPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket (indoor)	Nos.	2	1,684	3,368

ESWH-6

DGM(Contracts)

HWS
Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
5.0	Switchyard Lighting				
a	Flood Light Luminaire with 2 x 400 W HPSV / 1+ Lamp - Bajaj cel. BLUE22 CA - R0	Nos.	4	5,163	20,732
b	Lighting JB with 5 nos of Terminal Blocks	Nos.	4	914	3,656
c	250 A Oil Filtration Socket	Nos.	1	6,459	6,459
6.0	Street Lighting (Solar lighting system)				
a	120 W Solar Lighting System for Street Lighting with 9 m height Pole, Inbuilt in long life maintenance free Batteries (Capacity is 12 V, 120 Ah)	Nos.	8	11,660	93,280
7.0	Transformer Area Lighting as per specification				
1 x 70 W, HPSV 240 V, AC Industrial Wall Glass Fixture for pendant mounting with Control Gear Box (BLDVI - 70SV) Lighting JB	Nos.	2	2,073	4,146	
	Nos.	2	914	1,828	
	SUB TOTAL - M				8,30,957
N	Power Cables and Copper Conductor Armoured Control Cables alongwith Lugs, Glands and Straight Joints				
	XLPE POWER CABLE				
1 C X 630 sq.mm.	km	0.75	6,11,931	4,58,948	
Terminations for the above	Nos.	12	1,469	17,628	
1 C X 630 sq.mm.	Nos.	36	2,040	73,440	
3.5 C X 300 sq.mm.					
PVC POWER CABLE (Other than those available in the Contract)					
4 C X 6 sq.mm.	km	0.33	1,10,147	36,349	
2 C X 6 sq.mm.	km	3.15	74,246	2,33,875	
1 C X 150 sq.mm.	km	0.6	2,04,787	1,22,872	
Terminations for the above					
3.5 C X 90 sq.mm.	Nos.	24	1,526	36,624	
3.5 C X 70 sq.mm.	Nos.	24	1,069	25,656	
3.5 C X 35 sq.mm.	Nos.	63	709	44,657	



Dy. General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2



Seelap Kumar

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
	4C X 16 sq. mm.	Nos.	21	384	8,064
	4C X 6 sq. mm.	Nos.	81	310	25,110
	2C X 6 sq. mm.	Nos.	354	318	1,12,572
	1C X 150 sq. mm.	Nos.	60	587	35,220
	HR - FRLS CONTROL CABLE				
	5C X 2.5 sq. mm	km	3	88,749	2,69,247
	27C X 2.5 sq. mm.	km	0.75	2,44,771	1,83,578
	4P 0.75	km	0.3	88,749	26,925
	Terminations for the above				
	2C X 2.5 sq. mm.	Nos.	84	310	26,040
	4C X 2.5 sq. mm.	Nos.	249	384	95,616
	5C X 2.5 sq. mm.	Nos.	516	481	2,48,196
	7C X 2.5 sq. mm.	Nos.	429	548	2,35,092
	10C X 2.5 sq. mm.	Nos.	555	587	3,25,785
	12C X 2.5 sq. mm.	Nos.	93	645	59,985
	14C X 2.5 sq. mm.	Nos.	60	791	47,460
	16C X 2.5 sq. mm.	Nos.	78	881	68,718
	19C X 2.5 sq. mm.	Nos.	78	1,118	87,204
	27C X 2.5 sq. mm.	Nos.	48	1,399	67,152
	4P 0.75	Nos.	3	402	1,206
	2C X 4 sq. mm.	Nos.	81	603	48,843
	4C X 4 sq. mm.	Nos.	63	481	30,303
	7C X 4 sq. mm.	Nos.	54	880	47,520
	SUB TOTAL - N				30,99,835

ECN-1

Hm
DGM(Contracts)

0 33 HV XLPE POWER CABLE AND ACCESSORIES
1 XLPE POWER CABLE

Hm
By. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

018

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
2	3.5 C x 300 sq. mm.	km	0.75	1,03,236	77,427
	PVC POWER CABLE				
	3.5 C x 80 sq. mm.	km	0.3	79,849	23,955
	3.5 C x 70 sq. mm.	km	0.75	79,849	59,887
	3.5 C x 35 sq. mm.	km	0.3	56,459	16,938
3	4 C x 16 sq. mm.	km	0.75	56,459	42,344
	4 C x 4 sq. mm.	km	1.5	33,072	49,608
	HR FRLS CONTROL CABLE				
	2 C X 2.5 sq. mm.	km	1.5	31,512	47,268
	4 C X 2.5 sq. mm.	km	3	31,512	94,536
4	7 C X 2.5 sq. mm.	km	1.5	35,151	52,727
	10 C X 2.5 sq. mm.	km	1.125	40,608	45,684
	12 C X 2.5 sq. mm.	km	0.75	40,608	30,456
	16 C X 2.5 sq. mm.	km	0.75	47,971	35,978
	19 C X 2.5 sq. mm.	km	0.3	49,703	14,911
	2 C X 4 sq. mm.	km	1.5	34,632	51,948
	4 C X 4 sq. mm.	km	1.5	40,867	61,301
	7 C X 4 sq. mm.	km	1.5	60,617	90,926
	36 KV XLPE CABLE				
	a) 33 KV XLPE Cable for connecting Transformer to 33 KV GIS of size 1 x 630 sq. mm.	km	1	1,80,130	1,80,130
P	(Three Cables with one Spare Cable in each Circuit)				
	b) 33 KV Indoor Termination Suitable for above Cable	Nos	4	3,514	14,056
	c) 33 KV Outdoor Termination Suitable for above Cable	Nos	4	3,514	14,056
SUB TOTAL - 0					10,04,134

GROUNDING / EARTHING SYSTEM

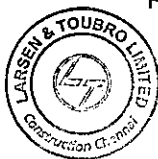
DGM(Contracts)

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Hus
 Dy. General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2



Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
a)	40 mm MS Rod for Earthing (*)				
	40 mm MS Rod for Earthing	km	4.797	3,69,511	17,24,574
	75 x 12 G. S. Flat	km	0.364	2,98,577	1,08,882
	50 x 6 G. S. Flat	km	0.091	2,62,017	23,844
	50 x 6 M. S. Flat	km	0.208	2,62,017	54,500
	Cleat type Clamp to suit 75 x 12 G. S. Flat	Nos	79.3	158	12,529
	3 Mtr long, 40 mm dia M. S. Pipe Earth Electrode with Test Link and without Pit	Nos	22.1	2,084	46,056
	3 Mtr. long, 40 mm dia Earth Rod Electrode with untreated Pit	Nos	28.9	1,475	44,103
	3 Mtr. long, 20 mm dia Earth Rod Electrode without Pit	Nos	10.4	829	8,622
	3 Mtr. long, 40 mm dia GI Pipe Earth Electrode	Nos	3.9	931	3,631
	Lightning Protection				
	7/3.66 mm GS Earth Wire	km	0.299	21,351	6,384
	Cleat Clamp on Structure to suit 7/3.66 mm GS Earth Wire	No	59.8	165	9,867
	Pad Clamp on Structure to suit 7/3.66 mm Earth Wire and 75 x 12 GS Flat	No	5.2	797	4,144
	25 x 3 GI Flat	km	0.568	27,420	16,397
	1.5 Mtr. long GI Spike	Nos	10.4	402	4,181
	Test Links	Nos	10.4	165	1,716
	SUB TOTAL - P				20,69,229

Q STEEL STRUCTURES FOR TOWERS, BEAMS AND EQUIPMENT

Tower and Beams
220 KV Tower

CA Type	kgs.	7,650	11.58	88,587
BG1 (WITH DEV) - 16 m	kgs.	3,232	11.58	37,427
Lighting - cum - Lightning Mast	kgs.	4,750	11.58	55,008
Tower - 3T	kgs.	4,599	11.58	53,256
Girder - 3G	kgs.	1,374	11.58	15,911
DGM (Contracts)				ECW-10

33 KV Tower

Huz
Dy. General Manager (Contracts)
H.P. Power Transmission Corp'n. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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Equipment

Standard Structures for 220 kV Equipments

CVT	kg.	990	12.79	12,662
WT	kg.	2,200	12.79	28,138
SA	kg.	942	12.79	12,048
BPI	kg.	960	12.79	12,278
SUB TOTAL - Q				3,15,315

R EOT CRANE

a.	3.5 T for 220 kV GIS ROOM	Set	1	2,06,215	2,06,215
b.	2.5 T for 33 kV GIS ROOM	Set	1	1,54,621	1,54,621
c.	Moveable ladder of suitable Capacity for 220 kV & 33 kV GIS Room	Nos	2	48,418	96,836
SUB TOTAL - R					4,57,872

S

Insulator Strings / Disc Insulators, Hardware, Conductor, Bus Bar Material, Cable Trays, Clamps, Connectors, Including Equipment Connectors, Pipes for Equipments & Lighting, all Accessories etc

220 kV CLAMPS & CONNECTORS

Terminal Connector on 26.56 / 33.33 MVA Transformer SF ₆ to Oil bushing to suit GIS Bus Duct	Nos.	4	3,047	12,188
Terminal Connector on 198 kV LA to suit 1 or 2 x MOOSE / ZEBRA ACSR	Nos.	6	2,011	12,066
Terminal Connector on 245 kV CVT to suit 1 or 2 x MOOSE / ZEBRA ACSR	Nos.	6	1,536	9,216
Terminal Connector on Wave Trap to suit 1 or 2 x MOOSE / ZEBRA ACSR	Nos.	8	1,359	10,872
Terminal Connector on 220 kV BPI to suit 1 or 2 x MOOSE / ZEBRA ACSR	Nos.	6	1,737	10,422
Tee Connectors to suit 1 or 2 x MOOSE / ZEBRA ACSR on both ways	Nos.	12	1,846	22,152
Suspension Hardware Assembly along with Insulators (220 / 33 kV side)	Lot	2	25,341	50,682

33 kV CLAMPS & CONNECTORS

Terminal Connector on 30 kV Lightning Arrestor, to suit 1 or 2 x MOOSE / WOLF ACSR Conductor	Nos.	18	1,079	19,422
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DGM(Contracts)

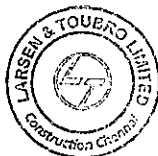
ECM-11



Deviappan

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Dy. General Manager (Contracts)
N.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2



Deviyapuri

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
	Terminal Connector on 26.66 / 33.33 MVA Transformer LV Bushing to suit 1 x MOOSE	Nos.	4	1,261	5,044
	ACSR Conductor				
	Terminal Connector on Cable Sealing End to suit 1 x MOOSE ACSR Conductor	Nos.	5	905	4,525
	Terminal Connector to suit 1 C x 630 sq. mm. XLPE Cable Sealing End	Nos.	6	1,536	9,216
	BUS BAR MATERIALS				
	MOOSE / ZEBRA / WOLF ACSR Conductor	km	0.1	1,76,709	17,671
	CABLE TRAYS				
	800 mm Wide Perforated Tray	km	0.8	1,03,588	82,870
	300 mm Wide Perforated Tray	km	0.12	73,121	8,775
	150 mm Wide Perforated Tray	km	0.12	42,654	5,118
	Structural Steel for above	MT	3	85,308	2,55,924
	PVC Pipes:				
	50 mm dia	km	0.4	67,027	26,811
	Sump Pumps				
	5 HP	Nos.	1	67,027	67,027
	0.5 HP	Nos.	4	11,577	46,308
	220 KV Bus Post Insulators	Nos.	6	36,562	2,19,372
	SUB TOTAL - S				8,95,681
	TOTAL - 1 = SUB TOTAL A to S				2,37,63,949

NEW ITEMS

A-1	220 kV Single Phase Breaker Bay Module for Spare Transformer	Set	1	2,22,500	2,22,500
A-2	For Additional Bays - 245 KV, 4000 A, 50 kA, 3 Single Phase (Isolated) Units SF ₆ Gas Insulated, Metal Enclosed Bus Bars each Unit, enclosed in Bus Enclosures running along the Length of the Switchgear to interconnect each of Circuit Breaker Bay Module. Each Bus Bar Set shall be complete with Voltage Transformer complete with Safety Grounding Switch etc.	Set	1	1,37,197	1,37,197

[Signature]
DGM(Contracts)

ECWA-12

[Signature]
By, General Manager (Contracts)
L.T.P. Power Transmission Corpn. Ltd.
Barowalla House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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A-3	1 - Phase SF ₆ Duct to connect to 220 / 33 KV, 26.66 / 33.33 MVA Transformer / Lines with GIS etc (only the Additional quantity over and above 85.5 to be paid).	Mtr.	Unit Rate	15,500	
B-1	33 KV Single Phase Breaker Bay Module for Spare Transformer	Set	1	22,500	22,500
	36 KV OUTDOOR EQUIPMENT				
C-1	30 KV, Single Phase, Surge Arrestors with Surge Counter, Leakage Meter and Junction Box	Nos.	19	2,650	50,350
C-2	36 KV, Line Isolator Switch with Earth Switch	Set	6	16,500	99,000
D	SUBSTATION AUTOMATION SYSTEM	Lst	1	1,21,272	1,21,272
	Complete Sub Station Automation System including Hardware and Software for the Sub Station and Remote Control Station alongwith Associated Equipments	(2-5 days)			
E	For Additional Feeder - 220 KV C & R Panel for Bus Bar Protection Panel		1	5,717	5,717
F	36 KV XLPE CABLE				
I	33 KV XLPE Cable for connecting Transformer to 33 KV GIS of size 1 x 1000 sq.mm Aluminium	Mtr.	Unit Rate	450	
II	33 KV Indoor Termination Suitable for above Cable suitable at GIS conforming to IEC: 60899	Nos	Unit Rate	24,000	
III	33 KV Outdoor Termination Suitable for above Cable	Nos	Unit Rate	11,500	
	TOTAL OF NEW ITEMS				6,58,536

GRAND TOTAL FOR ERECTION EGM = TOTAL (I) + TOTAL OF NEW ITEMS

2,44,22,485

NOTE:

- The above quantities are TENTATIVE which shall be finalised during detailed engineering to complete the Scope of Work and successful commissioning of the Sub Station.
- The Payment shall be made on Unit Rates for the quantities actually measured at Site and as approved Bill of Material.
- Size of 33 KV XLPE Cable alongwith Terminations shall be finalised during detailed engineering and the payment thereof shall be made on the Unit Rates specified above for the same.

DGM(Contracts)

EGM - 13



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AS
Dy. General Manager (Contracts)
L.P. Power Transmission Corp. Ltd.
Barowalia House, Khalini, Shimla-2



ANNEXURE - ECW2

NAME OF WORK : CONSTRUCTION OF 33 / 220 KV SUB STATION AT PHOZAL IN KULLU DISTRICT

CIVIL WORKS PORTION

Sr. No.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
CIVIL WORKS					
1.0	Soil Investigation	LS	1	3,65,605	3,65,605
2.0	Excavation & Filling for Land Development.				
3.0	Retaining Wall (Qty as per Annex.)				
i	Excavation & Backfilling	cum.	126	525	66,150
ii	PCC 1:3:6	cum.	16	4,604	73,664
iii	RCC M20	cum.	11	7,147	78,617
iv	Uncoursed Rubble Masonry	cum.	146	3,013	4,39,898
v	Reinforcement	kg	1120	64,011	71,692
vi	Structural Steel	kg	168	73,923	12,419
4.0	Tower & Equipment Foundation, Transformer Foundation, Fire Wall, Cable Trenches, including all of Crossings & all Metallic Works including Steel Racks for Cables, Cable Supports, MS Angle Edging and RCC Covers with lifting arrangements.				
a)	Tower (Qty as per Annex.)				
i	Excavation & Backfilling	cum.	975.55	525	5,12,164
ii	RCC M20	cum.	182.244	7,147	13,02,498
iii	Reinforcement	kg	21869.346	64,011	13,99,879
iv	PCC 1:4:8	cum.	20.962	4,043	84,749
b)	Equipment Structures (Qty as per Annex.)				
i	Excavation & Backfilling	cum.	212.236	525	1,11,424

ECW2/11

Handwritten signature and stamp: DGM(Contracts)

Handwritten signature and stamp: Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
b	RCC M20	cum.	44.88	7.147	3,19,328
	Reinforcement	kg	2293.23	64.011	1,47,176
	PCC 1:4:8	cum.	7.446	4.043	30,104
c)	Transformer Foundation including Fire Wall (Qty as per Annex)				
	Excavation & Backfilling	cum.	841.5	525	4,41,788
	RCC M20	cum.	280.64	7.147	1,99,279
	Reinforcement	kg	18393.84	64.011	11,77,408
	Structural Steel	kg	7734.284	73.923	5,71,741
	PCC 1:4:8	cum.	70.744	4.043	2,86,018
d)	40 mm Metal Filling	cum.	104.256	1.728	1,80,154
	Excavation & Backfilling	cum.	1253.172	525	6,57,915
	RCC M20	cum.	270.126	7.147	1,93,091
	Reinforcement	kg	19994.925	64.011	12,79,885
	Structural Steel	kg	23301.348	73.923	17,22,506
	PCC 1:4:8	cum.	52.641	4.043	2,12,828
e)	Chequered Plate 6 mm Thk.	sq.m.	767.964	3.990	3,06,416
	PCC 1:2:4	cum.	9.495	5.183	49,213
	300 dia PVC Pipe	RM	11.189	650	7,280
		RM	150	2,540	3,81,000
5.0	Buried Cable Trench for Auxiliary Power Arrangement	sq.m.	4170	259	10,80,656
6.0	Site Surfacing and Ant Weed Treatment				
7.0 Cement Concrete Roads including all types of Crossings.					
a)	5.00 metres wide Road cum Rail Track*	RM	41	35,532	14,56,816
b)	3.5 metres wide	RM	81	8,890	7,20,038

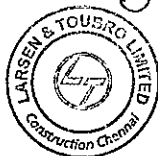
DGM(Contracts)

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Pls
Dy. General Manager (Contracts)
M.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2



Sr. No.	DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
8.0	Storm Water Drainage including Culverts	RM	265	2,487	6,59,042
9.0	Security Fencing along with Gates and Security Room.	RM	182	5,803	10,19,790
10.0	Control Room Building cum 220 KV GIS Room along with Battery Room, PLCC Room, SCADA Room Offices and Stores.				
a) - I	220 KV GIS Room	sq.m.	193.155	29,330	56,65,236
a) - II	Control Room Building along with Battery Room, PLCC Room, SCADA Room, Offices, and Stores				
	Ground Floor	sq.m.	206.9	23,454	48,54,702
	First Floor	sq.m.	206.9	17,598	36,41,026
b)	33 KV GIS Building.	sq.m.	63.963	37,952	24,27,524
11.0	DG Set Outdoor Silent type.	LS	1	1,31,234	1,31,234
12.0	Store Shed	sq.m.	150	16,125	24,18,728
13.0	Transformer Oil Drainage System	LS	1	Included above	

GRAND TOTAL FOR ERECTION ECW2

4,29,15,463

NOTE:

- 1 The above quantities are TENTATIVE which shall be finalised during detailed engineering to complete the Scope of Work and successful commissioning of the Sub Station.
- 2 The Payment shall be made on Unit Rates for the quantities actually measured at Site and as approved Bill of Material.
- 3 Size of 33 KV XLPE Cable alongwith Terminations shall be finalised during detailed engineering and the payment thereof shall be made on the Unit Rates specified above for the same.

[Signature]
DGM(Contracts)

DGM(Contracts)

EDW/13

[Signature]
Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

ANNEXURE - MC

ANNUAL MAINTENANCE CHARGES

Sl. No.	DESCRIPTION	UNIT	QTY.	TOTAL CHARGES (Rs.)
1	2	3	4	5
1	Annual Maintenance charges of Sub-Station for the First Year	LS		1,19,74,232

DGM(Contracts)

DGM(Contracts)

MC1

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By: General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2



HP POWER TRANSMISSION CORPORATION LIMITED

(A State Government Undertaking)

BAROWALIAS HOUSE, KHALINI, SHIMLA - 171002

Ph:- 0177-2626784, (Telefax: 0177 - 2620227)

Reference: HPPTCL / DGMC / L & T - SUPPLY / 2013-6855-66 DATED: 8/03/2013

From,

Dy. GENERAL MANAGER (CONTRACTS),
BAROWALIAS HOUSE, KHALINI,
SHIMLA - 171002

To,

M/S LARSEN & TOUBRO LIMITED,
ENGINEERING CONSTRUCTION & CONTRACTS DIVISION,
MOUNT POONAMALLEE ROAD, MANAPAKKAM,
P. B. No. 979, CHENNAI - 600089

FAX No.: 044 - 22493317; 044 - 22526345

Subject: LETTER OF AWARD (LOA) No.: HPPTCL / DGMC / L & T - SUPPLY / 2010 - 5107 - 12 DATED 23.12.2010 (FIRST CONTRACT) FOR SUPPLY OF EQUIPMENT / MATERIALS FOR CONSTRUCTION OF 220 / 33 KV GIS SUBSTATION AT PHOJAL (EARLIER PALCHAN) - AMENDMENT THEREON

Reference: This has reference to the following: -

- 1) This office Letter of Award No.: HPPTCL / DGMC / L & T - Supply / 2010 - 5107 - 12 dated 23.12.2010
- 2) This office letter No.: HPPTCL / Palchan S / Stn. / 2011 - 12 - 6113 dated 03.12.2011
- 3) Minutes of Meeting held on 06.01.2012 in Shimla
- 4) Your Letter No.: L&T / PT&D / SSBU / KULLU / HPPTCL / 220 KV SWYD / 2403 dated 21st April, 2012
- 5) Your Letter No.: L&T / PT&D / SSBU / KULLU / HPPTCL / 220 KV SWYD / 2404 dated 24th April, 2012
- 6) Your Letter No.: L&T / PT&D / SSBU / KULLU / HPPTCL / 220 KV SWYD / 2405 dated 10th May, 2012
- 7) Your Letter No.: L&T / PT&D / SSBU / KULLU / HPPTCL / 220 KV SWYD / 2406 dated 18th May, 2012
- 8) Your Letter No.: L&T / PT&D / SSBU / KULLU / HPPTCL / 220 KV SWYD / 2409 dated 11th June, 2012
- 9) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station - 12 - 516 - 17 dated 21.07.2012



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Page 1 of 6

Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

- 10) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2410 dated 30th July, 2012
- 11) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2411 dated 1st August, 2012
- 12) Your Letter No.: L&T / PT&D / SSB / KULLU / HPPTCL / 220 kV SWYD / 2412 dated 6th August, 2012
- 13) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station – 12 – 573 – 74 dated 07.08.2012
- 14) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station – 12 – 834 – 35 dated 28.09.2012
- 15) This Office letter No.: HPPTCL / DGM& Head (T) / Phozal Sub Station – 12 – 884 – 85 dated 03.10.2012
- 16) Your Letter No.: LTCD / DLRO / HPTCL / PHOZAL / 002 dated 5th October, 2012

Sir,

I have been directed to issue Amendment to this office Letter of Award (LOA) No.: HPPTCL / DGMC / L & T – Supply / 2010 – 5107 – 12 dated 23.12.2010 for Supply of Equipment / Material (also referred to as 'First Contract') required for Construction of 220 / 33 kV GIS Sub Station at Phozal (earlier Palchan) in Kullu District of Himachal Pradesh for Amount of Rs. 31,27,27,954 (Rupees Thirty One Crores Twenty Seven Lakhs Twenty Seven Thousand Nine Hundred Fifty Four) only.

The Scope of Work under this Contract shall also include all such Items, Equipment, and Materials, which are not specifically mentioned in the Bill of Material, attached with this Amendment (Annexure – SE and MS) but are necessary for successful completion of the Scope of Work under the Contract.

Major terms and conditions of this amendment are as under:-

1. The detailed List of Equipment and Material along with their Tentative Quantities to be supplied and Unit Rates are given in Annexure – SE and Annexure – MS to this Letter of Award.
2. Payments shall be released for the Quantities as finalised during detailed engineering and approved Bill of Material / actually measured by HPPTCL's Engineer at Site, based on per Unit Rates as per Award.
3. Size of 33 kV XLPE Cable viz. 630 sq. mm. / 1000 sq. mm. shall be finalised during detailed engineering and payment of the same along with suitable Termination shall be released on the Unit Rates specified in this Award.
4. It is expressly understood by you that any breach under the contract for Civil works and Services (Second Contract) awarded, shall automatically be deemed as breach of this Contract and any such breach or occurrence giving us a right to terminate the 'Second Contract' and / or recover damages under that Contract shall give us right to terminate this Contract and / or recover damages under this Contract as well. However, such breach or occurrence in the 'Second Contract' shall not automatically relieve you of any of your obligations under this Contract. It is expressly understood and agreed by you that the Equipment / Materials supplied under this 'First Contract', when erected, tested and

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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

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commissioned under the 'Second Contract' shall give satisfactory performance in accordance with the Bidding Document.

5. CONTRACT PRICE:

- 5.1 The Contract Price for the complete Scope of Work under this amended LOA is as per the following break up: -

Sr. No.	PRICE COMPONENT	VALUE in Rupees
1	Supply of Equipment / Material as per Annexure – SE	29,78,99,188
2	Supply of Mandatory Spares as per Annexure - MS	1,48,28,766
3	TOTAL CONTRACT PRICE	31,27,27,954

Rupees Thirty One Crores Twenty Seven Lakhs Twenty Seven Thousand Nine Hundred Fifty Four only

- 5.2 Further breakup of the Contract Price for the purpose of payment is given at Annexure – SE and Annexure – MS of this amended LOA.
- 5.3 Notwithstanding the breakup of the Contract Price, the Contract shall at all times be construed as a 'Single Source Responsibility Contract' and any breach in any part of the Contract shall be treated as breach of the entire Contract.
- 5.4 The Ex – Works Price of Items indicated at Annexure – SE for which quantities are assessed by you and are on lump sum basis, shall remain constant irrespective of any increase or decrease in quantities of any Items for completion of Scope of Work as per Technical Specification unless there is any change of Scope of Work by the Purchaser / Owner.

In case, the actual requirement of quantity of such Items is more than the quantities identified in the LOA / Contract Agreement / approved BOQ / Billing break up or some additional Items are required for the successful completion of the Scope of Work as per the Technical Specification, such additional Items / quantities shall be supplied by you without any additional cost to HPPTCL. Further, in case actual requirement of quantities for successful completion of Scope of Work is less than the quantities identified in the LOA / Contract Agreement / approved BOQ / Billing break up or some existing Items are not required, the lump sum price for these Items shall remain unchanged and no deduction shall be made from the lump sum price due to such reduction of quantities.

In case quantities of these Items supplied at Site are in excess of that required for successful completion of Scope of Work as detailed in the Bidding Documents, such additional quantities shall be your property and you shall be allowed to take back the same from the Site for which no deduction from lump sum price shall be made. It shall, however, be your responsibility to pay all statutory taxes, duties, and levies to the concerned authorities for such surplus material, which would otherwise have been lawfully payable.



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By. General Manager (Contracts)
HP Power Transmission Corpn., Ltd.
Barowalia House, Khalini, Shimla-2

You shall submit an indemnity bond to keep HPPTCL harmless from any such liability, before release of such material to you by HPPTCL.

- 5.5 No Payment for 220 kV Bus Duct for the length upto 85.5 metres shall be made by the Employer, however the Payments of 220 kV Bus Duct @ Rs. 1,36,153 per metre for the quantity in excess of 85.5 metres shall be made to the Contractor.

6. TAXES AND DUTIES:

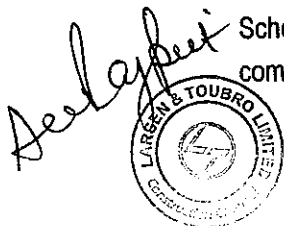
- 6.1 The Contract Price is inclusive of all Taxes and Duties such as Excise Duty, Sales Tax / VAT etc for all Equipment and Materials to be supplied under the Contract. Further any such Taxes and Duties as aforesaid payable including statutory variation thereon will be to your account and no claim on this behalf will be entertained by HPPTCL.
- 6.2 Entry Tax, Octroi as applicable for destination Site on all Items of Supply, which shall be dispatched directly from Sub Vendors Works to HPPTCL's Site (*Sale - in - transit*) shall be reimbursed to you, subject to furnishing of documentary proof for payment made, at the applicable rate at the time of dispatch. This shall be applicable for the Delivery within the stipulated delivery period and in case of delayed delivery of the Material, the payment shall be made on the Rates prevailing at during the stipulated delivery or actual, whichever are lower.
- 6.3 The above Contract Price is inclusive of Service Tax and Surcharge / Cess etc on it and HPPTCL shall not entertain any claim whatsoever in this regard.
- 6.4 HPPTCL shall issue requisite Sales Tax Declaration Forms on receipt of your request for such Items identified in Price Schedule and dispatched directly to HPPTCL's Site from your Vendors' / Sub Vendors' Works (*Sales - in transit*).
- 6.5 HPPTCL shall be entitled to deduct Income Tax, Surcharge on Income Tax and other Corporate Taxes / other Taxes at source in accordance with the provisions of the Income Tax / other Laws as applicable from time to time. TDS so deducted shall be deposited with the relevant tax Authority and necessary TDS Certificate shall be issued to you by HPPTCL.

7. PRICE ADJUSTMENT:

All Price Components under this Letter of Award shall be FIRM during the entire execution of the Contract and no price variation whatsoever shall be applicable.

8. TIME SCHEDULE OF CONTRACT:

- 8.1 The basic consideration and the essence of the Contract is strict adherence to the Time Schedule of the Contract. You shall so organise your resources and perform your work as to complete successful testing and commissioning of the GIS Phojal Sub Station covered



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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

under the subject Contract within **14 (fourteen) months** from the date of issue of this Amendment and the same shall be applicable for all contractual purposes.

- 8.2 The contractor shall develop and furnish a detailed Schedule in the form of a Bar Chart indicating to Engineering, Procurement, Manufacturing and Ex - Works delivery for all the Equipment and Materials covered under this Contract within 15 days of this Amendment.
- 8.3 For the purpose of levy of Liquidated Damages for delay, the time for completion of work of construction, testing and successful commissioning of 220 / 33 kV GIS Sub Station at Phojal shall be reckoned as 14 months from the date of this amended LOA.

9. LIQUIDATED DAMAGES (LD) FOR DELAY:

- 9.1 If you fail to successfully complete the Commissioning of the Sub Station within the Time Schedule stipulated (14 months) under the Contract, you shall pay to HPPTCL as Liquidated Damages and not as a penalty, a sum of one half of one percent (0.5 %) of the Contract Price for each calendar week or part thereof of delay.
- 9.2 Equipment and Materials shall be deemed to have been delivered only when all its Components, Parts, and Spares are also delivered. If certain Components, Parts, or Spares are not delivered in time, the Equipment and Materials will be considered as delayed until such time the same are also delivered.
- 9.3 The Total Amount of Liquidated Damages for delay under the Contract shall be subject to a Maximum of **10 %** of the Contract Price.

10. SIGNING OF CONTRACT:

You shall execute a Contract Agreement at the office of HPPTCL, on the Terms and Conditions envisaged in the Tender Documents and this detailed Letter of Award, **within 30 (Thirty) calendar days of the receipt of Notification of this amended LOA**. It is a legitimate obligation of you to execute and to stamp the Contract, in accordance with the Indian Stamp Act and to supply Six Copies of Contract Drawings, Technical Particulars as finally approved by HPPTCL and other Literature and Instruction Books regarding Handling, Use and Maintenance of Equipment / Material. The cost of all these and such other Items have been included in the Prices and you will not be entitled to any extra payment on these accounts. However, non - execution of the Contract Agreement by you shall not absolve you of the responsibility of the faithful execution of the Contract.

11. It is understood and agreed by both the parties to the contract that no claim, whatsoever, shall be raised by either of the parties on account of the period already lapsed under the contract.



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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

12. All other Terms and Conditions shall be as per Original Letter of Award No.: HPPTCL / DGMC / L & T – Supply / 2010 – 5107 – 12 dated 23.12.2010 (FIRST CONTRACT) and Tender Document No. DGMC / PALCHAN SUBSTATION / 02 / 2009.

Please acknowledge receipt of the Letter of Award and take necessary action to commence the work immediately.

Enclosure:

Annexure – SE

Annexure – MS

Yours faithfully,

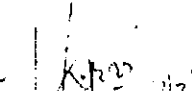

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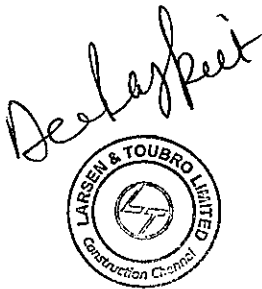
Reference: HPPTCL / DGMC / L & T - SUPPLY / 2013 -

DATED:

Copy for information and necessary action to: -

1. P. S. to Director (Planning & Contracts), HPPTCL, Barowalias House, Khalini, Shimla – 171002.
2. P. S. to Director (Projects), HPPTCL, Barowalias House, Khalini, Shimla – 171002.
3. General Manager (Projects), HPPTCL, Barowalias House, Khalini, Shimla – 171002.
4. DGM & Head Transmission, HPPTCL, Anu, Hamirpur.
5. DGM(Finance), HPPTCL, Sangla House, Khalini, Shimla – 171002.
6. Sr. Manager, HPPTCL, Sarabai, Bhunter, District Kullu – 175125 (H. P.)


Dy. General Manager (Contracts)




Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

ANNEXURE - SE

NAME OF WORK : CONSTRUCTION OF 220 / 33 KV SUB STATION AT PHOZAL IN DISTRICT KULLU

SUPPLY PORTION

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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A POWER TRANSFORMER

1	26.66 / 33.33 MVA, 33 / 220 kV Single Phase Transformer including Bushing, Accessories and First Filling of Oil	Nos.			
2	Oil Storage Tank	Nos.			
3	Oil Sampling Bottle	Nos.			
4	Micro Gas Analyzer / On - Line DGA / PPM Meier	Nos.			
5	250 kVA, 33 / 0.433 kV Three Phase Transformer including Bushing, Accessories and First Filling of Oil	Nos.	1	3,77,674	3,77,674

To be Supplied by HPPTCL

SUB TOTAL - A

3,77,674

B 245 KV GIS EQUIPMENT

1	245 kV, 1600 A, 50 kA SF ₆ Gas Insulated Transformer Bay Module each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two Bus Bar Disconnectors with Grounding Switch Surge Arresters (198 kV), SF ₆ Gas Monitoring System for complete Bay LCC, Three 1 - Phase SF ₆ Ducts and SF ₆ / Oil Bushing to connect to 33 / 220 kV, 26.66 / 33.33 MVA Transformers and Accessories with GIS etc to complete Transformer Bay Module	Nos.	1	4,20,67,623	4,20,67,623
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2	245 kV, 2000 A, 50 kA SF ₆ Gas Insulated Feeder Bay Module each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two Bus Bar Disconnectors with Grounding Switch, Line Disconnectors with Safety Grounding Switch, High, Speed Fault Making Grounding Switch, SF ₆ Gas Monitoring System for complete Bay, LCC, GIS Duct and Air / SF ₆ Bushing Termination Enclosure and Accessories with GIS etc to complete Feeder Bay Module	Nos.	2	4,02,02,813	8,04,05,626
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DGM(Contracts)



Dy. General Manager (Contracts)
 T.P. Power Transmission Corpn. Ltd.
 Da owalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
3	245 kV, 4000 A, 50 kA, 3 Single Phase (Isolated) Units SF ₆ Gas Insulated, Metal Enclosed Bus Bars each Unit, enclosed in Bus Enclosures running along the Length of the Switchgear to interconnect each the Circuit Breaker Bay Modules Each Bus Bar Set shall be complete with Voltage Transformers complete with Safety Grounding Switch	Nos.	2	27,00,000	54,00,000
4	245 kV, 4000 A, 50 kA SF ₆ Gas Insulated Bus Coupler Bay Module comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two Disconnectors with Safety Grounding Switches, SF ₆ Gas Monitoring System for complete Bay, LCC etc	Nos.	1	2,41,49,034	2,41,49,034
5	245 kV, CVT with Junction Box	Nos.	6	4,04,954	24,29,724
6	198 kV Lightning Arrester with Counter and Leakage Meter	Nos.	7	78,966	5,52,762
SUB TOTAL - B					15,50,04,789

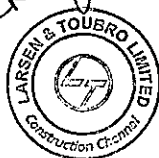
C 36 kV, 2000 A, 40 kA for 3 sec., SF₆ Gas Insulated, Metal Enclosed BUS BARS each Unit enclosed in Bus Enclosures running along the Length of the Switchgear to interconnect each of Circuit Breaker Bay Modules. Each Bus Bar Set shall be complete with Voltage Transformers complete with Safety Grounding Switch

1	36 kV, 1600 A SF ₆ Gas Insulated Feeder Bay Module each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two Bus Bar Disconnectors with Grounding Switch, Line Disconnector with Safety Grounding Switch, High Speed Fault Making Grounding Switch SF ₆ Gas Monitoring System for complete Bay, LCC, Enclosure and Accessories with GIS etc to complete Feeder Bay Module	Nos.	6	36,45,891	2,18,75,346
2	36 kV, 2000 A SF ₆ Gas Insulated Bus Coupler Bay comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two numbers of Bus Bar Disconnectors with Earthing Switch, SF ₆ Gas Monitoring System for complete Bus Coupler Panel	Nos.	1	31,15,105	31,15,105
3	36 kV, 1600 A SF ₆ Gas Insulated Power Transformer Panel each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two numbers of Bus Bar Disconnectors with Earthing Switch,	Nos.	1	31,48,162	31,48,162

DGM (Contracts)

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 Dy. General Manager (Contracts)
 Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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Surge Arrester (30 kV), SF₆ Gas Monitoring System for complete Power Transformer Panel

4	36 kV, 630 A SF ₆ Gas Insulated 250 kVA, LT Transformer Panel each comprising of SF ₆ Gas Insulated Circuit Breaker, Current Transformers, Two numbers of Bus Bar Disconnectors with Earthing Switch, Surge Arrester (30 kV), SF ₆ Gas Monitoring System for complete LT Transformer Panel	Nos.	1	27,08,043	27,08,043
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SUB TOTAL - C

3,08,46,556

D SUBSTATION AUTOMATION SYSTEM complete including Hardware and Software for 9 Bays and Remote Control Station alongwith Associated Equipments

91,25,551

1	220 kV Bays	Nos.	3	INCLUDED ABOVE
2	33 kV Bays	Nos.	6	

SUB TOTAL - D

91,25,551

E1 220 kV CONTROL AND RELAY PANEL

1 Circuit Breaker Control Panel

a)	With Auto Reclose	Nos.	2	5,26,474	10,52,948
b)	With Out Auto Reclose	Nos.	3	5,01,403	15,04,209

2 Line Protection Panel (Main I + Main II)

Nos.	2	12,53,510	25,07,020
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3 220 kV (Double Bus Bar Protection)

Set	1	24,31,808	24,31,808
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4 Transformer Protection Panel - H, V, Side including one number for Spare Single Phase Transformer

Nos.	2	7,87,204	15,74,408
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SUB TOTAL - E1

90,70,393

E2 33 kV CONTROL AND RELAY PANEL

1 Circuit Breaker Control Panel

a)	With Auto Reclose	Nos.	6	4,76,334	28,58,004
b)	With Out Auto Reclose	Nos.	4	4,76,334	19,05,336

2 Line Protection Panel

Nos.	6
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3 Transformer Protection Panel - L, V, Side including one number for Spare Single Phase Transformer

Nos.	2
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INCLUDED ABOVE

DGM(Contracts)

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SE/3



Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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47,63,340

SUB TOTAL - E2

F	PLCC for 220 KV LINE FEEDER				
1	2000 A, 0.5 mH / 1.0 mH, 50 kA Line Traps	Nos.	4	4,43,136	17,72,544
2	Coupling Device (Phase to Phase)	Nos.	4	74,024	2,96,096
3	HF Cable	Ls	2	12,337	24,674
4	Carrier Equipment (for Speech + Protection and for Speech + Data)	Nos.	6	3,14,727	18,88,362
5	Protection Coupler	Nos.	4	1,34,477	5,37,908
6	Print Testing Kit	Set	1	1,07,007	1,07,007
7	EPBAX (24 / 8) with Telephone Sels	Set	1	2,76,356	2,76,356
	SUB TOTAL - F				49,02,947

F.1	FOTE Equipment	Set	1	96,30,660	96,30,660
	SUB TOTAL - F1				96,30,660

G	AIR CONDITIONER AND VENTILATION SYSTEM				
1	Split AC (Capacity - 2T)	Nos.	10	30,213	3,02,130
2	Ventilation System for 220 KV & 33 KV GIS Hall	LS	1	20,56,591	20,56,591
	SUB TOTAL - G				23,58,721

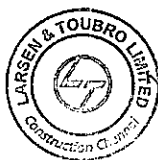
H	LT SWITCHBOARD				
1	415 V Main Switchboard	Nos.	1	31,47,275	31,47,275
2	415 V A C Distribution Board	Nos.	1	14,49,200	14,49,200
3	220 V DCDB	Nos.	2	5,64,356	11,28,712
4	48 V, DC DB	Nos.	2	3,59,973	7,19,946
	SUB TOTAL - H				64,45,133

I.	BATTERIES				
1	220 V, 400 AH	Set	2	6,48,087	12,96,174
2	48 V, 400 AH	Set	2	1,41,401	2,82,802

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Dy. General Manager (Contracts)
P.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
J BATTERY CHARGER SYSTEM					
1	220 V	Set	2	4,87,198	9,74,396
2	48 V	Set	2	3,62,566	7,25,132
SUB TOTAL - J					16,99,528
K DG SET ALONGWITH CONTROL PANEL (100 KVA, 440 V for 220 kv Sub Station)					
			1	18,88,365	18,88,365
SUB TOTAL - K					18,88,365
L FIRE PREVENTION AND EXTINGUISHING SYSTEM					
1	Nitrogen Injection Fire Prevention & Extinguishing System for Transformer	Set	4	6,23,161	24,92,644
2	Fire Protection for GIS cum Control Room Building, etc. (Portable type the Extinguishers)	Lot	1	6,89,574	6,89,574
SUB TOTAL - L					31,82,218
M ILLUMINATION SYSTEM					
1.0	MLDB	Nos.	1	15,55,720	15,55,720
2.0	ELDB	Nos.	1	7,28,643	7,28,643
3.0	GIS cum Control Room Building Illumination with CFL / Metal Halide Lamps a 2 x 36 Watts Fluorescent Lamp in Industrial Reflector type Fixtures suitable for surface / pendent mounting CGL Cat Ref. IBA1424EB	Nos.	37	1,782	65,934
	b 230 V, 5 / 15 A, Indoor Receptacle 3 Pin type - R1	Nos.	20	477	9,540
	c 15 A, 1 - Ph, 3 Pin Industrial Type Switch Socket Outlet	Nos.	4	2,146	8,584
	d 32 A, SPN MCB in 2 mm thick Steel Enclosure with 3 Pin Socket for A.C (indoor)	Nos.	3	1,348	4,044
	e 32 A, SPN MCB in 2 mm thick Steel Enclosure with 3 Pin Socket for A.C (outdoor)	Nos.	3	2,695	8,088
	f 450 mm Exhaust Fan	Nos.	2	2,385	4,770
	g 450 mm Acid Proof Exhaust Fan (for Battery Room)	Nos.	1	9,539	9,539
	h 1400 mm Ceiling Fans with Electronic Regulator	Nos.	6	2,981	17,886
	i Point Wiring	Nos.	72	708	50,982
	j Indoor Lighting Panel (ACP - 1 type) as per Technical Specification	Nos.	2	32,199	64,397

SUB TOTAL - I

15,78,976

SUB TOTAL - K

18,88,365

SUB TOTAL - L

31,82,218

DGM(Contracts)

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Dy. General Manager (Contracts)
P.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
	k DC Lighting Panel (DCP type) as per Technical Specification	Nos.	1	46,509	46,509
4.0	220 / 133 kV GIS Building Illumination				
	a 1 x 250 W - Industrial Metal Halide Luminaire CGL. Cat ref. No. FAD 1314	Nos.	14	1,864	26,099
	b 1 x 60 W GLS Bulk Head Light Fixture of CGL type 1BH 1110 BC or equivalent	Nos.	8	226	1,811
	c 230 V, 5 / 15 A, Indoor Receptacle 3 Pin type - R1	Nos.	9	477	4,297
	d 32 A, SPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket for A.C (indoor)	Nos.	4	1,014	4,054
	e 32 A SPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket (outdoor)	Nos.	4	2,027	8,109
	f 1 x 11 W Portable Battery operated (3 hrs. Backup) CFL Emergency Lamp (M/S BPL make)	Nos.	4	3,578	14,311
	g Point Wiring	Nos.	43	566	24,358
	h Indoor Lighting Panel (ACP-1 type) as per Technical Specification	Nos.	2	32,199	64,397
	i DC Lighting Panel (DCP type) as per Technical Specification	Nos.	2	46,509	93,018
	j 32 A, TPN MCB in 2 mm thick Sheet Steel Enclosure with 3 Pin Socket (indoor)	Nos.	2	2,027	4,054
5.0	Switchyard Lightning				
	a Flood Light Luminaire with 2 x 400 W HPSV / T+ Lamp - Bajaj cat. BJEF22 CA - R0	Nos.	4	7,909	31,635
	b Lighting JB with 5 no's of Terminal Blocks	Nos.	4	775	3,099
	c 250 A Oil Filtration Socket	Nos.	1	2,981	2,981
6.0	Street Lighting (Solar lighting system)				
	a 120 W Solar Lighting System for Street Lighting with 9 m height Pole, Inbuilt in long life maintenance free Batteries (Capacity is 12 V, 120 AH)	Nos.	8	1,19,254	9,54,031
7.0	Transformer Area Lighting as per specification				
	1 x 70 W, HPSV 240 V, AC Industrial Wall Glass Fixture for pendant mounting with Control Gear Box G(BJDWI - 70SV)	Nos.	2	1,370	2,740
	Lighting JB	Nos.	2	775	1,550
	SUB TOTAL - M				38,15,180
N	Power Cables and Copper Conductor Armoured Control Cables alongwith Lugs, Glands and Straight Joints				
	XLPE POWER CABLE				
	1 C X 630 sq.mm.	km	0.75	10,78,001	8,08,501
	Terminations for the above				



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By, General Manager (Contracts)
NTP Power Transmission Corp. Ltd.
Barowalia House, Khalini, Shimla-2

DGM(Contracts)

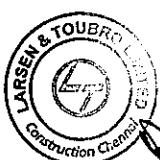
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SE/6

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
	1 C X 630 sq.mm.	Nos.	12	2,103	25,236
	3.5 C X 300 sq.mm.	Nos.	36	3,114	1,12,104
	PVC POWER CABLE (Other than those available in the Contract)				
	4 C X 6 sq.mm.	km	0.33	96,369	31,802
	2 C X 6 sq.mm.	km	3.15	76,801	2,41,293
	1 C X 150 sq.mm.	km	0.6	3,01,864	1,81,118
	Terminations for the above				
	3.5 C X 90 sq.mm.	Nos.	24	1,584	38,016
	3.5 C X 70 sq.mm.	Nos.	24	1,107	26,568
	3.5 C X 35 sq.mm.	Nos.	63	642	40,446
	4C X 16 sq.mm.	Nos.	21	560	11,750
	4 C X 6 sq.mm.	Nos.	81	395	31,955
	2 C X 6 sq.mm.	Nos.	354	269	95,049
	1 C X 150 sq.mm.	Nos.	60	653	39,150
	HR - FRLS CONTROL CABLE				
	5 C X 2.5 sq.mm	km	3	1,05,698	3,17,094
	27 C X 2.5 sq.mm.	km	0.75	9,98,720	7,49,040
	4P,0.75	km	0.3	1,38,087	41,426
	Terminations for the above				
	2 C X 2.5 sq.mm.	Nos.	84	295	24,819
	4 C X 2.5 sq.mm.	Nos.	249	423	1,05,437
	5 C X 2.5 sq.mm.	Nos.	516	455	2,34,801
	7 C X 2.5 sq.mm.	Nos.	429	479	2,05,379
	10 C X 2.5 sq.mm.	Nos.	555	542	3,00,777
	12 C X 2.5 sq.mm.	Nos.	93	668	62,156
	14 C X 2.5 sq.mm.	Nos.	60	724	43,418
	16 C X 2.5 sq.mm.	Nos.	78	757	59,032
	19 C X 2.5 sq.mm.	Nos.	78	779	60,757
	27 C X 2.5 sq.mm.	Nos.	48	946	45,428
	4P,0.75	Nos.	3	333	1,000

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[Signature]
 Dy. General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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	2 C X 4 sq. mm.	Nos.	81	479	38,778
	4 C X 4 sq. mm.	Nos.	63	720	45,390
	7 C X 4 sq. mm.	Nos.	54	943	50,936

SUB TOTAL - N

40,68,635

0 33KV XLPE POWER CABLE AND ACCESSORIES

1 XLPE POWER CABLE

3.5 C x 300 sq. mm.

km	0.75	6,20,643	4,65,482
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2 PVC POWER CABLE

3.5 C x 90 sq. mm.

km	0.3	3,06,494	91,948
----	-----	----------	--------

3.5 C x 70 sq. mm.

km	0.75	2,48,634	1,86,476
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3.5 C x 35 sq. mm.

km	0.3	1,43,643	43,093
----	-----	----------	--------

4 C x 16 sq. mm.

km	0.75	99,202	74,402
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4 C x 4 sq. mm.

km	1.5	49,098	73,647
----	-----	--------	--------

3 HR FRLS CONTROL CABLE

2 C X 2.5 sq. mm.

km	1.5	45,913	68,870
----	-----	--------	--------

4 C X 2.5 sq. mm.

km	3	78,317	2,34,951
----	---	--------	----------

7 C X 2.5 sq. mm.

km	1.5	1,30,260	1,95,390
----	-----	----------	----------

10 C X 2.5 sq. mm.

km	1.125	1,82,480	2,05,290
----	-------	----------	----------

12 C X 2.5 sq. mm.

km	0.75	2,16,847	1,62,635
----	------	----------	----------

16 C X 2.5 sq. mm.

km	0.75	2,86,187	2,14,640
----	------	----------	----------

19 C X 2.5 sq. mm.

km	0.3	3,36,506	1,00,952
----	-----	----------	----------

2 C X 4 sq. mm.

km	1.5	61,862	92,793
----	-----	--------	--------

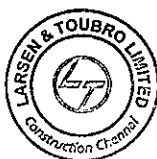
4 C X 4 sq. mm.

km	1.5	1,13,214	1,69,821
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7 C X 4 sq. mm.

km	1.5	2,01,841	3,02,762
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4 36 KV XLPE CABLE



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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Baiowalia House, Khalini, Shimla-2

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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2



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DGM(Contracts)

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Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
a)	33 kV XLPE Cable for connecting Transformer to 33 kV GIS of size 1 x 630 sq.mm. (Three Cables with one Spare Cable in each Circuit)	km	1	9,13,822	9,13,822
b)	33 kV Indoor Termination Suitable for above Cable	Nos	4	4,909	19,636
c)	33 kV Outdoor Termination Suitable for above Cable	Nos	4	3,096	12,384
	SUB TOTAL - O				36,28,993
P	GROUNDING / EARTHING SYSTEM				
a)	40 mm MS Rod for Earthing (*)	km	4.797	4,95,112	23,75,053
	40 mm MS Rod for Earthing	km	0.364	4,30,707	1,56,777
	75 x 12 G. S. Flat	km	0.091	1,43,569	13,065
	50 x 6 G. S. Flat	km	0.208	1,09,565	22,790
	50 x 6 M. S. Flat	Nos	79.3	192	15,257
	Cleat type Clamp to suit 75 x 12 G. S. Flat	Nos	22.1	2,406	53,179
	3 Mtr. long, 40 mm dia M. S. Pipe Earth Electrode with Test Link and without Pit	Nos	29.9	1,925	57,566
	3 Mtr. long, 40 mm dia Earth Rod Electrode without Pit	Nos	10.4	2,406	25,026
	3 Mtr. long, 40 mm dia GI Pipe Earth Electrode	Nos	3.9	2,413	9,410
	Lightning Protection				
	7 / 3.66 mm GS Earth Wire	km	0.299	45,000	13,455
	Cleat Clamp on Structure to suit 7 / 3.66 mm GS Earth Wire	No	59.8	193	11,565
	Pad Clamp on Structure to suit 7 / 3.66 mm Earth Wire and 75 x 12 GS Flat	No	5.2	1,845	9,592
	25 x 3 GI Flat	km	0.598	35,893	21,464
	1.5 Mtr. long GI Spike	Nos	10.4	723	7,514
	Test Links	Nos	10.4	241	2,501
	SUB TOTAL - P				27,94,215
Q	STEEL STRUCTURES FOR TOWERS, BEAMS AND EQUIPMENT				
	Tower and Beams	CA Type	kgs.	7,650	89,95
	220 kV Tower				6,88,079

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
---------	-------------------------	------	-----	------------	-------------

33 kV Tower

BG1 (WITH DEV) - 16 m
Lighting - cum - Lightning Mast

2,90,702
4,27,261

89.95
89.95

3,232
4,750

kgs.
kgs.

4,13,657
1,23,584

89.95
89.95

4,599
1,374

kgs.
kgs.

Equipments

Standard Structures for 220 kV Equipments

89,046
1,97,879
84,728
86,347
24,01,284

89.95
89.95
89.95
89.95

990
2,200
942
960

kgs.
kgs.
kgs.
kgs.

SUB TOTAL - Q

R EOT CRANE

- 3.5 T for 220 kV GIS ROOM
- 2.5 T for 33 kV GIS ROOM
- Moveable Ladder of suitable Capacity for 220 kV & 33 kV GIS Room

6,76,024
4,53,777
2,51,784
13,81,585

6,76,024
4,53,777
1,25,892

1
1
2

Set
Set
Nos

SUB TOTAL - R

- Insulator Strings / Disc Insulators, Hardware, Conductor, Bus Bar Material, Cable Trays, Clamps, Connectors, including Equipment Connectors, Pipes for Equipments and Lighting, all Accessories etc

220kV CLAMPS & CONNECTORS

- Terminal Connector on 26.66 / 33.33 MVA Transformer SF₆ to Oil bushing to suit GIS Bus Duct
- Terminal Connector on 198 kV LA to suit 1 or 2 x MOOSE / ZEBRA ACSR
- Terminal Connector on 245 kV CVT to suit 1 or 2 x MOOSE / ZEBRA ACSR
- Terminal Connector on Wave Trap to suit 1 or 2 x MOOSE / ZEBRA ACSR
- Terminal Connector on 220 kV BPI to suit 1 or 2 x MOOSE / ZEBRA ACSR
- Tee Connectors to suit 1 or 2 x MOOSE / ZEBRA ACSR on both ways

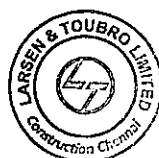
17,832
20,700
17,772
21,672
19,248
40,956

4,458
3,450
2,962
2,709
3,208
3,413

4
6
6
8
6
12

Nos.
Nos.
Nos.
Nos.
Nos.
Nos.

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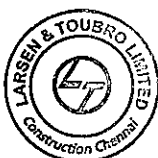


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Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Baiowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
	Suspension Hardware Assembly along with Insulators (220 / 33 kv side)	Lot	2	55,512	1,11,024
	33 KV CLAMPS & CONNECTORS				
	Terminal Connector on 30 KV Lighting Arrestor, to suit 1 or 2 X MOOSE / WOLF ACSR Conductor	Nos.	18	2,818	50,724
	Terminal Connector on 26.66 / 33.33 MVA Transformer LV Bushing to suit 1 x MOOSE ACSR Conductor	Nos.	4	2,562	10,248
	Terminal Connector on Cable Sealing End to suit 2 x MOOSE ACSR Conductor	Nos.	4	1,552	6,208
	Terminal Connector to suit 1 C x 630 sq. mm. XLPE Cable sealing ends	Nos.	6	2,952	17,712
	BUS BAR MATERIALS				
	MOOSE / ZEBRA / WOLF ACSR Conductor	km	0.1	5,56,568	55,657
	CABLE TRAYS				
	600 mm Wide Perforated Tray	km	0.8	13,82,167	11,05,734
	300 mm Wide Perforated Tray	km	0.12	6,04,898	72,564
	150 mm Wide Perforated Tray	km	0.12	43,193	5,183
	Structural Steel for above	MT	3	65,653	1,96,959
	PVC Pipes:				
	50 mm dia	km	0.4	4,31,927	1,72,771
	Sump Pumps				
	5 HP	Nos.	1	2,48,820	2,48,820
	0.5 HP	Nos.	4	43,194	1,72,776
	220 KV Bus Post Insulators	Nos.	6	38,010	2,28,060
	SUB TOTAL - S				25,92,679
T	TESTING AND MAINTENANCE EQUIPMENT				
1	Meggar 5 KV (Motorized)	Nos.	1	68,786	68,786
2	Meggar 1 KV (Motorized)	Nos.	1	6,995	6,995
3	Digital Multimeter	Nos.	2	9,911	19,822
4	D - Spanner Set (Insulated)	Nos.	2	670	1,340
5	Ring - Spanner Set (Insulated)	Nos.	2	699	1,398
6	Torque Wrench Set	Nos.	2	11,659	23,318

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By, General Manager (Contracts)
 H.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2

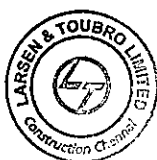
Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
7	Insulating Gloves	Set	5	1,457	7,285
8	Helmets	Set	5	526	2,630
9	Gas Evacuating and Refilling Device	Set	1	33,34,384	33,34,384
10	Gas Leakage Monitor	Nos.	2	69,952	1,39,904
11	Relay Test Kit	Nos.	1	25,64,911	25,64,911
12	Synchronizing Trolley	Set	1	1,44,774	1,44,774
13	Time Synchronisation Equipment	Lot	1	INCLUDED	
SUB TOTAL - T					63,15,547

TOTAL - 1 = SUB TOTAL A to T

26,78,73,068

NEW ITEMS

A-1	220 kV Single Phase Breaker Bay Module for Spare Transformer	Set	1	1,83,08,548	1,83,08,548
A-2	For Additional Bays - 245 kV, 4000 A, 50 kA, 3 Single Phase (Isolated) Units SF ₆ Gas Insulated, Metal Enclosed Bus Bars each Unit, enclosed in Bus Enclosures running along the Length of the Switchgear to interconnect each of the Circuit Breaker Bay Module complete with Voltage Transformer and Safety Grounding Switch etc	Set	1	8,10,000	8,10,000
A-3	1 - Phase SF ₆ Duct to connect to 220 / 33 kV, 26.66 / 33.33 MVA Transformer / Lines with GIS etc (only the Additional quantity over and above 85.5 to be paid).	Mtr.	Unit Rate	1,36,153	
B-1	33 kV Single Phase Breaker Bay Module for Spare Transformer	Set	1	15,71,576	15,71,576
36 kV OUTDOOR EQUIPMENT					
C-1	30 kV, Single Phase, Surge Arrestors with Surge Counter, Leakage Meter and Junction Box	Nos.	19	16,223	3,08,237
C-2	36 kV, Line Isolator Switch with Earth Switch	Set	6	1,87,917	11,27,502
D	SUB STATION AUTOMATION SYSTEM complete including Hardware and Software for 7 Bays and Remote Control Station alongwith Associated Equipments	Lot	1	70,97,760	70,97,760
E	For Additional Feeder - 220 kV C & R Panel for Bus Bar Protection Panel	Mtr.	1	8,02,497	8,02,497
F	36 kV XLPE CABLE				
I	33 kV XLPE Cable for connecting Transformer to 33 kV GIS of size 1 x 1000 sq.mm Aluminium	Mtr.	Unit Rate	2,905	



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Dy. General Manager (Contracts)
L.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION OF MATERIAL	UNIT	QTY	UNIT PRICE	TOTAL PRICE
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- ii 33 kV Indoor Termination Suitable for above Cable suitable at GIS conforming to IEC: 60859
- iii 33 kV Outdoor Termination Suitable for above Cable

Nos Unit Rate
Nos Unit Rate

75,000
8,000
3,00,26,120

GRAND TOTAL FOR SUPPLY = TOTAL 1 + NEW ITEMS

29,78,99,188

NOTE:

- The above quantities are TENTATIVE which shall be finalised during detailed engineering to complete the Scope of Work and successful commissioning of the Sub Station.
- The Payment shall be made on Unit Rates for the quantities actually measured at Site and as per approved Bill of Material.
- Size of 33 kV XLPE Cable alongwith Terminations shall be finalised during detailed engineering and the payment thereof shall be made on the Unit Rates specified above for the same.

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[Signature]
Dy. General Manager (Contracts)
L.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2

023

DGM(Contracts)

ANNEXURE - MS

QUANTITY AND COST OF MANDATORY SPARES

Sr. No.	DESCRIPTION	UNIT	QTY.	TOTAL F. O. R. COST
1	2	3	4	5

1 MANDATORY SPARES

a) 220 kV GIS Circuit Breaker

(i) 245 kV, 3 Phase Circuit Breaker with Interrupting Chamber complete with all necessary Apparatus (1 no. of each Rating)	No.	1	45,92,127
(ii) Rubber Gasket, 'O' Rings and Seal	Set	1	28,916
(iii) Trip Coil with Resistor	No.	3	28,914
(iv) Closing Coil with Resistor	No.	3	28,914
(v) Molecular Filter	Set	3	86,748
(vi) Density / Pressure Monitoring System	No.	1	48,193
(vii) Relays, Power Contactors, Push Buttons, Timers & MCB etc	Set	1	1,15,664
(viii) Pressure Switches	Set	1	48,193
(ix) Auxiliary Switch Assembly	No.	1	47,229
(x) Operation Counter	No.	1	38,555
(xi) Rupture Disc / Diaphragm	No.	1	1,15,664
(xii) 245 kV, 3 Phase Circuit Breaker Operating Mechanism complete with all necessary connecting Apparatus Each Rating	No.	1	Included in A(i)
(xiii) All type of Coupling for SF6) (1 no. of each type	Set	1	57,832

b) 220 kV Current Transformer

(i) Multi Ratio Single Phase Current Transformers of each Rating (3 Nos. of each Rating)	Set	1	21,29,834
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c) 220 kV Potential Transformer

(i) Single Phase Potential Transformer complete with all Gaskets and Mounting Hardware	Set	1	10,70,579
--	-----	---	-----------

d) 198 kV Surge Arrestor

(i) Complete Surge Arrestor (for 1 Phase) GIS Type	No.	1	85,102
(ii) Surge Counter / Monitor	No.	1	570

e) 245 kV Isolators & Earth Switch

(i) 245 kV, Single Phase Disconnecting Switch Internal Parts complete with all necessary Gaskets, Mounting Hardware etc.	Set	1	10,75,742
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DGM(Contracts)

By: General Manager (Contracts)
H.P. Power Transmission Corp. Ltd. MS 1
Barowalia House, Khalini, Shimla-2
024

Sr. No.	DESCRIPTION	UNIT	QTY.	TOTAL F. O. R. COST
1	2	3	4	5
	(ii) 245 kV, Single Phase Grounding Switch Internal Parts complete with all necessary Gaskets, Mounting Hardware etc.	Set	1	8,91,576
	(iii) 245 kV, Single Phase High Speed Fault Making Grounding Switch Internal Parts complete with all necessary Gaskets, Mounting Hardware etc.	Set	1	10,75,742
f)	33 kV GIS Circuit Breaker			
	(i) Rubber Gasket 'O' Rings and Seal	Set	1	21,330
	(ii) Trip Coils	No.	3	25,138
	(iii) Closing Coils	No.	3	25,138
	(iv) Molecular Filter	Set	3	9,141
	(v) Density / Pressure Monitoring System	No.	1	22,853
	(vi) Relays, Power Contactors, Push Buttons, Timers & MCB etc.	Set	1	4,57,065
	(vii) Closing Assembly / Valve	No.	1	2,285
	(viii) Pressure Switches	Set	1	2,285
	(ix) Auxiliary Switch Assembly (for CB)	No.	1	29,710
	(x) Rupture Disc / Diaphragm	No.	1	15,997
	(xi) 36 kV, 3 Phase Circuit Breaker Operating Mechanism complete with all necessary connecting Apparatus (each Rating)	No.	1	7,45,015
g)	33 kV Current Transformer			
	(i) Multi Ratio Single Phase Current Transformers of each rating (3 nos. of each rating)	Set	1	2,52,528
h)	33 kV Potential Transformer			
	(i) Single Phase Potential Transformer complete with all Gaskets and Mounting Hardware	Set	1	1,89,682
i)	30 kV Surge Arrestor			
	(i) Complete Surge Arrestor including Base with Surge Counter & Accessories: AIS Type	No.	1	15,700
	(ii) Surge Counter / Monitor	No.	1	8,722
j)	33 kV Isolators & Earth Switch			
	(i) 36 kV, 3 Phase, 1250 Amperes Disconnecting Switch Operating Mechanism complete with all necessary Connecting Apparatus	Set	1	92,175
	(ii) 36 kV, 3 Phase, 1250 Amperes Grounding Switch Operating Mechanism complete with all	Set	1	Part of Three Position Switch



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[Signature]
 Dy. General Manager (Contracts)
 L.P. Power Transmission Corpn. Ltd.
 Barowalia House, Khalini, Shimla-2

Sr. No.	DESCRIPTION	UNIT	QTY.	TOTAL F. O. R. COST
1	2	3	4	5

necessary Connecting Apparatus

k) Battery

220 Volt / 48 Volt Batteries

(i) Spare Battery Cell without Electrolyte	No.	10	2,83,679
(ii) Terminal Connectors with Bolts & Nuts (each type)	No.	10	43,640
(iii) Float Level Indicators (each type)	No.	10	13,627
(iv) Vent Plugs (each type)	No.	10	16,358

l) Battery Charger

220 Volt / 48 Volt Batteries

(i) Set of Control Cards (of each type)	Set	1	69,904
(ii) Set of Relays	Set	1	8,389
(iii) Set of Contactor	Set	1	25,166
(iv) Filter Capacitors	Set	1	8,389
(v) Thyristor / Diode	Set	1	11,185
(vi) Set of Switches	Set	1	22,930
(vii) Set of Wound Resistors	Set	1	4,193
(viii) Potentiometers	Set	1	4,193
(ix) Fuses of Thyristor with Indicators	Set	6	21,807

m) LT Switchgear

(i) Relays (Auxiliary)	Set	1	95,375
(ii) CTs and PTs	Set	1	8,227
(iii) Switches / Push Buttons and Meters	Set	1	27,501
(iv) TPN Switches / MCB	Set	1	93,997
(v) LT Breaker Spares			

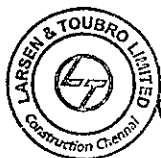
<i>Spring Charging Motor</i>	No.	1	27,504
<i>Auxiliary Contacts Sets</i>	Set	2	2,521
<i>Busbar Seal off Insulators</i>	No.	5	2,292
<i>Arc Chutes</i>	Set	2	7,563
<i>Moving Contacts</i>	Set	1	3,209
<i>Arcing Contacts (Fixed / Moving)</i>	Set	1	3,209
<i>Springs (Closing / Opening)</i>	No.	1	573
<i>Closing Coil</i>	No.	1	1,718
<i>Tripping Coil</i>	No.	1	1,260
<i>Auxiliary Finger Contact</i>	Set	1	1,203
<i>Limit Switches</i>	Set	1	5,156
<i>Jaw Contacts</i>	Set	1	372

(vi) BUSBAR

<i>Busbar Insulators</i>	No.	5	716
<i>Interphase Barrier</i>	No.	2	1,432
<i>Busbar Strip 1 mm (Aluminium)</i>	metres	5	5,371

n) DG Set

(i) Set of Filters 1 set (Lubeoil / Fuel / Air Circuit)	Set	1	6,603
(ii) Solenoid Coil Assembly	No.	1	2,934
(iii) Self Starter Assembly	No.	1	54,930
(iv) Lub - Oil Pressure Safety Control	No.	1	13,882



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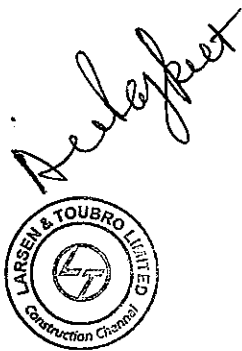
MS 3
Dy. General Manager (Contracts)
N.T. Power Transmission Corpn.
Barowalia House, Khalin, Shimla

Sr. No.	DESCRIPTION	UNIT	QTY.	TOTAL F. O. R. COST
1	2	3	4	5
	(v) High Water Temperature Safety Control	No.	1	2,197
	(vi) Diode	No.	2	1,505
	o) Optic Fibre Cable	metres	500	47,746
	p) 220 kV CVT	No.	1	3,95,452
TOTAL OF MANDATORY SPARES				1,48,28,766

NOTE:

- i) The above Prices are FIRM and NO Price Variations shall be paid.
ii) Freight & Insurance Charges, Excise Duty, C. S. T. / VAT are included in above Prices.

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DGM(Contracts)



Hls
Dy. General Manager (Contracts)
H.P. Power Transmission Corpn. Ltd.
Barowalia House, Khalini, Shimla-2