

Annexure-I					
BOQ cum Price Schedule					
Name of the Work:- Consultancy services for Approval of Plans/ Designs/ Drawings/ Specifications of Equipment, Civil Work, Structural Work, Foundation Work & Electrical System along with Quality Assurance Plans etc. and Engineering Service for carrying out electrical power system study etc for LSTK job for ISBL work of 220KV Grid Power Import at IOCL, Panipat Refinery.					
Project:- LSTK job for ISBL work of 220KV Grid Power Import at IOCL, Panipat Refinery					
Sl. No.	Item Description	Unit	Quantity	Unit Rate (Rs.)	Total Amount (Rs.)
<b>A</b>	<b>Consultancy Services for Approval of Plans/ Designs/ Drawings/ Specifications of Equipment, Civil Work, Structural Work, Foundation Work &amp; Electrical System along with Quality Assurance Plans etc.</b>	<b>LS</b>	<b>1</b>	42,03,000.00	<b>42,03,000.00</b>
<b>1</b>	<b>Electrical</b>	<b>LS</b>	<b>1</b>		<b>12,60,900.00</b>
1.1	Design calculation for selection of equipment rating & system design				
1.2	Key Single line diagram with rating of each equipment				
1.3	Protection Single line diagram with all details of relays and wiring				
1.4	Electrical Layout (Plan & Elevation/ Sections), Clearance layout/ diagram				
1.5	Equipment short circuit calculation				
1.6	Substation Structural layout/ Structure Loading Diagram				
1.7	Control room equipment layout				
1.8	Grounding design				
1.9	Grounding layout				
1.10	Lightning protection design				
1.11	Lightning protection layout				
1.12	Cable trench & tray layout (Plan & Elevation/ Sections) including cabling details				
1.13	DC System design & drawings				
1.14	AC System design & drawings				
1.15	Substation Erection drawing, list of hardware & Erection sag chart				
1.16	Metering bay Erection drawing, list of hardware				
1.17	Cable and Lines Erection drawing, list of hardware & Erection sag chart (220kV Line & 33kV Cable etc.)				
1.18	Design & drawing of Illumination system				
1.19	Design & drawing of Load shedding, Load management, ECS & SCADA system				
1.20	Design & drawing of Air Conditioning system				
1.21	Design & drawings of plant communication, fire alarm system, PA system etc.				
1.22	Design & drawings of Fire fighting facility/ system				
<b>2</b>	<b>Civil &amp; Structural</b>	<b>LS</b>	<b>1</b>		<b>10,50,750.00</b>
2.1	Foundation layout drawing for Substation				
2.2	Design & drawing of Equipment foundation & foundation bolts				
2.3	Design & drawing of GIS Building cum Control Room building				

Sl. No.	Item Description	Unit	Quantity	Unit Rate (Rs.)	Total Amount (Rs.)
2.4	Design & drawing of Substation Equipment structure				
2.5	Design & drawing of Transformer foundation including oil collection pit etc.				
2.6	Design & drawing of transformer including oil collection pit etc.				
2.7	Design & drawing of Substation Roads, Drains, fence and gate etc.				
2.8	Layout drawing of Substation Roads, Drains, fence and gate etc.				
<b>3</b>	<b>Manufacturer's Drawings, Data, Manuals</b>	<b>LS</b>	<b>1</b>		<b>4,20,300.00</b>
3.1	Technical Particulars				
3.2	General arrangement drawing & Parts List				
3.3	Control Schematic drawing with Wiring diagram/ Terminal numbers				
3.4	Quality Assurance Plan & Inspection Test Procedure/ Schedule				
3.5	Installation, Commissioning, Operation & Maintenance Manual of equipment				
3.6	Spares list				
<b>4</b>	<b>Manufacturer's Drawings, Data, Manuals for Control, Protection and Management System</b>	<b>LS</b>	<b>1</b>		<b>8,40,600.00</b>
4.1	Technical Particulars & system write-up				
4.2	General arrangement drawing & Parts List				
4.3	Schematic drawing with Terminal numbers				
4.4	Protection settings				
4.5	Quality Assurance Plan & Inspection Test Procedure/ Schedule				
4.6	Installation, Commissioning & Operating Manuals of system				
4.7	Spares list				
<b>5</b>	<b>Cable Schedule &amp; Interconnection</b>	<b>LS</b>	<b>1</b>		<b>2,10,150.00</b>
5.1	Control cable schedule & Interconnection				
5.2	Power cable schedule & Interconnection				
<b>6</b>	<b>Electrical Power System Study &amp; Relay Coordination Reports</b>	<b>LS</b>	<b>1</b>		<b>2,10,150.00</b>
6.1	Load flow studies reports				
6.2	Short circuit and transient stability studies reports				
6.3	Grid Islanding setting derivation reports				
6.4	Load shedding adequacy check reports				
6.5	Protection co-ordination reports of new system				
6.6	EMTP studies reports(for switching / dynamic over-voltages, insulation coordination etc.)				
<b>7</b>	<b>Miscellaneous</b>	<b>LS</b>	<b>1</b>		<b>2,10,150.00</b>
7.1	Comprehensive & detailed Bill of Quantities for Project				
7.2	Project Engineering documentation schedule				
7.3	Any other relevant drawing/ data/ document necessary for satisfactory installation and commissioning and completion of project				

Sl. No.	Item Description	Unit	Quantity	Unit Rate (Rs.)	Total Amount (Rs.)
<b>B</b>	<b>Engineering Service for carrying out electrical power system study etc.</b>	<b>LS</b>	<b>1</b>	<b>31,81,500.00</b>	<b>31,81,500.00</b>
1	Load flow studies reports				
2	Short circuit and transient stability studies reports				
3	Grid Islanding setting derivation reports				
4	Load shedding adequacy check reports				
5	Protection co-ordination reports of new system				
6	EMTP studies reports(for switching / dynamic over-voltages, insulation coordination etc.)				
<b>C</b>	<b>Visit to Project Site/ Customer's Office/ LSTK Contractor's Office/ Design Center/ HVPNL Office etc.</b>	<b>LS</b>	<b>1</b>		<b>5,40,000.00</b>
1	Visit to Project Site/ Customer's Office/ LSTK Contractor's Office/ Design Center/ HVPNL office for expediting the process of consultancy services for approval of Plans/ Designs/ Drawings/ Specifications of Equipment, Civil Work, Structural Work, Foundation Work & Electrical System along with Quality Assurance Plans etc.	Mandays *	20	18,000.00	3,60,000.00
2	Visit to Project Site/ Customer's Office/ LSTK Contractor's Office/ Design Center/ HVPNL office for collection of data/ drawings / documents for carrying out the electrical power system study. In addition to this, all kinds of co-ordination and approval of 220kV switchyard from HVPNL.	Mandays *	10	18,000.00	1,80,000.00
	<b>Total Amount (A+B+C) (Rs.)-Excuding GST</b>				<b>79,24,500.00</b>

**Note:**

1. '\*' Lumpsum allowance per day including boarding, lodging, local conveyance, etc., all inclusive. (BHEL shall pay to & fro 1st AC fare from Bidder's headquarters to Project Site/ Customer's Office/ LSTK Contractor's Office/ Design Center/ HVPNL Office for each visit separately).

## ANNEXURE-II

TRANSMISSION BUSINESS GROUP  
(SUB- CONTRACTS MANAGEMENT)  
TBG - NOIDA

### PRICE SCHEDULE FORMAT

**SUB: Tender for “Consultancy services for Approval of Plans/ Designs/ Drawings/ Specifications of Equipment, Civil Work, Structural Work, Foundation Work & Electrical System along with Quality Assurance Plans etc. & Engineering Service for carrying out electrical power system study etc. for LSTK job for ISBL work of 220KV Grid Power Import at IOCL, Panipat Refinery”**

**TENDER SPEC. NO.:- TBSM/IOCL/PANIPAT/CONSULTANCY & ENGINEERING SERVICES/TENDER  
DATED: 09.01.2020**

(a) I/ We hereby agree to execute the above work at ----- % (in figure).....  
----- (in words) Above / Below/ At Par the rates of items given in BOQ  
(Annexure-I) of subject tender.

#### NOTE:

1. In this annexure the tenderer shall quote a percentage above/ below/At Par the rates shown in the Bill of Quantities (Annexure-I) of subject tender. The percentage quoted shall be clearly written both in words and figures In case of discrepancy in rates in figure and words, the minimum will be taken into account by BHEL.
2. The quoted percentage will apply to the individual items uniformly.

Date:

Place:

Signature of tenderer  
Name & Designation of authorized person(s) with seal

**ANNEXURE- III**  
**( Summary Of Prices)**

**NAME OF WORK :- “Consultancy services for Approval of Plans/ Designs/ Drawings/ Specifications of Equipment, Civil Work, Structural Work, Foundation Work & Electrical System along with Quality Assurance Plans etc. & Engineering Service for carrying out electrical power system study etc. for LSTK job for ISBL work of 220KV Grid Power Import at IOCL, Panipat Refinery”**

<b>Sl No.</b>	<b>Description</b>	<b>Amount (Rs.)</b>
1	Consultancy Services for Approval of Plans/ Designs/ Drawings/ Specifications of Equipment, Civil Work, Structural Work, Foundation Work & Electrical System along with Quality Assurance Plans etc.	42,03,000.00
2	Engineering Service for carrying out electrical power system study etc.	31,81,500.00
3	Visit to Project Site/ Customer's Office/ LSTK Contractor's Office/ Design Center/ HVPNL Office etc.	5,40,000.00
4	<b>Total Amount for subject work as per BOQ cum Price Schedule Annexuure-I</b>	<b>79,24,500.00</b>
5	Value of percentage above/below/at par (As indicated in Price Schedule Format, <b>Annexure-II</b> ) applicable to the total amount work ( at Sl. no. 4 above)	.....% above/below/ at par
6	<b>Total amount after consideration of percentage above/below/ at par.</b>	