



Bharat Heavy Electricals Limited

(A Govt. of India Undertaking)

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CORRIGENDUM - 02 TO NIT NO-69200

Dated 07.11.2022

Subject: Corrigendum-01 to Tender enquiry for Pre-bid Tie up for Supply & Services of 400 kV & 220 kV GIS FOR POWERGRID_LUHRI_NANGE PROJECT.

Project : Powergrid Luhri_Nange
Equipment / Item : SUPPLY & SERVICES OF 400kV & 220kV GIS.
Enquiry No/Date : 61Q2300148 Dated 20-Oct-22
BHEL NIT NO : 69200
Original Tender due date : 28.10.2022

This Corrigendum is issued by BHEL TBG against above mentioned NIT/ enquiry for-

- a) extension of due date of offer submission/opening up to **14.11.2022**.
- b) **Issue of Technical Corrigendum-01 along with revised BOQ and Price bid schedule.**

All other terms and conditions for this tender enquiry shall remain unchanged.

Bidder to ensure submission of offer on or before due.

Note: Tender ID in CPP Portal is **2022_BHEL_19014_1**.

Thanking you

-----Sd/-----

Gaurav Agarwal
BHEL TBG, NOIDA

Ref. No. Technical Corrigendum-01

Project: Pre Bid Tie up for,
400kV GIS Substation Package SS01 associated with "Transmission system for evacuation of power from Luhri Stage-I HEP" through Tariff Based Competitive Bidding (TBCB) route prior to RFP bid submission by POWERGRID to BPC.

Date: 02.11.2021

Sl. No.	Document Description of Original Technical Specification	Technical Corrigendum-01
		Remarks, if any
1	Section-1.4 Annexure_BOQ Rev01	For the revised requirements, please refer Annexure_BOQ Rev01 attached herewith.
2	Section-1	Please refer Annexure- Technical Amendment to Section 1 REV01 in addition to original Section-1 . Note: The highlighted changes are related to present scope of work and hence, these are to be noted and complied by bidders, however, bidders are requested to go through the complete document for entire understanding.

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

Pre Bid Tie up for,

400kV GIS Substation Package SS01 associated with "Transmission system for evacuation of power from Luhri Stage-I HEP" through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC.

SI. No.	BOQ DESCRIPTION
A	400kV GIS for POWERGRID, GIS Substation Package SS01, Luhri Stage-I HEP
	Annexure_BOQ_POWERGRID_400kV GIS- MAIN & INSTRUMENTS
	Annexure_BOQ_POWERGRID_400kV GIS- SPARE
	Annexure_BOQ_POWERGRID_400kV GIS- SERVICES
B	220kV GIS for POWERGRID, GIS Substation Package SS01, Luhri Stage-I HEP
	Annexure_BOQ_POWERGRID_220kV GIS- MAIN & INSTRUMENTS
	Annexure_BOQ_POWERGRID_220kV GIS- SPARE
	Annexure_BOQ_POWERGRID_220kV GIS- SERVICES

Sl. No.	Item Description	Unit	Qty.	Remarks
1	Supply- GIS: 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
1.1	SUPPLY- GIS: 420kV, 3150A, 63KA, 1SEC SINGLE PHASE SF6 TO AIR BUSHING	NO	17	Refer Section-Project Annexure-III for complete technical description.
1.2	SUPPLY- GIS: 420kV, 3000A/ 3150A, 63kA, Single phase, SF6Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated supportstructure	M	500	Refer Section-Project Annexure-III for complete technical description.
1.3	SUPPLY- GIS: 420kV, 4000A, 5000A, 63KA, SF6 GIS Bus bar module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.4	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.5	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.6	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.7	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.8	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.9	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.10	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.11	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Auxiliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.12	SUPPLY- GIS: Controlled switching device for 420kV, 3-phase circuit breaker	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.13	SUPPLY- GIS: SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.14	SUPPLY- GIS: STRUCTURE MATERIAL INCLUDING FOUNDATION BOLTS, EMBEDDED ITEMS, RAILS AND/ OR OTHER MATERIALS ETC.	Lot	1	Complete in all respect in compliance to technical specification and requirements. Excluding structure material covered under respective BOQ items for GIB & SF6 to Air Bushing. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
1.15	SUPPLY- GIS: EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.
2	Supply- GIS: Special Tools and Testing & Maintenance Instruments as per TS			
2.1	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: Portable Partial Discharge measurement test kit with all necessary accessories, Industrial Grade Laptop and licensedsoftware as per Technical specification.	NO	1	
2.2	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 Gas Leakage Detector	NO	1	
2.3	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS ANALYZER	NO	1	
2.4	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 Gas processing Unit for 400kV GIS station	SET	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
3	Spares-GIS: Mandatory Spares for 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
3.1	SUPPLY- GIS: SPARES: 420kV, SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	NO	2	
3.2	SUPPLY- GIS: SPARES: 420kV, SF6 PRESSURE GAUGE CUM SWITCH/ DENSITY MONITORS AND PRESSURE SWITCH AS APPLICABLE, OF EACH TYPE	SET	3	
3.3	SUPPLY- GIS: SPARES: 420kV, COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTING GAS HANDLING PLANT OF EACH TYPE	SET	2	
3.4	SUPPLY- GIS: SPARES: 420kV, RUBBER GASKETS, A, a, -A, O, A, a, -A RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE	SET	3	
3.5	SUPPLY- GIS: SPARES: 420kV, MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5% OF TOTAL WEIGHT)	SET	1	
3.6	SUPPLY- GIS: SPARES: 420kV, CONTROL VALVES FOR SF6 GAS OF EACH TYPE	SET	3	
3.7	SUPPLY- GIS: SPARES: 420kV, SF6 GAS (5% OF TOTAL GAS QUANTITY)	LOT	1	
3.8	SUPPLY- GIS: SPARES: 420kV, LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS) AND EARTHING/ FAST EARTHING SWITCHES IN CLOSE OR OPEN POSITION IN CASE OF REMOVAL OF THE DRIVING MECHANISM	SET	3	
3.9	SUPPLY- GIS: SPARES: 420kV, UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR	NO	5	
3.10	SUPPLY- GIS: SPARES: 420kV, SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
3.11	SUPPLY- GIS: SPARES: 420kV, GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
3.12	SUPPLY- GIS: SPARES: 420kV, 3150A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	NO	1	
3.13	SUPPLY- GIS: SPARES: 420kV, LCC SPARES- AUX. RELAYS, CONTACTORS, PUSH BUTTONS, SWITCHES, LAMPS, ANNUNCIATION WINDOWS, MCB, FUSES, TIMERS, TERMINAL BLOCKS ETC. OF EACH TYPE & RATING	SET	2	
3.14	SUPPLY- GIS: SPARES: 420kV, ONE POLE OF 3150A CIRCUIT BREAKER WITHOUT PIR WITH INTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
3.15	SUPPLY- GIS: SPARES: 420kV, ONE POLE OF 3150A CIRCUIT BREAKER WITH PIR WITH INTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
3.16	SUPPLY- GIS: SPARES: 420kV, Trip coil assembly with resistor for 420kV GIS Circuit Breaker (as applicable)	SET	3	
3.17	SUPPLY- GIS: SPARES: 420kV, Closing coil assembly with resistor for 420kV GIS Circuit Breaker (as applicable)	SET	3	
3.18	SUPPLY- GIS: SPARES: 420kV, RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (AS APPLICABLE) OF EACH TYPE FOR 420kV GIS CIRCUIT BREAKER	SET	1	
3.19	SUPPLY- GIS: SPARES: 420kV, Auxiliary switch assembly of each type for 420kV GIS Circuit Breaker	SET	3	
3.20	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER-OPERATION COUNTER	NO	3	
3.21	SUPPLY- GIS: SPARES: 420kV, HYDRAULIC OPERATING MECHANISM WITH DRIVE MOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.22	SUPPLY- GIS: SPARES: 420kV, HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.23	SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.24	SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.25	SUPPLY- GIS: SPARES: 420kV, VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.26	SUPPLY- GIS: SPARES: 420kV, PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.27	SUPPLY- GIS: SPARES: 420kV, PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.28	SUPPLY- GIS: SPARES: 420kV, PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.29	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.30	SUPPLY- GIS: SPARES: 420kV, PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.31	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.32	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.33	SUPPLY- GIS: SPARES: 420kV, PRESSURE SWITCHES OF EACH TYPE FOR 420kV GIS CIRCUIT BREAKER (For Hydraulic-Spring Operated Mechanism, if applicable)	SET	1	
3.34	SUPPLY- GIS: SPARES: 420kV, PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
3.35	SUPPLY- GIS: SPARES: 420kV, Single phase of 3150A disconnector switch including main circuit, enclosure, driving mechanism and support insulator etc., complete in all respect	NO	4	Note 1- The contractor/ bidder shall supply spare for disconnector switch to ensure one to one replacement of all disconnector switch supplied as main equipment without any requirement of modification in fittings at site to cover all different types of disconnector switch supplied. In case, quantity of supplied dis-connector switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor/ bidder shall supply these additional types of disconnector switch without any additional price implication to POWERGRID and quantities of these additional type of disconnector switch are deem to be included in the quantities mentioned in BPS for spare disconnector. Note 2 - In case, Dis-connector Switch (DS) & Earth Switch (ES) is provided in a same enclosure with common operatingmechanism, then the module comprising of Dis-connector & Earth switch in single enclosure with common operating mechanism is to be provided under the head of spare Dis-connector only. Note3- In case, Dis-connector Switch (DS) & Earth Switch (ES) is provided in as ame enclosure with separate operating mechanism, then the module comprising of Dis-connector & Earth switch in single enclosure with separate operating mechanism is to be provided under the head of spare Dis-connector only.)
3.36	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	NO	2	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
3.37	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE INALL RESPECT	NO	2	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
3.38	SUPPLY- GIS: SPARES: 420kV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 400KV GIS DISCONNECTORSWITCH	SET	1	
3.39	SUPPLY- GIS: SPARES: 420kV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 420KV GIS MAINTENANCE EARTH SWITCH	SET	1	
3.40	SUPPLY- GIS: SPARES: 420kV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 420KV GIS FAST EARTHINGSWITCH	SET	1	
3.41	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-420KV GIS	SET	2	
3.42	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-420KV GIS	SET	2	
3.43	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FAST EARTHING SWITCH (IF APPLICABLE)-420KV GIS	SET	2	
3.44	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS DISCONNECTOR SWITCH	SET	1	
3.45	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS MAINTENANCE EARTH SWITCH	SET	1	
3.46	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS FAST EARTHING SWITCH	SET	1	
3.47	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS DISCONNECTOR SWITCH	NO	1	
3.48	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KVGIS MAINTENANCE EARTH SWITCH	NO	1	
3.49	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS FAST EARTHING SWITCH	NO	1	
3.50	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE OF CURRENT TRANSFORMER (3 CORES, TYPE-CTA)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	NO	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
3.51	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE OF CURRENT TRANSFORMER (2 CORES, TYPE-CTB)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	NO	1	
3.52	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALL RESPECT	NO	1	
4	Spares-GIS: Reference Unit Price for addition/ deletion of supply items of 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
	Unit Prices of Individual Equipment included here or in mandatory spares are required for any Addition/ Deletion of Equipment and replacement of damaged items. Bidder/ vendor to ensure that the unit prices have a logical relationship with prices of assemblies in main items. Quoting for unit prices is mandatory and shall be considered for evaluation			
4.01	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR CIRCUIT BREAKER	SET	1	1 SET= Operating Mechanism for 1 Pole of Circuit Breaker complete in all respect
4.02	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR DISCONNECTOR	SET	1	1 SET= Operating Mechanism for 3 Poles of Disconnecter complete in all respect
4.03	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 3 Poles of Maintenance Earthing Switch complete in all respect
4.04	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR FAST ACTING EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 1 Pole of High Speed Earthing Switch complete in all respect
4.05	SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER	SET	1	1 SET= 1 Pole complete in all respect
4.06	SUPPLY- GIS: SPARES: 420kV, DISCONNECTOR	SET	1	1 SET= 1 Pole complete in all respect
4.07	SUPPLY- GIS: SPARES: 420kV, MAINTENANCE EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
4.08	SUPPLY- GIS: SPARES: 420kV, FAST ACTING EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
4.09	SUPPLY- GIS: SPARES: 420kV, CURRENT TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
4.10	SUPPLY- GIS: SPARES: 420kV, VOLTAGE TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
4.11	SUPPLY- GIS: SPARES: 420kV SURGE ARRESTER	NO	1	1 SET= 1 NO complete in all respect
4.12	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE BUS BAR	MTR	1	
4.13	SUPPLY- GIS: SPARES: 420kV, GIS METALLIC ENCLOSURE	KG	50	
4.14	SUPPLY- GIS: SPARES: 420kV, EXPANSION JOINTS	SET	1	1 SET= 1 NO of each type
4.15	SUPPLY- GIS: SPARES: 420kV, BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
4.16	SUPPLY- GIS: SPARES: 420kV, NON-BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
4.17	SUPPLY- GIS: SPARES: 420kV, GAS SEALS	SET	1	1 SET= 1 NO of each type
4.18	SUPPLY- GIS: SPARES: 420kV, GAS DENSITY MONITOR SWITCH	SET	1	1 SET= 1 NO of each type
4.19	SUPPLY- GIS: SPARES: 420kV, UHF PD SENSOR	SET	1	1 SET= 1 NO of each type
4.20	SUPPLY- GIS: SPARES: 420kV, GAS PRESSURE SWITCH	SET	1	1 SET= 1 NO of each type
4.21	SUPPLY- GIS: SPARES: 420kV, TEE BEND	SET	1	1 SET= 1 NO of each type
4.22	SUPPLY- GIS: SPARES: 420kV, ANGLE BEND	SET	1	1 SET= 1 NO of each type
4.23	SUPPLY- GIS: SPARES: 420kV, L-BEND	SET	1	1 SET= 1 NO of each type

Sl. No.	Item Description	Unit	Qty.	Remarks
5	Services- GIS: 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
5.1	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.2	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.3	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.4	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.5	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.6	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.7	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63 kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.8	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.9	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.10	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.11	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.12	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.13	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.14	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.15	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.16	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.17	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 4000A , 5000A , 63kA, 3-phase SF6 GIS bus bar	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.18	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 4000A , 5000A , 63 kA, 3-phase SF6 GIS bus bar	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.19	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3000A/ 3150A , 63kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure	M	500	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.20	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3000A/ 3150A , 63kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure	M	500	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.21	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, SF6 to Air Bushing alongwithassociated support structure for 3150A, 63kA for 1 sec. Single Phase	NO	17	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.22	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, SF6 to Air Bushing alongwithassociated support structure for 3150A, 63kA for 1 sec. Single Phase	NO	17	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.23	SERVICES- GIS: ERECTION, TESTING & COMMISSIONING: Controlled Switching Device for 420kV, 3-ph Circuit Breaker	NO	2	It includes installation, testing and commissioning activities complete in all respect.
5.24	SERVICES- GIS : 420kV, FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	LOT	1	Carrying out successful HV/ Power Frequency Testing of complete GIS as per IEC including Arrangement of HV Test kit (on returnable basis) shall be in scope of bidder, which includes charges for HV test kit with vendor, accessories & tools required for completion of HV testing. Bays may be commissioned in phase wise manner.
5.25	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 420KV GIS SYSTEM COMPLETE	LOT	1	Insulation co-ordination and VFTO studies for 400KV GIS system complete

6	Services-GIS: Reference Unit Price for addition/ deletion of supply services items of 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
6.1	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
6.2	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
6.3	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	LOT	1	Additional HV test kit charges including charges of operator, HV test kit, accessories & tools required for completion of HV test (Dielectric Test after installation of GIS). This item is executed only if repetition/ additional HV Test is required by BHEL i.e. post successful commissioning of GIS. (if required due to reasons not attributed to vendor)
7	Services-GIS: Training of customer/ owner Personnel as per TS			
7.1	SERVICES- GIS : Training- Training for Maintenance Engineers in batch (3 batches) for 2 Days (Max 4 Persons per batch) at Vendors works.	MAN-DAY	24	2 engineers from BHEL/TBG is also included.
7.2	SERVICES- GIS : Training- Training for Operators in batch (2 batches) for 3 days (Max 7 Persons per batch) at Site works.	MAN-DAY	42	2 engineers from BHEL/TBG is also included.

Sl. No.	Item Description	Unit	Qty.	Remarks
8	Supply- GIS: 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
8.1	SUPPLY- GIS: 245kV, 1600A, 50kA, SF6 GIS ICT feederbay module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
8.2	SUPPLY- GIS: 245kV, 2500A , 4000A , 50 kA, SF6 GIS Bus coupler bay module as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
8.3	SUPPLY- GIS: 245kV, 4000A, 50kA, SF6 GIS Bus bar module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
8.4	SUPPLY- GIS: 245kV, 1600A, 50kA, 3 Single phase/ 3 Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure (Quantity mentioned here is for 3 Phase type)	M	250	Refer Section-Project Annexure-III for complete technical description.
8.5	SUPPLY- GIS: 245kV, 1600A, 50kA, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
8.6	SUPPLY- GIS: 245kV, 1600A, 50kA Single phase SF6 to Air Bushing	NO	7	Refer Section-Project Annexure-III for complete technical description.
8.7	SUPPLY- GIS: SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
8.8	SUPPLY- GIS: STRUCTURE MATERIAL INCLUDING FOUNDATION BOLTS, EMBEDDED ITEMS, RAILS AND/ OR OTHER MATERIALS ETC.	Lot	1	Complete in all respect in compliance to technical specification and requirements. Excluding structure material covered under respective BOQ items for GIB & SF6 to Air Bushing. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
8.9	SUPPLY- GIS: EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.

Sl. No.	Item Description	Unit	Qty.	Remarks
9	Spares-GIS: Mandatory Spares for 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
9.1	SUPPLY- GIS: SPARES: 245kV, CABLE CONNECTION ENCLOSURE WITH MAIN CIRCUIT	SET	1	
9.2	SUPPLY- GIS: SPARES: 245kV, SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	NO	2	
9.3	SUPPLY- GIS: SPARES: 245kV, SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE	SET	3	
9.4	SUPPLY- GIS: SPARES: 245kV, COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTINGGAS HANDLING PLANT OF EACH TYPE-220KV GIS	SET	2	
9.5	SUPPLY- GIS: SPARES: 245kV, RUBBER GASKETS, A,a,-A'OÄ,a,-Ä RINGS AND SEALS FOR SF6 GAS FOR GISENCLOSURE OF EACH TYPE-220KV GIS	SET	3	
9.6	SUPPLY- GIS: SPARES: 245kV, MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTALWEIGHT)	SET	1	
9.7	SUPPLY- GIS: SPARES: 245kV, CONTROL VALVES FOR SF6 GAS OF EACH TYPE-220KV GIS	SET	3	
9.8	SUPPLY- GIS: SPARES: 245kV, SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
9.9	SUPPLY- GIS: SPARES: 245kV, LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS)AND EARTHING/FAST EARTHING SWITCHES (AS APPLICABLE) IN CLOSE OR OPENPOSITION IN CASE OF REMOVAL OF THE DRIVING MECHANISM-220KV GIS	SET	3	
9.10	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 245KV GIS	NO	5	
9.11	220KV GIS-SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
9.12	220KV GIS-GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
9.13	220KV GIS- 1600A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	NO	1	
9.14	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES, LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-220KV GIS	SET	2	
9.15	220KV GIS-ONE POLE OF 1600A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
9.16	220KV GIS-ONE POLE OF 2500A/ 3150A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
9.17	220KV GIS-ONE POLE OF 3000A/ 3150A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
9.18	Trip coil assembly with resistor for 245kV GIS Circuit Breaker (as applicable)	SET	3	
9.19	Closing coil assembly with resistor for 245kV GIS Circuit Breaker (as applicable)	SET	1	
9.20	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 220KV GIS CIRCUIT BREAKER	SET	1	
9.21	Auxiliary switch assembly of each type for 245kV GIS Circuit Breaker	SET	3	
9.22	220KV GIS CIRCUIT BREAKER-OPERATION COUNTER	NO	3	
9.23	220KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
9.24	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.25	220KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FORHYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
9.26	220KV GIS CIRCUIT BREAKER- N2 ACCUMULATOR (FOR HYDRAULIC OPERATEDMECHANISM, IF APPLICABLE)	SET	1	
9.27	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.28	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.29	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.30	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.31	220KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
9.32	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM,IF APPLICABLE)- 220KV GIS CIRCUIT BREKAER	SET	1	
9.33	220KV GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISMINCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IFAPPLICABLE)	SET	1	
9.34	220KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATINGMECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)	SET	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
9.35	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATEDMECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREAKER	SET	1	Note 1- The contractor/ bidder shall supply spare for disconnector switch to ensure one to one replacement of all disconnector switch supplied as main equipment without any requirement of modification in fittings at site to cover all different types of disconnector switch supplied. In case, quantity of supplied dis-connector switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor/ bidder shall supply these additional types of disconnector switch without any additional price implication to POWERGRID and quantities of these additional type of disconnector switch are deem to be included in the quantities mentioned in BPS for spare disconnector. Note 2 - In case, Dis-connector Switch (DS) & Earth Switch (ES) is provided in a same enclosure with common operatingmechanism, then the module comprising of Dis-connector & Earth switch in single enclosure with common operating mechanism is to be provided under the head of spare Dis-connector only.
9.36	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
9.37	220kV GIS- Three phase of 1600A disconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	NO	4	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
9.38	220kV GIS- Three phase of 2500A/ 3150A disconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	NO	2	
9.39	220kV GIS- Three phase of 3000A/ 3150A disconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	NO	2	
9.40	220KV GIS- THREE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC.,COMPLETE IN ALL RESPECT	NO	1	
9.41	220KV GIS - THREE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT,ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE INALL RESPECT (NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATINGMECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCHIN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDEDUNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE,DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAMEENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITHSEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPAREDIS-CONNECTOR ONLY.)	NO	1	
9.42	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MGBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS DISCONNECTORSWITCH	SET	1	
9.43	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MGBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS MAINTENANCE EARTHSSWITCH	SET	1	
9.44	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MGBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS FAST EARTHINGSWITCH	SET	1	
9.45	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FORDISCONNECTOR-220KV GIS	SET	2	
9.46	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FORMAINTENANCE EARTHING SWITCH-220KV GIS	SET	2	
9.47	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FASTEARTHING SWITCH (IF APPLICABLE)-220KV GIS	SET	2	

Sl. No.	Item Description	Unit	Qty.	Remarks
9.48	DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	SET	1	
9.49	DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	SET	1	
9.50	DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	SET	1	
9.51	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	NO	1	
9.52	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	NO	1	
9.46	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	NO	1	
9.47	220KV GIS- SINGLE PHASE OF CURRENT TRANSFORMER (4 CORES) WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	NO	1	
9.48	220KV GIS- SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALL RESPECT	NO	1	
9.49	220KV GIS- SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	NO	1	
9.50	220KV GIS- SURGE COUNTER/ MONITOR	NO	1	
10	Spares-GIS: Reference Unit Price for addition/ deletion of supply items of 220kV, 50KA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
	Unit Prices of Individual Equipment included here or in mandatory spares are required for any Addition/ Deletion of Equipment and replacement of damaged items. Bidder/ vendor to ensure that the unit prices have a logical relationship with prices of assemblies in main items. Quoting for unit prices is mandatory and shall be considered for evaluation			
10.01	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR CIRCUIT BREAKER	SET	1	1 SET= Operating Mechanism for 1 Pole of Circuit Breaker complete in all respect
10.02	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR DISCONNECTOR	SET	1	1 SET= Operating Mechanism for 3 Poles of Disconnecter complete in all respect
10.03	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 3 Poles of Maintenance Earthing Switch complete in all respect
10.04	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR FAST ACTING EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 1 Pole of High Speed Earthing Switch complete in all respect
10.05	SUPPLY- GIS: SPARES: 245kV, CIRCUIT BREAKER	SET	1	1 SET= 1 Pole complete in all respect
10.06	SUPPLY- GIS: SPARES: 245kV, DISCONNECTOR	SET	1	1 SET= 1 Pole complete in all respect
10.07	SUPPLY- GIS: SPARES: 245kV, MAINTENANCE EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
10.08	SUPPLY- GIS: SPARES: 245kV, FAST ACTING EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
10.09	SUPPLY- GIS: SPARES: 245kV, CURRENT TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
10.10	SUPPLY- GIS: SPARES: 245kV, VOLTAGE TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
10.11	SUPPLY- GIS: SPARES: 245kV SURGE ARRESTER	NO	1	1 SET= 1 NO complete in all respect
10.12	SUPPLY- GIS: SPARES: 245kV, SINGLE PHASE BUS BAR	MTR	1	
10.13	SUPPLY- GIS: SPARES: 245kV, GIS METALLIC ENCLOSURE	KG	50	
10.14	SUPPLY- GIS: SPARES: 245kV, EXPANSION JOINTS	SET	1	1 SET= 1 NO of each type
10.15	SUPPLY- GIS: SPARES: 245kV, BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
10.16	SUPPLY- GIS: SPARES: 245kV, NON-BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
10.17	SUPPLY- GIS: SPARES: 245kV, GAS SEALS	SET	1	1 SET= 1 NO of each type
10.18	SUPPLY- GIS: SPARES: 245kV, GAS DENSITY MONITOR SWITCH	SET	1	1 SET= 1 NO of each type
10.19	SUPPLY- GIS: SPARES: 245kV, UHF PD SENSOR	SET	1	1 SET= 1 NO of each type
10.20	SUPPLY- GIS: SPARES: 245kV, GAS PRESSURE SWITCH	SET	1	1 SET= 1 NO of each type
10.21	SUPPLY- GIS: SPARES: 245kV, TEE BEND	SET	1	1 SET= 1 NO of each type
10.22	SUPPLY- GIS: SPARES: 245kV, ANGLE BEND	SET	1	1 SET= 1 NO of each type
10.23	SUPPLY- GIS: SPARES: 245kV, L-BEND	SET	1	1 SET= 1 NO of each type

Sl. No.	Item Description	Unit	Qty.	Remarks
11	SERVICES- GIS: 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
11.1	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600 A, 50 kA, SF6 GIS ICT feeder bay module	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.2	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600 A, 50 kA, SF6 GIS ICT feeder bay module	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.3	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 2500A , 4000A , 50 kA, SF6 GIS Bus coupler bay module	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.4	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 2500A , 4000A , 50 kA, SF6 GIS Bus coupler bay module	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.5	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 4000A, 50kA, 3 single phase (isolated), SF6 gas insulated, metal enclosed bus bars to inter connect each of Circuit Breaker bay module complete with voltage transformer, disconnectors with grounding switch, local control cubicle, SF6 gas monitoring system for the complete bus	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.6	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 4000A, 50kA, 3 single phase (isolated), SF6 gas insulated, metal enclosed bus bars to inter connect each of Circuit Breaker bay module complete with voltage transformer, disconnector with grounding switch, local control cubicle, SF6 gas monitoring system for the complete bus	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.7	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600A, 50kA, 3 Single phase/ 3Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure (Quantity mentioned here is for 3 Phase type)	M	250	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.8	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600A, 50kA, 3 Single phase/ 3 Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure (Quantity mentioned here is for 3 Phase type)	M	250	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.9	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600A, 50 kA for 1 sec SF6 to Air Bushing	NO	7	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.10	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600A, 50 kA for 1 sec SF6 to Air Bushing	NO	7	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.11	SERVICES- GIS : 420KV, FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	LOT	1	Carrying out successful HV/ Power Frequency Testing of complete GIS as per IEC including Arrangement of HV Test kit (on returnable basis) shall be in scope of bidder, which includes charges for HV test kit with vendor, accessories & tools required for completion of HV testing. Bays may be commissioned in phase wise manner.
11.12	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 420KV GIS SYSTEM COMPLETE	LOT	1	Insulation co-ordination and VFTO studies for 220kV GIS system complete
12	SERVICES-GIS: Reference Unit Price for addition/ deletion of services items of 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
12.1	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
12.2	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
12.3	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	LOT	1	Additional HV test kit charges including charges of operator, HV test kit, accessories & tools required for completion of HV test (Dielectric Test after installation of GIS). This item is executed only if repetition/ additional HV Test is required by BHEL i.e. post successful commissioning of GIS. (if required due to reasons not attributed to vendor)

Annexure-Technical Amendment to Section-1 REV01

Amendment No.-III dated 12/10/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with "Transmission system for evacuation of power from Luhri Stage-I HEP" through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S. No.	Clause/ Drg.Sl. NO	Existing provision	Amended provision
Volume-II (TECHNICAL SPECIFICATIONS) [Doc Code: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5/02, August 2022] & Volume-III (BID FORM AND PRICE SCHEULES) [Doc Code: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5/03, August 2022]			
1	SectionProject, rev0 3.4.2 Extension of 400kV Koldam Sub station e) Control & Protection system	Complete Control, Relay and Protection system for bays under present scope as per Section–Control and Relay Panels. Make and model of existing bus bar for 400kV voltage level shall be provided to successful bidder during detailed engineering: Necessary modifications, wiring, etc. for completion of the bus bar protection scheme for bays under present scope has to be carried out by contractor. Any modification required in the existing protection scheme is included in the present scope.	Complete Control, Relay and Protection system for bays under present scope as per Section–Control and Relay Panels. ABB make REB 500 has been installed and for present scope of work augmentation of the same has been envisaged. Necessary modifications, wiring, etc. for completion of the bus bar protection scheme for bays under present scope has to be carried out by contractor. Any modification required in the existing protection scheme is included in the present scope.
2.	SectionProject, rev0 3.4.2 Extension of 400kV Koldam Sub station e) Substation Automation system	Augmentation of bays under present scope with existing Substation Automation System: The scope of bidder shall include but not limited to integration of IED's under present scope of augmentation with existing substation automation (Make shall be intimated separately however same shall be based on IEC 61850) and capability enhancement of same as required including up-dating of system database, displays, development of additional	Augmentation of bays under present scope with existing Substation Automation System: The scope of bidder shall include but not limited to integration of IED's under present scope of augmentation with existing substation automation (ABB make SCADA 9.4 FP2 system is installed at Koldam substation) and capability enhancement of same as required including up-dating of system database, displays, development of additional displays and reports as per requirement. In the present scope, contractor

Amendment No.-III dated 12/10/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S. No.	Clause/ Drg.Sl. NO	Existing provision	Amended provision
		<p>displays and reports as per requirement. In the present scope, contractor shall also provide BCUs required for bays (bays as defined in Section: Substation Automation System) under present scope hardware and software to integrate with the substation automation system.</p> <p>Any up-gradation of hardware and software for above integration shall be in the scope of contractor including license fee (if any).</p> <p>The necessary interface equipment (Router, Firewall, Ethernet Switches etc.) and integration work for transferring data to RLDC (RSCC)/NLDC/National Transmission Asset Management Centre (NTAMC) at Manesar through optical fiber based SDH communication link is also under present scope. However, no work is envisaged at remote end (RLDC/NLDC/NTAMC/RTAMC etc) in the present scope</p>	<p>shall also provide BCUs required for bays (bays as defined in Section: Substation Automation System) under present scope hardware and software to integrate with the substation automation system.</p> <p>Any up-gradation of hardware and software for above integration shall be in the scope of contractor including license fee (if any).</p> <p>The necessary interface equipment (Router, Firewall, Ethernet Switches etc.) and integration work for transferring data to RLDC (RSCC)/NLDC/National Transmission Asset Management Centre (NTAMC) at Manesar through optical fiber based SDH communication link is also under present scope. However, no work is envisaged at remote end (RLDC/NLDC/NTAMC/RTAMC etc) in the present scope</p>

Amendment No.-III dated 12/10/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with "Transmission system for evacuation of power from Luhri Stage-I HEP" through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S. No.	Clause/ Drg.Sl. NO	Existing provision	Amended provision																																				
3	SectionProject, rev0 3.4.2 Extension of 400kV Koldam Sub station i) LT Switchgear	Extn of 415V ACDB {1 Number of distinct vertical panel equipped with 4 number of 63A MCCB O/G Feder & Two numbers of 120A MCCB for I/C feeder (One from each Section)}.	Spare Feeders shall be available at ACDB & DCDB which shall be used for present scope of work																																				
4.	SectionProject, rev0 3.4.2 Extension of 400kV Koldam Sub station k) Visual Monitoring System (VMS)	Augmentation of Visual Monitoring System (VMS) for area under present scope. Details of existing VMS system/software shall be provided to the successful bidder during detailed engineering. The contractor shall provide 2 Nos of Color IP camera with PAN, Tilt & Zoom facility suitably located outdoor Switchyard. The scope of contractor shall include all items, Accessories, Line interface units, Fibre patch cards, Power supply units, Junction boxes, cables, Fibre optic cables, Hardware and software etc., as applicable to the product design, to meet functional requirements. Compatibility enhancement of VMS system, if needed, shall be done by the contractor under present scope	Deleted.																																				
5.	SectionProject, rev0 10) SPECIFIC REQUIREMENT	<p>10.2 The substation shall be designed considering current ratings as indicated below:</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Description of Bay</th> <th colspan="2">Nange (GIS) S/s</th> <th>Koldam AIS</th> <th>Ropar AIS</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>400kV</td> <td>220kV</td> <td>400kV</td> <td>400kV</td> </tr> <tr> <td>1</td> <td>Busbar</td> <td>4000A</td> <td>4000</td> <td>4000A</td> <td>4000A</td> </tr> </tbody> </table>	S. No.	Description of Bay	Nange (GIS) S/s		Koldam AIS	Ropar AIS			400kV	220kV	400kV	400kV	1	Busbar	4000A	4000	4000A	4000A	<p>10.2 The substation shall be designed considering current ratings as indicated below:</p> <table border="1"> <thead> <tr> <th>S. No.</th> <th>Description of Bay</th> <th colspan="2">Nange (GIS) S/s</th> <th>Koldam AIS</th> <th>Ropar AIS</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>400kV</td> <td>220kV</td> <td>400kV</td> <td>400kV</td> </tr> <tr> <td>1</td> <td>Busbar</td> <td>5000A</td> <td>4000A</td> <td>4000A</td> <td>4000A</td> </tr> </tbody> </table>	S. No.	Description of Bay	Nange (GIS) S/s		Koldam AIS	Ropar AIS			400kV	220kV	400kV	400kV	1	Busbar	5000A	4000A	4000A	4000A
S. No.	Description of Bay	Nange (GIS) S/s		Koldam AIS	Ropar AIS																																		
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Amendment No.-III dated 12/10/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S. No.	Clause/ Drg.Sl. NO	Existing provision						Amended provision						
					A			2	Line Bay	3150A	-	3150A	-	
		2	Line Bay	3150A	-	3150A	-	3	ICT Bay	3150A	1600A	-	-	
		3	ICT Bay	3150A	1600	-	-	4	Reactor Bay	3150A	-	3150A	3150A	
					A			5	Bus Coupler Bay	-	4000A	-	-	
		4	Reactor Bay	3150A	-	3150A	3150A							
		5	Bus Coupler Bay	-		-	-							
6.	SectionProject, rev0 3.4.3 Extension of 400kV Ropar Sub station	<p>p. Lattice and Pipe Structures (Galvanized)</p> <p>Design, engineering, fabrication, proto-assembly, supply including transportation & insurance, unloading, storage, erection and commissioning of following structures complete in all respect:</p> <ul style="list-style-type: none"> ➤ Equipment support structures except support structure for circuit breaker. The Support structure for Circuit Breaker shall be as per manufacturer’s design. ➤ Equipment support structures shall be quoted in numbers as per BPS. Fasteners & foundation bolts for equipment support structures are deemed to be included in corresponding structure items of BPS. ➤ For diameter/bays where transformer is to be terminated, the structure must also consider the load and deviation which is arising due to the interconnection with other side. Further, for the last diameter/bay, the end towers must 						<p>p. Lattice and Pipe Structures (Galvanized)</p> <p>Design, engineering, fabrication, proto-assembly, supply including transportation & insurance, unloading, storage, erection and commissioning of following structures complete in all respect:</p> <ul style="list-style-type: none"> ➤ Towers, Beams, LM (if required) and all Equipment support structures except support structure for circuit breaker. The Support structure for Circuit Breaker shall be as per manufacturer’s design. ➤ In the bid price schedule, the structures, foundation bolts and fasteners are indicated in the unit of Metric Tonnes. ➤ Equipment support structures except support structure for circuit breaker. The Support structure for Circuit Breaker shall be as per manufacturer’s design ➤ Equipment support structures shall be quoted in numbers as per BPS. Fasteners & foundation bolts for equipment support structures are deemed to be included in corresponding structure items of BPS 						

Amendment No.-III dated 12/10/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with "Transmission system for evacuation of power from Luhri Stage-I HEP" through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S. No.	Clause/ Drg.Sl. NO	Existing provision	Amended provision
		<p>be extendable type for connecting future beams. Bus work(s) may be optimized by the contractor by suitably considering the number of diameters/bays in a bus work section.</p> <ul style="list-style-type: none"> ➤ Relevant design calculations for such cases shall be submitted by the contractor for employer's approval during detailed engineering. ➤ The proto corrected drawings along with BOM are to be witnessed and certified by the contractor. Certified proto corrected drawings along with BOM shall be submitted to POWERGRID for information only. Contractor shall provide editable soft copies of design & drawings during detailed engineering. 	<ul style="list-style-type: none"> ➤ For diameter/bays where transformer is to be terminated, the structure must also consider the load and deviation which is arising due to the interconnection with other side. Further, for the last diameter/bay, the end towers must be extendable type for connecting future beams. Bus work(s) may be optimized by the contractor by suitably considering the number of diameters/bays in a bus work section ➤ For design of Gantry structures, the conductor tension shall be as per Annexure-II Specific requirement Rev 07. For design of gantry structure with spans, wind speed or conductor configurations other than that specified in Annexure-II Specific requirement Rev 07, conductor tension shall be considered based on actual requirement of present & future scope of work. Relevant design calculations for such cases shall be submitted by the contractor for employer's approval during detailed engineering ➤ The proto corrected drawings along with BOM are to be witnessed and certified by the contractor. Certified proto corrected drawings along with BOM shall be submitted to POWERGRID for information only. Contractor shall provide editable soft copies of design & drawings during detailed engineering
7	SectionProject, rev0	3.4.3.3 Civil works a.	3.4.3.3 Civil works a.

Amendment No.-III dated 12/10/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S. No.	Clause/ Drg.Sl. NO	Existing provision	Amended provision
	3.4.3 Extension of 400kV Ropar Sub station	b. e Structure and foundations for Equipment supports etc f. g.	b. ... e Structure and foundations for Tower & Equipment supports etc f. g.
8	SectionProject, rev0	Annexure- I Rev00, List of Drawings Annexure-IV Technical parameters for 41.6 MVAR Shunt reactor	Annexure- I Rev01, List of Drawings Annexure-IV Rev01 Technical parameters for 41.6 MVAR Shunt reactor
9.	SectionProject, rev0	S. No 8.0 DIFFERENT SECTIONS OF TECHNICAL SPECIFICATION of Section Project Section CRP Rev 09	S. No 8.0 DIFFERENT SECTIONS OF TECHNICAL SPECIFICATION of Section Project Section CRP Rev 09 (attached)
10.	Second Envelope Bid Form and Attachments	Existing File “15-Second Envelope - Bid Form and Price Schedule_Nange GIS”	In view of above, The existing file “15-Second Envelope - Bid Form and Price Schedule_Nange GIS” Stand replaced as “15-Second Envelope - Bid Form and Price Schedule_Nange GIS_Rev1”

Annexure-Technical Amendment to Section-1 REV01

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
1	Second Envelope - Bid Form and Price Schedule Nange GIS/ Sch-1/Equipment / sl. no. 13, sl. no. 15 and sl. no.180 Sl. no. 13 “420KV, 3150Amp, 63KA, SF6Gas Line Feeder bay module (with PIR) as per section project” Sl. no. 15 “420KV, 3150Amp, 63KA, SF6Gas Tie bay module (with PIR) as per section project” Sl. no. 180 [Mandatory GIS Spares]	“400KV GIS One Pole of 3150 A Circuit Breaker with PIR with interrupter, main circuit, enclosure and operating mechanism complete in all respect”	As per CEA guideline, we understand that bidder can propose CSD [Control Switching device] in the place of PIR [Pre-Insertion Resistor], which meet the same functional requirement as PIR. Please Confirm.	Please refer Clause no. 10.5 of Specific requirement according to which- “For 400kV GIS Line feeder bay module (with PIR) and 400kV GIS Tie Bay module (with PIR) as mentioned in BPS, Controlled Switching Device (CSD) in place of PIR shall also be acceptable provided it meets the functional requirements equivalent to PIR to limit line switching over voltage. Further, it is clarified that no cost compensation shall be considered on account of above viz. provision of CSD in place of PIR.”
2	General		Kindly Provide SLD/layout of Existing Koldam S/S and Ropar S/S.	Kindly refer Appendix A & B attached with the Amendment- III
3	Section Project R0 x) Lattice and Pipe Structures (Galvanized):		In the bid price schedule, the Tower & Gantry structures including Fasteners & foundation bolts are indicated in the form of	Bidder may Quote as per Bidding document

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			sets. The Gantry structures are required to be quoted per diameter wise. In the bid price schedule, the Tower & Gantry structures including Fasteners & foundation bolts are indicated in the form of MT. We understand that per MT rate to be provided in price schedule. Kindly confirm.	
4	Section Project R0 3.4.1.3 Civil works	Road shall be constructed as per drawings issued by Employer. However, Road layout shall be prepared by contractor and submitted to POWERGRID for approval.	Kindly confirm approach road at Nange S/s is in bidders scope or Not. If yes kindly provide approximate length.	Approach road for Nange Substation is under the scope of bidder and length of the same shall be intimated during detailed engineering.
5	Section Project R0 3.4.2 Extension of 400KV Koldam Sub-station i) LT Switchgear	Extn of 415V ACDB {1 Number of distinct vertical panel equipped with 4 number of 63A MCCB O/G Feder & Two numbers of 120A MCCB for I/C feeder (One from each Section)}.	Kindly confirm that sufficient space is available for placing Extn ACDB in control room.	Kindly refer Amendment- III
6	Section Project R0 3.4.2 Extension of 400KV Koldam Sub-station e) Control and Protection	Make and model of existing bus bar for 400kV voltage level shall be provided to successful bidder during detailed	We understand that no new bay to be added at 400kV Koldam S/s. Line bay to be converted to Bus reactor bay. So Busbar augmentation not envisaged and	Confirmed.

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
	System	engineering:	PU supply not required. Kindly confirm. Kindly provide Make and Model of SAS at Koldam S/S.	
7	Section Project R0 3.4.3 Extension of 400KV Ropar Sub-station h) Substation Automation System	Augmentation of bays under present scope with existing Substation Automation System: The scope of bidder shall include but not limited to integration of IED's under present scope of augmentation with existing substation automation (Make shall be intimated separately however same shall be based on IEC 61850) and capability enhancement of same as required including up-dating of system database, displays, development of additional displays and reports as per requirement. In the present scope, contractor shall also provide BCUs required for bays (bays as defined in Section: Substation Automation System) under present	Kindly provide Make and Model of SAS and Busbar Protection at Ropar S/S.	Details shall be provided to successful bidder during detailed engineering.

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
8	Section Project R0 PHYSICAL AND OTHER PARAMETERS	Altitude Around 1000 meter above mean sea level (MSL)	Kindly confirm whether altitude correction factor to considered or Not.	Please refer Clause 5.0 of Section Project
9	General		Request you to confirm whether land has been acquired for the Present scope of work.	The Land shall be Acquired by POWERGRID in case of winning the project.
10	General		Request you to Kindly provide the shutdown procedures during extension scope of works	As per clause no. 6.3 of section IV : GCC, Employer shall acquire all the permission/ approvals for shutdown required for the execution of present scope of work. The procedures in this regard shall be intimated to the successful bidder during the time of execution.
11	Section-Project, Clause 2.0.ii		As per referred clause, double circuit line from Nange S/s will be connected as follows : 1. one circuit at Koldam S/s 2. one circuit at bypassed circuit of Koldam-Ropar/Ludhiana Further, Bus-reactor at Koldam S/s shall be terminated at the bay which will be available due to bypassing of the Koldam- Ropar/Ludhiana line. We understand that any dismantling/modification work related to transmission line for bypassing Koldam- Ropar/Ludhiana line is not in bidder's scope.	Bidder's understating is correct. However, to understand the Scope of work under substation package SS01, kindly refer clause no 3.0 scope of work & 3.4 Detailed scope of Section project Rev0

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			Please confirm whether bidder's understanding is in order.	
12	Section-Project, Clause 3.1.2		<p>As per referred clause, total 2 no. of line bays are in present scope for Nange S/s, however as per Price schedule-1, SI No.I. 13 & I.14, supply of total 3 line GIS module is mentioned.</p> <p>We understand that one number of line bay shall be utilised in future and busduct shall be brought outside of GIS hall and shall be provided with extension module of the building for the same.</p> <p>Please confirm whether bidder's understanding is in order.</p>	Bidder's understanding is correct.
13	Section-Project, Clause 3.4.2.1.f) & 3.4.3.1.h)		As per referred clause, augmentation of present scope bays with existing substation automation system. Further, make of the existing automation system shall be intimated separately. Kindly provide the make of existing SAS system at Koldam and Ropar switchyard.	For details pertains to Koldam station kindly refer Amendment- III. Details pertains to Ropar Substation shall be furnished during detailed engineering.
14	Section Project, clause 3.1		We understand that the GIS hall for 400kV and 220kV shall be provided for present scope bays only.	Confirmed.

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			Space for the future bays in GIS hall is not envisaged. Please confirm whether bidder's understanding is in order.	
15	Koldam and Ropar S/s		Kindly provide the following details for existing Koldam and Ropar S/s: 1. Electrical Layout 2. Earthmat layout 3. Cable trench layout	Kindly refer Amendment- III
16	Tender Specification : Volume II, Technical Specification, Section - Project 3.4.1.3 Civil works		We trust that, the proposed site will be identified and acquired by PGCIL, and hence, site Acquisition/ tree cutting/ Statutory clearance with necessary approval is not in bidder's scope. Kindly confirm.	Site shall be acquired by POWERGRID in case of winning the project. How ever for Tree cutting and site clearance please refer Clause 19.0 of Section Civil works.
17	Tender Specification : Volume II, Technical Specification, Section — Project 3.4.1.3 Civil works		Please provide the following details for the proposed substation. 1. Overall Plot plan indicating Finished Ground Level (FGL) and High Flood Level (HFL) 2. Global co-ordinates 3. Soil investigation report (if available) 4. Contour survey (if available) In order to estimate the quantum of work	Please Refer Section Project wherein it is mentioned that : 1. FGL to be proposed by the bidder 2. Global co-ordinates shall be provided at the time of Detailed engineering. 3. In the scope of the bidder. 4. In the scope of the bidder.

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S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
18	Volume III, Price schedule, schedule 3 SI.no: 204,205,206 C/ENGG/STD/2016/RCT/01 (Page 1 to 4)		<p>As per referred clause of price schedule, it is mentioned that "cable trench including all type of crossing" is paid under "M" basis. Based on tender drawing, the type of cable trench shall be RCC wall with covered slab and the crossing type shall be Hume pipe.</p> <p>In the absence of cable trench routing layout & for this pre-bid stage, it is very difficult to arrive the exact length of trench and crossing length.</p> <p>Kindly provide as unit rate basis("M") the cable trench and crossing quantity separately section wise.</p>	<p>Standard Cable Trench Sections & Crossing details are provided in the tender.</p> <p>Cable Trench layout to be developed by the successful bidder.</p>
19	Volume III, Price schedule, schedule 3 SI.no: 180,181,182,183 C/ENGG/STD/DRAIN/2016 (page 1 to 2)		<p>As per referred clause of price schedule, it is mentioned that "drain construction including crossing" is paid under "M" basis. Based on tender drawing, the type of drain shall be open rectangular brick masonry wall and the crossing type shall be Hume pipe.</p> <p>In the absence of drain routing layout & for this pre-bid stage, it is very difficult to arrive the exact length of drain and crossing</p>	<p>Standard Drain Sections & Crossing details are provided in the tender. Based on tender drawings, the type of drain shall be open brick masonry/ RCC and the crossing type shall be Hume pipe.</p> <p>Drain layout to be developed by the successful bidder.</p>

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			length. Kindly provide as unit rate basis("PI") the drain and crossing quantity separately section wise.	
20	Tender Specification : Volume II, Technical Specification, Section - Project 3.4.1.3 Civil works		As per the scope of work & price schedule, we understand that pile foundation is not envisaged in the proposed substation. If required, we trust that the same shall be paid as an additional item as per mode of measurement. Kindly confirm.	Pie foundation is not envisaged in the present scope of works. If pile is required, the payment for the same shall be dealt with in accordance with Cl. No. 20.22.2 of Technical Specifications, Section : Civil Works rev 11A
21	Tender Specification : Volume II, Technical Specification, Section — Project 3.4.1.3 Civil works		Based on scope of work, we understand that the 220kV GIS is in scope of bidder. However in price schedule there is no separate item for 220kV GIS hall, Relay room & AHU room. Kindly include the same.	Please refer Amendment- III
22	Tender Specification : Volume II, Technical Specification, Section — Project 3.4.1.3 Civil works		Based on scope of work, we understand that the supply of transformer/reactor is not in bidders scope. Kindly provide the details of GA drawings and details	The details of GA drawings and details for the proposed transformer & reactor shall be provided to successful bidder during detailed engineering.

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			for the proposed transformer & reactor. In order to estimate the quantum of work.	
23	Tender Specification : Volume II, Technical Specification, Section - Project		Please provide the following drawings/details for the Existing Koldam and Ropar substation. 1. Existing Cable trench layout 2. Existing gravel spreading layout 3. Existing Road/Drain layout 4. Soil investigation report (if available) 5. Contour survey (if available) in order to estimate the quantum of work	Certain details of Koldam & Ropar substations are attached with Amendment- III
24	Tender Specification : Volume II, Technical Specification, Section — Project		We trust that, the dismantling of existing road, drain, fencing and any other dismantling works in the proposed work area is not envisaged in Existing Koldam and Ropar substation. If it is required during detailed engineering stage, the same shall be paid as an additional item. Please confirm.	Confirmed.
25	Tender Specification : Volume II, Technical Specification, Section - Project		We trust that, the dismantling of existing road, drain, fencing and any other dismantling works in the	Confirmed.

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S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			<p>proposed work area is not envisaged in Existing Koldam and Ropar substation.</p> <p>If it is required during detailed engineering stage, the same shall be paid as an additional item.</p> <p>Please confirm.</p>	
26	<p>Tender Specification : Volume II, Technical Specification, Section - Project 5.0 PHYSICAL AND OTHER PARANETERS</p>		<p>As per referred clause, It is indicated that the Minimum ambient air temperature (°C) is - 2 for proposed substation site & snow fall expected for Nange SS.</p> <p>Please clarify, for MS whether we can use E250 Quality 'A' & for HT whether we can use E350 Quality 'A' steel.</p> <p>If not Please indicate the quality of steel to be used for MS & for HT</p>	Confirmed.
27	<p>Tender Specification : Volume II, Technical Specification, Section — Project .0 PHYSICAL AND OTHER PARAMETERS</p>		<p>As per referred clause, It is indicated that the Minimum ambient air temperature (°C) is - 2 for proposed substation site & snow fall expected.</p> <p>Please specify the snow thickness.</p>	The required details shall be provided to contractor during detailed engineering stage

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
28	1_Section Project R0 'B. Air insulated switchgear (AIS) and Other Main Equipment	'Dismantling and Shifting of existing PLCC Panels from Koldam S/s end of One circuit of 400 kV Koldam-ludhiana D/C Line to Nange S/s. Installation and commissioning of the same for use in 400kV Nange-Ludhiyana Line .	Line Item Not found in BPS. Please include the same in BPS.	Please refer Schedule -III for items to be dismantled.
29	1_Section Project R0 3.4.2 Extension of 400KV Koldam Sub-station	Extn of 415V ACDB {1 Number of distinct vertical panel equipped with 4 number of 63A MCCB O/G Feder & Two numbers of 120A MCCB for I/C feeder (One from each Section)}.	Line Item Not found in BPS. Please include the same in BPS.	Kindly refer Amendment-III
30	1_Section Project R0 3.4.2 Extension of 400KV Koldam Sub-station	Dismantling & Re-erection: Dismantling and Re- erection of Line side equipment from Line bay spare due to by passing of one circuit of Koldam-Ropar/Ludhiana 400kV D/c line at Koldam S/s to make space for Bus Reactor.	Line Item Not found in BPS. Please include the same in BPS.	Please refer Schedule -III for items to be dismantled.

Clarification No.-II dated 12/10/2022 to Pre bid Queries for Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS01 associated with “Transmission system for evacuation of power from Luhri Stage-I HEP” through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC. [Spec No: TBCB/Lahuri/Nange /400kV/GIS/SS01/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
31	1_Section Project R0 8.0 DIFFERENT SECTIONS OF TECHNICAL SPECIFICATION	Section - Control & Relay Panel Rev 09	Section not found in specification. Please furnish the same.	Kindly refer Amendment-III
32	1_Section Project R0 3.4.2 Extension of 400KV Koldam Sub-station	Main Earthmat : Existing main earthmat shall be extended by the contractor for the certain area (under present scope of work) where main earthmat is not laid. All the Gantry support structures, equipment's structures, cable trenches, auxiliary earthmat for isolators etc. shall be earthed by connecting them to the main Earthmat by the contractor.	Kindly provide Exsistng main earthmat drawing for Koladam S/S and Ropar S/s.	Kindly refer Amendment-III

Pre Bid Tie up for,

400kV GIS Substation Package SS01 associated with "Transmission system for evacuation of power from Luhri Stage-I HEP" through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC.

SI. No.	BOQ DESCRIPTION
A	400kV GIS for POWERGRID, GIS Substation Package SS01, Luhri Stage-I HEP
	Annexure_BOQ_POWERGRID_400kV GIS- MAIN & INSTRUMENTS
	Annexure_BOQ_POWERGRID_400kV GIS- SPARE
	Annexure_BOQ_POWERGRID_400kV GIS- SERVICES
B	220kV GIS for POWERGRID, GIS Substation Package SS01, Luhri Stage-I HEP
	Annexure_BOQ_POWERGRID_220kV GIS- MAIN & INSTRUMENTS
	Annexure_BOQ_POWERGRID_220kV GIS- SPARE
	Annexure_BOQ_POWERGRID_220kV GIS- SERVICES

Sl. No.	Item Description	Unit	Qty.	Remarks
1	Supply- GIS: 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
1.1	SUPPLY- GIS: 420kV, 3150A, 63KA, 1SEC SINGLE PHASE SF6 TO AIR BUSHING	NO	17	Refer Section-Project Annexure-III for complete technical description.
1.2	SUPPLY- GIS: 420kV, 3000A/ 3150A, 63kA, Single phase, SF6Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated supportstructure	M	500	Refer Section-Project Annexure-III for complete technical description.
1.3	SUPPLY- GIS: 420kV, 4000A, 5000A, 63KA, SF6 GIS Bus bar module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.4	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.5	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.6	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.7	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.8	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.9	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.10	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.11	SUPPLY- GIS: 420kV, 3150A, 63ka, SF6 GIS Auxiliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
1.12	SUPPLY- GIS: Controlled switching device for 420kV, 3-phase circuit breaker	SET	2	Refer Section-Project Annexure-III for complete technical description.
1.13	SUPPLY- GIS: SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.14	SUPPLY- GIS: STRUCTURE MATERIAL INCLUDING FOUNDATION BOLTS, EMBEDDED ITEMS, RAILS AND/ OR OTHER MATERIALS ETC.	Lot	1	Complete in all respect in compliance to technical specification and requirements. Excluding structure material covered under respective BOQ items for GIB & SF6 to Air Bushing. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
1.15	SUPPLY- GIS: EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.
2	Supply- GIS: Special Tools and Testing & Maintenance Instruments as per TS			
2.1	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: Portable Partial Discharge measurement test kit with all necessary accessories, Industrial Grade Laptop and licensedsoftware as per Technical specification.	NO	1	
2.2	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 Gas Leakage Detector	NO	1	
2.3	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS ANALYZER	NO	1	
2.4	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 Gas processing Unit for 400kV GIS station	SET	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
3	Spares-GIS: Mandatory Spares for 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
3.1	SUPPLY- GIS: SPARES: 420kV, SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	NO	2	
3.2	SUPPLY- GIS: SPARES: 420kV, SF6 PRESSURE GAUGE CUM SWITCH/ DENSITY MONITORS AND PRESSURE SWITCH AS APPLICABLE, OF EACH TYPE	SET	3	
3.3	SUPPLY- GIS: SPARES: 420kV, COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTING GAS HANDLING PLANT OF EACH TYPE	SET	2	
3.4	SUPPLY- GIS: SPARES: 420kV, RUBBER GASKETS, A, a, -A, O, A, a, -A RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE	SET	3	
3.5	SUPPLY- GIS: SPARES: 420kV, MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5% OF TOTAL WEIGHT)	SET	1	
3.6	SUPPLY- GIS: SPARES: 420kV, CONTROL VALVES FOR SF6 GAS OF EACH TYPE	SET	3	
3.7	SUPPLY- GIS: SPARES: 420kV, SF6 GAS (5% OF TOTAL GAS QUANTITY)	LOT	1	
3.8	SUPPLY- GIS: SPARES: 420kV, LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS) AND EARTHING/ FAST EARTHING SWITCHES IN CLOSE OR OPEN POSITION IN CASE OF REMOVAL OF THE DRIVING MECHANISM	SET	3	
3.9	SUPPLY- GIS: SPARES: 420kV, UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR	NO	5	
3.10	SUPPLY- GIS: SPARES: 420kV, SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
3.11	SUPPLY- GIS: SPARES: 420kV, GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
3.12	SUPPLY- GIS: SPARES: 420kV, 3150A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	NO	1	
3.13	SUPPLY- GIS: SPARES: 420kV, LCC SPARES- AUX. RELAYS, CONTACTORS, PUSH BUTTONS, SWITCHES, LAMPS, ANNUNCIATION WINDOWS, MCB, FUSES, TIMERS, TERMINAL BLOCKS ETC. OF EACH TYPE & RATING	SET	2	
3.14	SUPPLY- GIS: SPARES: 420kV, ONE POLE OF 3150A CIRCUIT BREAKER WITHOUT PIR WITH INTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
3.15	SUPPLY- GIS: SPARES: 420kV, ONE POLE OF 3150A CIRCUIT BREAKER WITH PIR WITH INTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
3.16	SUPPLY- GIS: SPARES: 420kV, Trip coil assembly with resistor for 420kV GIS Circuit Breaker (as applicable)	SET	3	
3.17	SUPPLY- GIS: SPARES: 420kV, Closing coil assembly with resistor for 420kV GIS Circuit Breaker (as applicable)	SET	3	
3.18	SUPPLY- GIS: SPARES: 420kV, RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (AS APPLICABLE) OF EACH TYPE FOR 420kV GIS CIRCUIT BREAKER	SET	1	
3.19	SUPPLY- GIS: SPARES: 420kV, Auxiliary switch assembly of each type for 420kV GIS Circuit Breaker	SET	3	
3.20	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER-OPERATION COUNTER	NO	3	
3.21	SUPPLY- GIS: SPARES: 420kV, HYDRAULIC OPERATING MECHANISM WITH DRIVE MOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.22	SUPPLY- GIS: SPARES: 420kV, HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.23	SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.24	SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.25	SUPPLY- GIS: SPARES: 420kV, VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.26	SUPPLY- GIS: SPARES: 420kV, PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.27	SUPPLY- GIS: SPARES: 420kV, PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.28	SUPPLY- GIS: SPARES: 420kV, PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.29	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.30	SUPPLY- GIS: SPARES: 420kV, PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	
3.31	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.32	SUPPLY- GIS: SPARES: 420kV, GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
3.33	SUPPLY- GIS: SPARES: 420kV, PRESSURE SWITCHES OF EACH TYPE FOR 420kV GIS CIRCUIT BREAKER (For Hydraulic-Spring Operated Mechanism, if applicable)	SET	1	
3.34	SUPPLY- GIS: SPARES: 420kV, PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-420kV GIS CIRCUIT BREAKER	SET	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
3.35	SUPPLY- GIS: SPARES: 420kV, Single phase of 3150A disconnector switch including main circuit, enclosure, driving mechanism and support insulator etc., complete in all respect	NO	4	Note 1- The contractor/ bidder shall supply spare for disconnector switch to ensure one to one replacement of all disconnector switch supplied as main equipment without any requirement of modification in fittings at site to cover all different types of disconnector switch supplied. In case, quantity of supplied dis-connector switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor/ bidder shall supply these additional types of disconnector switch without any additional price implication to POWERGRID and quantities of these additional type of disconnector switch are deem to be included in the quantities mentioned in BPS for spare disconnector. Note 2 - In case, Dis-connector Switch (DS) & Earth Switch (ES) is provided in a same enclosure with common operatingmechanism, then the module comprising of Dis-connector & Earth switch in single enclosure with common operating mechanism is to be provided under the head of spare Dis-connector only. Note3- In case, Dis-connector Switch (DS) & Earth Switch (ES) is provided in as ame enclosure with separate operating mechanism, then the module comprising of Dis-connector & Earth switch in single enclosure with separate operating mechanism is to be provided under the head of spare Dis-connector only.)
3.36	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	NO	2	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
3.37	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE INALL RESPECT	NO	2	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
3.38	SUPPLY- GIS: SPARES: 420kV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 400KV GIS DISCONNECTORSWITCH	SET	1	
3.39	SUPPLY- GIS: SPARES: 420kV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 420KV GIS MAINTENANCE EARTH SWITCH	SET	1	
3.40	SUPPLY- GIS: SPARES: 420kV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 420KV GIS FAST EARTHINGSWITCH	SET	1	
3.41	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-420KV GIS	SET	2	
3.42	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-420KV GIS	SET	2	
3.43	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FAST EARTHING SWITCH (IF APPLICABLE)-420KV GIS	SET	2	
3.44	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS DISCONNECTOR SWITCH	SET	1	
3.45	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS MAINTENANCE EARTH SWITCH	SET	1	
3.46	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS FAST EARTHING SWITCH	SET	1	
3.47	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS DISCONNECTOR SWITCH	NO	1	
3.48	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS MAINTENANCE EARTH SWITCH	NO	1	
3.49	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS FAST EARTHING SWITCH	NO	1	
3.50	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE OF CURRENT TRANSFORMER (3 CORES, TYPE-CTA)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	NO	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
3.51	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE OF CURRENT TRANSFORMER (2 CORES, TYPE-CTB)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	NO	1	
3.52	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALL RESPECT	NO	1	
4	Spares-GIS: Reference Unit Price for addition/ deletion of supply items of 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
	Unit Prices of Individual Equipment included here or in mandatory spares are required for any Addition/ Deletion of Equipment and replacement of damaged items. Bidder/ vendor to ensure that the unit prices have a logical relationship with prices of assemblies in main items. Quoting for unit prices is mandatory and shall be considered for evaluation			
4.01	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR CIRCUIT BREAKER	SET	1	1 SET= Operating Mechanism for 1 Pole of Circuit Breaker complete in all respect
4.02	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR DISCONNECTOR	SET	1	1 SET= Operating Mechanism for 3 Poles of Disconnecter complete in all respect
4.03	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 3 Poles of Maintenance Earthing Switch complete in all respect
4.04	SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR FAST ACTING EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 1 Pole of High Speed Earthing Switch complete in all respect
4.05	SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER	SET	1	1 SET= 1 Pole complete in all respect
4.06	SUPPLY- GIS: SPARES: 420kV, DISCONNECTOR	SET	1	1 SET= 1 Pole complete in all respect
4.07	SUPPLY- GIS: SPARES: 420kV, MAINTENANCE EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
4.08	SUPPLY- GIS: SPARES: 420kV, FAST ACTING EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
4.09	SUPPLY- GIS: SPARES: 420kV, CURRENT TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
4.10	SUPPLY- GIS: SPARES: 420kV, VOLTAGE TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
4.11	SUPPLY- GIS: SPARES: 420kV SURGE ARRESTER	NO	1	1 SET= 1 NO complete in all respect
4.12	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE BUS BAR	MTR	1	
4.13	SUPPLY- GIS: SPARES: 420kV, GIS METALLIC ENCLOSURE	KG	50	
4.14	SUPPLY- GIS: SPARES: 420kV, EXPANSION JOINTS	SET	1	1 SET= 1 NO of each type
4.15	SUPPLY- GIS: SPARES: 420kV, BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
4.16	SUPPLY- GIS: SPARES: 420kV, NON-BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
4.17	SUPPLY- GIS: SPARES: 420kV, GAS SEALS	SET	1	1 SET= 1 NO of each type
4.18	SUPPLY- GIS: SPARES: 420kV, GAS DENSITY MONITOR SWITCH	SET	1	1 SET= 1 NO of each type
4.19	SUPPLY- GIS: SPARES: 420kV, UHF PD SENSOR	SET	1	1 SET= 1 NO of each type
4.20	SUPPLY- GIS: SPARES: 420kV, GAS PRESSURE SWITCH	SET	1	1 SET= 1 NO of each type
4.21	SUPPLY- GIS: SPARES: 420kV, TEE BEND	SET	1	1 SET= 1 NO of each type
4.22	SUPPLY- GIS: SPARES: 420kV, ANGLE BEND	SET	1	1 SET= 1 NO of each type
4.23	SUPPLY- GIS: SPARES: 420kV, L-BEND	SET	1	1 SET= 1 NO of each type

Sl. No.	Item Description	Unit	Qty.	Remarks
5	Services- GIS: 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
5.1	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.2	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.3	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.4	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.5	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.6	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.7	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63 kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.8	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.9	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.10	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.11	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.12	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.13	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.14	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.15	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.16	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150A, 63kA, SF6 GIS Auxilliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.17	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 4000A , 5000A , 63kA, 3-phase SF6 GIS bus bar	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.18	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 4000A , 5000A , 63 kA, 3-phase SF6 GIS bus bar	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.19	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3000A/ 3150A , 63kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure	M	500	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.20	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3000A/ 3150A , 63kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure	M	500	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.21	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, SF6 to Air Bushing alongwithassociated support structure for 3150A, 63kA for 1 sec. Single Phase	NO	17	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
5.22	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, SF6 to Air Bushing alongwithassociated support structure for 3150A, 63kA for 1 sec. Single Phase	NO	17	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
5.23	SERVICES- GIS: ERECTION, TESTING & COMMISSIONING: Controlled Switching Device for 420kV, 3-ph Circuit Breaker	NO	2	It includes installation, testing and commissioning activities complete in all respect.
5.24	SERVICES- GIS : 420kV, FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	LOT	1	Carrying out successful HV/ Power Frequency Testing of complete GIS as per IEC including Arrangement of HV Test kit (on returnable basis) shall be in scope of bidder, which includes charges for HV test kit with vendor, accessories & tools required for completion of HV testing. Bays may be commissioned in phase wise manner.
5.25	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 420KV GIS SYSTEM COMPLETE	LOT	1	Insulation co-ordination and VFTO studies for 400KV GIS system complete

6	Services-GIS: Reference Unit Price for addition/ deletion of supply services items of 400kV, 63kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
6.1	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
6.2	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
6.3	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	LOT	1	Additional HV test kit charges including charges of operator, HV test kit, accessories & tools required for completion of HV test (Dielectric Test after installation of GIS). This item is executed only if repetition/ additional HV Test is required by BHEL i.e. post successful commissioning of GIS. (if required due to reasons not attributed to vendor)
7	Services-GIS: Training of customer/ owner Personnel as per TS			
7.1	SERVICES- GIS : Training- Training for Maintenance Engineers in batch (3 batches) for 2 Days (Max 4 Persons per batch) at Vendors works.	MAN-DAY	24	2 engineers from BHEL/TBG is also included.
7.2	SERVICES- GIS : Training- Training for Operators in batch (2 batches) for 3 days (Max 7 Persons per batch) at Site works.	MAN-DAY	42	2 engineers from BHEL/TBG is also included.

Sl. No.	Item Description	Unit	Qty.	Remarks
8	Supply- GIS: 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
8.1	SUPPLY- GIS: 245kV, 1600A, 50kA, SF6 GIS ICT feederbay module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
8.2	SUPPLY- GIS: 245kV, 2500A , 4000A , 50 kA, SF6 GIS Bus coupler bay module as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
8.3	SUPPLY- GIS: 245kV, 4000A, 50kA, SF6 GIS Bus bar module as per Section-Project, Technical specification	SET	2	Refer Section-Project Annexure-III for complete technical description.
8.4	SUPPLY- GIS: 245kV, 1600A, 50kA, 3 Single phase/ 3 Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure (Quantity mentioned here is for 3 Phase type)	M	250	Refer Section-Project Annexure-III for complete technical description.
8.5	SUPPLY- GIS: 245kV, 1600A, 50kA, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	SET	1	Refer Section-Project Annexure-III for complete technical description.
8.6	SUPPLY- GIS: 245kV, 1600A, 50kA Single phase SF6 to Air Bushing	NO	7	Refer Section-Project Annexure-III for complete technical description.
8.7	SUPPLY- GIS: SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
8.8	SUPPLY- GIS: STRUCTURE MATERIAL INCLUDING FOUNDATION BOLTS, EMBEDDED ITEMS, RAILS AND/ OR OTHER MATERIALS ETC.	Lot	1	Complete in all respect in compliance to technical specification and requirements. Excluding structure material covered under respective BOQ items for GIB & SF6 to Air Bushing. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
8.9	SUPPLY- GIS: EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.

Sl. No.	Item Description	Unit	Qty.	Remarks
9	Spare-GIS: Mandatory Spares for 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
9.1	SUPPLY- GIS: SPARES: 245kV, CABLE CONNECTION ENCLOSURE WITH MAIN CIRCUIT	SET	1	
9.2	SUPPLY- GIS: SPARES: 245kV, SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	NO	2	
9.3	SUPPLY- GIS: SPARES: 245kV, SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE	SET	3	
9.4	SUPPLY- GIS: SPARES: 245kV, COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTINGGAS HANDLING PLANT OF EACH TYPE-220KV GIS	SET	2	
9.5	SUPPLY- GIS: SPARES: 245kV, RUBBER GASKETS, A,a,-A'OÄ,a,-A RINGS AND SEALS FOR SF6 GAS FOR GISENCLOSURE OF EACH TYPE-220KV GIS	SET	3	
9.6	SUPPLY- GIS: SPARES: 245kV, MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTALWEIGHT)	SET	1	
9.7	SUPPLY- GIS: SPARES: 245kV, CONTROL VALVES FOR SF6 GAS OF EACH TYPE-220KV GIS	SET	3	
9.8	SUPPLY- GIS: SPARES: 245kV, SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
9.9	SUPPLY- GIS: SPARES: 245kV, LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS)AND EARTHING/FAST EARTHING SWITCHES (AS APPLICABLE) IN CLOSE OR OPENPOSITION IN CASE OF REMOVAL OF THE DRIVING MECHANISM-220KV GIS	SET	3	
9.10	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 245KV GIS	NO	5	
9.11	220KV GIS-SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
9.12	220KV GIS-GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	NO	5	
9.13	220KV GIS- 1600A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	NO	1	
9.14	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES, LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-220kV GIS	SET	2	
9.15	220KV GIS-ONE POLE OF 1600A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
9.16	220KV GIS-ONE POLE OF 2500A/ 3150A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
9.17	220KV GIS-ONE POLE OF 3000A/ 3150A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
9.18	Trip coil assembly with resistor for 245kV GIS Circuit Breaker (as applicable)	SET	3	
9.19	Closing coil assembly with resistor for 245kV GIS Circuit Breaker (as applicable)	SET	1	
9.20	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 220KV GIS CIRCUIT BREAKER	SET	1	
9.21	Auxiliary switch assembly of each type for 245kV GIS Circuit Breaker	SET	3	
9.22	220KV GIS CIRCUIT BREAKER-OPERATION COUNTER	NO	3	
9.23	220KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
9.24	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.25	220KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FORHYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
9.26	220KV GIS CIRCUIT BREAKER- N2 ACCUMULATOR (FOR HYDRAULIC OPERATEDMECHANISM, IF APPLICABLE)	SET	1	
9.27	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.28	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.29	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.30	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
9.31	220KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
9.32	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM,IF APPLICABLE)- 220KV GIS CIRCUIT BREKAER	SET	1	
9.33	220KV GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISMINCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IFAPPLICABLE)	SET	1	
9.34	220KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATINGMECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)	SET	1	

Sl. No.	Item Description	Unit	Qty.	Remarks
9.35	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATEDMECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREAKER	SET	1	Note 1- The contractor/ bidder shall supply spare for disconnector switch to ensure one to one replacement of all disconnector switch supplied as main equipment without any requirement of modification in fittings at site to cover all different types of disconnector switch supplied. In case, quantity of supplied dis-connector switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor/ bidder shall supply these additional types of disconnector switch without any additional price implication to POWERGRID and quantities of these additional type of disconnector switch are deem to be included in the quantities mentioned in BPS for spare disconnector. Note 2 - In case, Dis-connector Switch (DS) & Earth Switch (ES) is provided in a same enclosure with common operatingmechanism, then the module comprising of Dis-connector & Earth switch in single enclosure with common operating mechanism is to be provided under the head of spare Dis-connector only.
9.36	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
9.37	220KV GIS- Three phase of 1600A disconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	NO	4	NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)
9.38	220kV GIS- Three phase of 2500A/ 3150A disconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	NO	2	
9.39	220kV GIS- Three phase of 3000A/ 3150A disconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	NO	2	
9.40	220KV GIS- THREE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC.,COMPLETE IN ALL RESPECT	NO	1	
9.41	220KV GIS - THREE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT,ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE INALL RESPECT (NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATINGMECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCHIN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDEDUNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE,DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAMEENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITHSEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPAREDIS-CONNECTOR ONLY.)	NO	1	
9.42	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MGBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS DISCONNECTORSWITCH	SET	1	
9.43	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MGBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS MAINTENANCE EARTHSSWITCH	SET	1	
9.44	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MGBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS FAST EARTHINGSWITCH	SET	1	
9.45	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FORDISCONNECTOR-220KV GIS	SET	2	
9.46	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FORMAINTENANCE EARTHING SWITCH-220KV GIS	SET	2	
9.47	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FASTEARTHING SWITCH (IF APPLICABLE)-220KV GIS	SET	2	

Sl. No.	Item Description	Unit	Qty.	Remarks
9.48	DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	SET	1	
9.49	DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	SET	1	
9.50	DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	SET	1	
9.51	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	NO	1	
9.52	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	NO	1	
9.46	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	NO	1	
9.47	220KV GIS- SINGLE PHASE OF CURRENT TRANSFORMER (4 CORES) WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	NO	1	
9.48	220KV GIS- SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALL RESPECT	NO	1	
9.49	220KV GIS- SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	NO	1	
9.50	220KV GIS- SURGE COUNTER/ MONITOR	NO	1	
10	Spares-GIS: Reference Unit Price for addition/ deletion of supply items of 220kV, 50KA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
	Unit Prices of Individual Equipment included here or in mandatory spares are required for any Addition/ Deletion of Equipment and replacement of damaged items. Bidder/ vendor to ensure that the unit prices have a logical relationship with prices of assemblies in main items. Quoting for unit prices is mandatory and shall be considered for evaluation			
10.01	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR CIRCUIT BREAKER	SET	1	1 SET= Operating Mechanism for 1 Pole of Circuit Breaker complete in all respect
10.02	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR DISCONNECTOR	SET	1	1 SET= Operating Mechanism for 3 Poles of Disconnector complete in all respect
10.03	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 3 Poles of Maintenance Earthing Switch complete in all respect
10.04	SUPPLY- GIS: SPARES: 245kV, OPERATING MECHANISM FOR FAST ACTING EARTHING SWITCH	SET	1	1 SET= Operating Mechanism for 1 Pole of High Speed Earthing Switch complete in all respect
10.05	SUPPLY- GIS: SPARES: 245kV, CIRCUIT BREAKER	SET	1	1 SET= 1 Pole complete in all respect
10.06	SUPPLY- GIS: SPARES: 245kV, DISCONNECTOR	SET	1	1 SET= 1 Pole complete in all respect
10.07	SUPPLY- GIS: SPARES: 245kV, MAINTENANCE EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
10.08	SUPPLY- GIS: SPARES: 245kV, FAST ACTING EARTHING SWITCH	SET	1	1 SET= 1 Pole complete in all respect
10.09	SUPPLY- GIS: SPARES: 245kV, CURRENT TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
10.10	SUPPLY- GIS: SPARES: 245kV, VOLTAGE TRANSFORMER	NO	1	1 SET= 1 NO each type and rating in complete in all respect
10.11	SUPPLY- GIS: SPARES: 245kV SURGE ARRESTER	NO	1	1 SET= 1 NO complete in all respect
10.12	SUPPLY- GIS: SPARES: 245kV, SINGLE PHASE BUS BAR	MTR	1	
10.13	SUPPLY- GIS: SPARES: 245kV, GIS METALLIC ENCLOSURE	KG	50	
10.14	SUPPLY- GIS: SPARES: 245kV, EXPANSION JOINTS	SET	1	1 SET= 1 NO of each type
10.15	SUPPLY- GIS: SPARES: 245kV, BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
10.16	SUPPLY- GIS: SPARES: 245kV, NON-BARRIER INSULATOR	SET	1	1 SET= 1 NO of each type
10.17	SUPPLY- GIS: SPARES: 245kV, GAS SEALS	SET	1	1 SET= 1 NO of each type
10.18	SUPPLY- GIS: SPARES: 245kV, GAS DENSITY MONITOR SWITCH	SET	1	1 SET= 1 NO of each type
10.19	SUPPLY- GIS: SPARES: 245kV, UHF PD SENSOR	SET	1	1 SET= 1 NO of each type
10.20	SUPPLY- GIS: SPARES: 245kV, GAS PRESSURE SWITCH	SET	1	1 SET= 1 NO of each type
10.21	SUPPLY- GIS: SPARES: 245kV, TEE BEND	SET	1	1 SET= 1 NO of each type
10.22	SUPPLY- GIS: SPARES: 245kV, ANGLE BEND	SET	1	1 SET= 1 NO of each type
10.23	SUPPLY- GIS: SPARES: 245kV, L-BEND	SET	1	1 SET= 1 NO of each type

Sl. No.	Item Description	Unit	Qty.	Remarks
11	SERVICES- GIS: 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
11.1	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600 A, 50 kA, SF6 GIS ICT feeder bay module	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.2	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600 A, 50 kA, SF6 GIS ICT feeder bay module	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.3	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 2500A , 4000A , 50 kA, SF6 GIS Bus coupler bay module	SET	1	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.4	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 2500A , 4000A , 50 kA, SF6 GIS Bus coupler bay module	SET	1	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.5	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 4000A, 50kA, 3 single phase (isolated), SF6 gas insulated, metal enclosed bus bars to inter connect each of Circuit Breaker bay module complete with voltage transformer, disconnectors with grounding switch, local control cubicle, SF6 gas monitoring system for the complete bus	SET	2	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.6	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 4000A, 50kA, 3 single phase (isolated), SF6 gas insulated, metal enclosed bus bars to inter connect each of Circuit Breaker bay module complete with voltage transformer, disconnector with grounding switch, local control cubicle, SF6 gas monitoring system for the complete bus	SET	2	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.7	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600A, 50kA, 3 Single phase/ 3Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure (Quantity mentioned here is for 3 Phase type)	M	250	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.8	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600A, 50kA, 3 Single phase/ 3 Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure (Quantity mentioned here is for 3 Phase type)	M	250	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.9	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600A, 50 kA for 1 sec SF6 to Air Bushing	NO	7	Supervision of erection of GIS system, complete in all respect including LCC and other accessories. It also includes supervision of unloading & verification of materials for proper storage at site.
11.10	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600A, 50 kA for 1 sec SF6 to Air Bushing	NO	7	Testing and commissioning of complete GIS system, is to be executed by vendor. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis.
11.11	SERVICES- GIS : 420KV, FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	LOT	1	Carrying out successful HV/ Power Frequency Testing of complete GIS as per IEC including Arrangement of HV Test kit (on returnable basis) shall be in scope of bidder, which includes charges for HV test kit with vendor, accessories & tools required for completion of HV testing. Bays may be commissioned in phase wise manner.
11.12	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 420KV GIS SYSTEM COMPLETE	LOT	1	Insulation co-ordination and VFTO studies for 220kV GIS system complete
12	SERVICES-GIS: Reference Unit Price for addition/ deletion of services items of 220kV, 50kA for 1sec, Gas Insulated Switchgear (GIS) as per TS			
12.1	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
12.2	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	MAN-DAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder). This item will be executed only if repetition of services is required by BHEL.
12.3	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	LOT	1	Additional HV test kit charges including charges of operator, HV test kit, accessories & tools required for completion of HV test (Dielectric Test after installation of GIS). This item is executed only if repetition/ additional HV Test is required by BHEL i.e. post successful commissioning of GIS. (if required due to reasons not attributed to vendor)

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :	
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PRICE SCHEDULE
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NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
1.01	SUPPLY- GIS: 420kV, 3150A, 63KA, 1SEC SINGLE PHASE 420KV SF6 TO AIR BUSHING	item1	17	NO			0.00			0.00		0.000	0.000	INR Zero Only
1.02	SUPPLY- GIS: 420kV, 3000A/ 3150A, 63kA, Single phase, SF6Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated supportstructure	item2	500	M			0.00			0.00		0.000	0.000	INR Zero Only
1.03	SUPPLY- GIS: 420kV, 4000A, 5000A, 63kA, SF6 GIS Bus bar module as per Section-Project, Technical specification	item3	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.04	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	item4	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.05	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	item5	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.06	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	item6	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.07	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	item7	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.08	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	item8	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.09	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	item9	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.10	SUPPLY- GIS: 420kV, 3150 A, 63 kA, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	item10	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.11	SUPPLY- GIS: 420kV, 3150 A, 50 kA, SF6 GIS Auxiliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	item11	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.12	SUPPLY- GIS: Controlled switching device for 420 kV, 3 phase circuit breaker	item12	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
1.13	SUPPLY- GIS: SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	item13	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
1.14	SUPPLY- GIS: STRUCTURE MATERIAL INCLUDING FOUNDATION BOLTS, EMBEDDED ITEMS, RAILS AND/ OR OTHER MATERIALS ETC.	item14	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :														
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)														
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
1.15	SUPPLY- GIS: EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	item15	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
2.01	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: Portable Partial Discharge measurement test kit with all necessary accessories, Industrial Grade Laptop and licensed software as per Technical specification.	item16	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
2.02	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 Gas Leakage Detector	item17	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
2.03	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 GAS ANALYZER	item18	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
2.04	SUPPLY- GIS: TESTING & MAINTENANCE INSTRUMENTS: SF6 Gas processing Unit for 400kV GIS station	item19	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.01	SUPPLY- GIS: SPARES: 420kV, SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	item20	2	NO			0.00			0.00		0.000	0.000	Zero Only
3.02	SUPPLY- GIS: SPARES: 420kV, SF6 PRESSURE GAUGE CUM SWITCH/ DENSITY MONITORS AND PRESSURE SWITCH AS APPLICABLE, OF EACH TYPE	item21	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.03	SUPPLY- GIS: SPARES: 420kV, COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTING GAS HANDLING PLANT OF EACH TYPE	item22	2	SET			0.00			0.00		0.000	0.000	Zero Only
3.04	SUPPLY- GIS: SPARES: 420kV, RUBBER GASKETS, A.a.-A'OA.a.-A RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE	item23	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.05	SUPPLY- GIS: SPARES: 420kV, MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5% OF TOTAL WEIGHT)	item24	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.06	SUPPLY- GIS: SPARES: 420kV, CONTROL VALVES FOR SF6 GAS OF EACH TYPE	item25	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.07	SUPPLY- GIS: SPARES: 420kV, SF6 GAS (5% OF TOTAL GAS QUANTITY)	item26	1	LOT			0.00			0.00		0.000	0.000	Zero Only
3.08	SUPPLY- GIS: SPARES: 420kV, LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS) AND EARTHING/ FAST EARTHING SWITCHES IN CLOSE OR OPEN POSITION IN CASE OF REMOVAL OF THE DRIVING MECHANISM	item27	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.09	SUPPLY- GIS: SPARES: 420kV, UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR	item28	5	NO			0.00			0.00		0.000	0.000	Zero Only
3.10	SUPPLY- GIS: SPARES: 420kV, SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	item29	5	NO			0.00			0.00		0.000	0.000	Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :														
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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
3.11	SUPPLY- GIS: SPARES: 420KV, GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	item30	5	NO			0.00			0.00		0.000	0.000	Zero Only
3.12	SUPPLY- GIS: SPARES: 420KV, 3150A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	item31	1	NO			0.00			0.00		0.000	0.000	Zero Only
3.13	SUPPLY- GIS: SPARES: 420KV, LCC SPARES- AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES,LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING	item32	2	SET			0.00			0.00		0.000	0.000	Zero Only
3.14	SUPPLY- GIS: SPARES: 420KV, ONE POLE OF 3150A CIRCUIT BREAKER WITHOUT PIR WITH INTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	item33	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.15	SUPPLY- GIS: SPARES: 420KV, ONE POLE OF 3150A CIRCUIT BREAKER WITH PIR WITH INTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALLRESPECT	item34	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.16	SUPPLY- GIS: SPARES: 420KV, Trip coil assembly with resistor for 420KV GIS Circuit Breaker (as applicable)	item35	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.17	SUPPLY- GIS: SPARES: 420KV, Closing coil assembly with resistor for420KV GIS Circuit Breaker (as applicable)	item36	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.18	SUPPLY- GIS: SPARES: 420KV, RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (AS APPLICABLE) OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER	item37	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.19	SUPPLY- GIS: SPARES: 420KV, Auxiliary switch assembly of each type for 420KV GIS Circuit Breaker	item38	3	SET			0.00			0.00		0.000	0.000	Zero Only
3.20	SUPPLY- GIS: SPARES: 420kv, GIS CIRCUIT BREAKER-OPERATION COUNTER	item39	3	NO			0.00			0.00		0.000	0.000	Zero Only
3.21	SUPPLY- GIS: SPARES: 420kv, HYDRAULIC OPERATING MECHANISM WITH DRIVE MOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item40	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.22	SUPPLY- GIS: SPARES: 420KV, HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420KV GIS CIRCUIT BREKAER	item41	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.23	SUPPLY- GIS: SPARES: 420KV, CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item42	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.24	SUPPLY- GIS: SPARES: 420KV, CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item43	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.25	SUPPLY- GIS: SPARES: 420KV, VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-420KV GIS CIRCUIT BREKAER	item44	1	SET			0.00			0.00		0.000	0.000	Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :														
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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
3.26	SUPPLY- GIS: SPARES: 420KV, PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420KV GIS CIRCUIT BREAKER	item45	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.27	SUPPLY- GIS: SPARES: 420KV, PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420KV GIS CIRCUIT BREAKER	item46	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.28	SUPPLY- GIS: SPARES: 420KV, PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-420KV GIS CIRCUIT BREAKER	item47	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.29	SUPPLY- GIS: SPARES: 420KV, GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item48	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.30	SUPPLY- GIS: SPARES: 420KV, PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM,IF APPLICABLE)- 420KV GIS CIRCUIT BREAKER	item49	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.31	SUPPLY- GIS: SPARES: 420KV, GIS CIRCUIT BREAKER-COMplete SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IF APPLICABLE)	item50	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.32	SUPPLY- GIS: SPARES: 420KV, GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	item51	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.33	SUPPLY- GIS: SPARES: 420KV, PRESSURE SWITCHES OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER (For Hydraulic-Spring Operated Mechanism, if applicable)	item52	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.34	SUPPLY- GIS: SPARES: 420KV, PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-420KV GIS CIRCUIT BREAKER	item53	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.35	SUPPLY- GIS: SPARES: 420KV, Single phase of 3150A disconnecter switch including main circuit, enclosure, driving mechanism and support insulator etc., complete in all respect	item54	4	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.36	SUPPLY- GIS: SPARES: 420KV, SINGLE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	item55	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.37	SUPPLY- GIS: SPARES: 420KV, SINGLE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	item56	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.38	SUPPLY- GIS: SPARES: 420KV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE	item57	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.39	SUPPLY- GIS: SPARES: 420KV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE	item58	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.40	SUPPLY- GIS: SPARES: 420KV, OPEN/ CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE	item59	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
3.41	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-420KV GIS	item60	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
3.42	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-420KV GIS	item61	2	SET			0.00			0.00		0.000	0.000	Zero Only
3.43	SUPPLY- GIS: SPARES: 420kV, LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FAST EARTHING SWITCH (IF APPLICABLE)-420KV GIS	item62	2	SET			0.00			0.00		0.000	0.000	Zero Only
3.44	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS DISCONNECTOR SWITCH	item63	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.45	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS MAINTENANCE EARTH SWITCH	item64	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.46	SUPPLY- GIS: SPARES: 420kV, DRIVE MECHANISM FOR 420KV GIS FAST EARTHING SWITCH	item65	1	SET			0.00			0.00		0.000	0.000	Zero Only
3.47	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS DISCONNECTOR SWITCH	item66	1	NO			0.00			0.00		0.000	0.000	Zero Only
3.48	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KVGIS MAINTENANCE EARTH SWITCH	item67	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.49	SUPPLY- GIS: SPARES: 420kV, MOTOR FOR DRIVE MECHANISM FOR 420KV GIS FAST EARTHING SWITCH	item68	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.50	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE OF CURRENT TRANSFORMER (3 CORES, TYPE-CTA)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	item69	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.51	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE OF CURRENT TRANSFORMER (2 CORES, TYPE-CTB)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	item70	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
3.52	SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALL RESPECT	item71	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
4.01	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR CIRCUIT BREAKER	item72	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.02	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR DISCONNECTOR	item73	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.03	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH	item74	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :	
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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
4.04	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, OPERATING MECHANISM FOR FAST ACTING EARTHING SWITCH	item75	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.05	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, CIRCUIT BREAKER	item76	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.06	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, DISCONNECTOR	item77	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.07	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, MAINTENANCE EARTHING SWITCH	item78	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.08	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, FAST ACTING EARTHING SWITCH	item79	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.09	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, CURRENT TRANSFORMER	item80	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
4.10	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, VOLTAGE TRANSFORMER	item81	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
4.11	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV SURGE ARRESTER	item82	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
4.12	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, SINGLE PHASE BUS BAR	item83	1	MTR			0.00			0.00		0.000	0.000	INR Zero Only
4.13	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, GIS METALLIC ENCLOSURE	item84	50	KG			0.00			0.00		0.000	0.000	INR Zero Only
4.14	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, EXPANSION JOINTS	item85	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.15	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, BARRIER INSULATOR	item86	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.16	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, NON-BARRIER INSULATOR	item87	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.17	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, GAS SEALS	item88	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.18	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, GAS DENSITY MONITOR SWITCH	item89	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
4.19	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, UHF PD SENSOR	item90	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.20	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, GAS PRESSURE SWITCH	item91	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.21	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, TEE BEND	item92	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.22	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, ANGLE BEND	item93	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
4.23	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 420kV, L-BEND	item94	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.01	SERVICES- GIS: SUPERVISION OF ERECTION: 420 kV, 3150 A, 63 kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	item95	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.02	SERVICES- GIS: TESTING & COMMISSIONING: 420 kV, 3150 A, 63 kA, SF6 GIS Line feeder bay module (without PIR) as per Section-Project, Technical specification	item96	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.03	SERVICES- GIS: SUPERVISION OF ERECTION: 420 kV, 3150 A, 63 kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	item97	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.04	SERVICES- GIS: TESTING & COMMISSIONING: 420 kV, 3150 A, 63 kA, SF6 GIS Line feeder bay module (with PIR) as per Section-Project, Technical specification	item98	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.05	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63 kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	item99	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.06	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS ICT feeder bay module as per Section-Project, Technical specification	item100	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.07	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63 kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	item101	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.08	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS Bus Reactor bay module as per Section-Project, Technical specification	item102	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.09	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63 kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	item103	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.10	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS Tie bay module (without PIR) as per Section-Project, Technical specification	item104	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
5.11	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63 kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	item105	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.12	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS Tie bay module (with PIR) as per Section-Project, Technical specification	item106	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.13	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 63 kA, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	item107	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.14	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 63 kA, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	item108	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.15	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3150 A, 50 kA, SF6 GIS Auxiliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	item109	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.16	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3150 A, 50 kA, SF6 GIS Auxiliary Bus module for Spare Bus Reactor as per Section-Project, Technical specification	item110	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.17	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 4000A-5000A, 63kA, 3-phase SF6 GIS bus bar	item111	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.18	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 4000A, 5000A, 63 kA, 3-phase SF6 GIS bus bar	item112	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
5.19	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, 3000A/3150A, 63kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure	item113	500	M			0.00			0.00		0.000	0.000	INR Zero Only
5.20	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, 3000A/3150A, 63kA, Single phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure	item114	500	M			0.00			0.00		0.000	0.000	INR Zero Only
5.21	SERVICES- GIS: SUPERVISION OF ERECTION: 420kV, SF6 to Air Bushing alongwithassociated support structure for 3150A, 63 kA for 1 sec. Single Phase	item115	17	NO			0.00			0.00		0.000	0.000	INR Zero Only
5.22	SERVICES- GIS: TESTING & COMMISSIONING: 420kV, SF6 to Air Bushing alongwithassociated support structure for 3150A, 63 kA for 1 sec. Single Phase	item116	17	NO			0.00			0.00		0.000	0.000	INR Zero Only
5.23	SERVICES- GIS: ERECTION, TESTING & COMMISSIONING: Controlled Switching Device for 420 kV, 3-ph Circuit Breaker	item117	2	NO			0.00			0.00		0.000	0.000	INR Zero Only
5.24	SERVICES- GIS : 420KV, FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	item118	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
5.25	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 420KV GIS SYSTEM COMPLETE	item119	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
6.01	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	item120	10	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
6.02	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	item121	10	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
6.03	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	item122	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
7.01	SERVICES- GIS : Training- Training for Maintenance Engineers in batch (3 batches) for 2 Days (Max 4 Persons per batch) at Vendors works.	item123	24	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
7.02	SERVICES- GIS : Training- Training for Operators in batch (2 batches) for 3 days (Max 7 Persons per batch) at Site works.	item124	42	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
8.01	SUPPLY- GIS: 245kV, 1600 A, 50 kA, SF6 GIS ICT feederbay module as per Section-Project, Technical specification	item125	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
8.02	SUPPLY- GIS: 245kV, 2500A , 4000A, 50 kA, SF6 GIS Bus coupler bay module as per Section-Project, Technical specification	item126	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
8.03	SUPPLY- GIS: 245kV, 4000A, 50kA, SF6 GIS Bus bar module as per Section-Project, Technical specification	item127	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
8.04	SUPPLY- GIS: 245kV, 1600A, 50kA, 3 Single phase/ 3Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall alongwith associated support structure (Quantity mentioned here is for 3 Phase type)	item128	250	M			0.00			0.00		0.000	0.000	INR Zero Only
8.05	SUPPLY- GIS: 245kV, 1600A, 50kA, SF6 GIS Auxiliary Bus module for Spare Transformer as per Section-Project, Technical specification	item129	1	SET			0.00			0.00		0.000	0.000	Zero Only
8.06	SUPPLY- GIS: 245kV, 1600A, 50kA Single phase SF6 to Air Bushing	item130	7	NO			0.00			0.00		0.000	0.000	INR Zero Only
8.06	SUPPLY- GIS: SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	item131	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
8.07	SUPPLY- GIS: STRUCTURE MATERIAL INCLUDING FOUNDATION BOLTS, EMBEDDED ITEMS, RAILS AND/ OR OTHER MATERIALS ETC.	item132	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only
8.08	SUPPLY- GIS: EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	item133	1	Lot			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :	
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PRICE SCHEDULE
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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
9.01	SUPPLY- GIS: SPARES: 245kV, CABLE CONNECTION ENCLOSURE WITH MAIN CIRCUIT	item134	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.02	SUPPLY- GIS: SPARES: 245kV, SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	item135	2	EA			0.00			0.00		0.000	0.000	Zero Only
9.03	SUPPLY- GIS: SPARES: 245kV, SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE	item136	3	SET			0.00			0.00		0.000	0.000	Zero Only
9.04	SUPPLY- GIS: SPARES: 245kV, COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTING GAS HANDLING PLANT OF EACH TYPE-220KV GIS	item137	2	SET			0.00			0.00		0.000	0.000	Zero Only
9.05	SUPPLY- GIS: SPARES: 245kV, RUBBER GASKETS, A,a,-A'OÄ,a,-Ä RINGS AND SEALS FOR SF6 GAS FOR GISENCLOSURE OF EACH TYPE-220KV GIS	item138	3	SET			0.00			0.00		0.000	0.000	Zero Only
9.06	SUPPLY- GIS: SPARES: 245kV, MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTALWEIGHT)	item139	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.07	SUPPLY- GIS: SPARES: 245kV, CONTROL VALVES FOR SF6 GAS OF EACH TYPE-220KV GIS	item140	3	SET			0.00			0.00		0.000	0.000	Zero Only
9.08	SUPPLY- GIS: SPARES: 245kV, SF6 GAS (5 % OF TOTAL GAS QUANTITY)	item141	1	LOT			0.00			0.00		0.000	0.000	Zero Only
9.09	SUPPLY- GIS: SPARES: 245kV, LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS)AND EARTHING/FAST EARTHING SWITCHES (AS APPLICABLE) IN CLOSE OR OPENPOSITION IN CASE OF REMOVAL OF THE DRIVING MECHANISM-220KV GIS	item142	3	SET			0.00			0.00		0.000	0.000	Zero Only
9.10	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 245KV GIS	item143	5	EA			0.00			0.00		0.000	0.000	Zero Only
9.11	220KV GIS-SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	item144	5	EA			0.00			0.00		0.000	0.000	Zero Only
9.12	220KV GIS-GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.)ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	item145	5	EA			0.00			0.00		0.000	0.000	Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
9.13	220KV GIS- 1600A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	item146	1	EA			0.00			0.00		0.000	0.000	Zero Only
9.14	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES, LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING- 220KV GIS	item147	2	SET			0.00			0.00		0.000	0.000	Zero Only
9.15	220KV GIS-ONE POLE OF 1600A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	item148	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.16	220KV GIS-ONE POLE OF 2500A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	item149	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.17	220KV GIS-ONE POLE OF 3000A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	item150	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.18	Trip coil assembly with resistor for245kV GIS Circuit Breaker (asapplicable)	item151	3	SET			0.00			0.00		0.000	0.000	Zero Only
9.19	Closing coil assembly with resistor for245kV GIS Circuit Breaker (asapplicable)	item152	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.20	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 220KV GIS CIRCUIT BREAKER	item153	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.21	Auxiliary switch assembly of each type for 245kV GIS Circuit Breaker	item154	3	SET			0.00			0.00		0.000	0.000	Zero Only
9.22	220KV GIS CIRCUIT BREAKER-OPERATION COUNTER	item155	3	EA			0.00			0.00		0.000	0.000	Zero Only
9.23	220KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item156	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.24	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFPLICABLE)-220KV GIS CIRCUIT BREKAER	item157	1	SET			0.00			0.00		0.000	0.000	Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
9.25	220KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FORHYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item158	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.26	220KV GIS CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATEDMECHANISM, IF APPLICABLE)	item159	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.27	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	item160	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.28	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	item161	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.29	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	item162	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.30	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	item163	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.31	220KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	item164	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.32	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM,IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	item165	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.33	220KV GIS CIRCUIT BREAKER-COMLETE SPRING OPERATING MECHANISMINCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IFAPPLICABLE)	item166	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.34	220KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATINGMECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)	item167	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.35	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATEDMECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREAKER	item168	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.36	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)- 220KV GIS CIRCUIT BREKAER	item169	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.37	220kV GIS- Three phase of 1600Adisconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	item170	4	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.38	220kV GIS- Three phase of 2500Adisconnector switch including maincircuit, enclosure, driving mechanismand support insulator etc., complete inall respect	item171	2	EA			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

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1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
9.39	220KV GIS- Three phase of 3000A disconnecter switch including maincircuit, enclosure, driving mechanism and support insulator etc., complete in all respect	item172	2	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.40	220KV GIS- THREE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	item173	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.41	220KV GIS - THREE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT (NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMON OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITH SEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY.)	item174	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.42	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS DISCONNECTOR SWITCH	item175	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.43	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS MAINTENANCE EARTHING SWITCH	item176	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
9.44	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKING COILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS, RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONE OF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS FAST EARTHING SWITCH	item177	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.45	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-220KV GIS	item178	2	SET			0.00			0.00		0.000	0.000	Zero Only
9.46	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-220KV GIS	item179	2	SET			0.00			0.00		0.000	0.000	Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :	
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PRICE SCHEDULE
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NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
9.47	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FASTEARTHING SWITCH (IF APPLICABLE)-220KV GIS	item180	2	SET			0.00			0.00		0.000	0.000	Zero Only
9.48	DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	item181	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.49	DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	item182	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.50	DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	item183	1	SET			0.00			0.00		0.000	0.000	Zero Only
9.51	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	item184	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.52	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	item185	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.53	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	item186	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.54	220KV GIS- SINGLE PHASE OF CURRENT TRANSFORMER (4 CORES) WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	item187	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.55	220KV GIS- SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALLRESPECT	item188	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.56	220KV GIS- SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	item189	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
9.57	220KV GIS- SURGE COUNTER/ MONITOR	item190	1	EA			0.00			0.00		0.000	0.000	INR Zero Only
10.01	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kv, OPERATING MECHANISM FOR CIRCUIT BREAKER	item191	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.02	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kv, OPERATING MECHANISM FOR DISCONNECTOR	item192	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.03	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kv, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH	item193	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.04	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kv, OPERATING MECHANISM FOR FAST ACTING EARTHING SWITCH	item194	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :														
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)														
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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
10.05	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, CIRCUIT BREAKER	item195	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.06	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, DISCONNECTOR	item196	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.07	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, MAINTENANCE EARTHING SWITCH	item197	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.08	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, FAST ACTING EARTHING SWITCH	item198	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.09	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, CURRENT TRANSFORMER	item199	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
10.10	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, VOLTAGE TRANSFORMER	item200	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
10.11	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV SURGE ARRESTER	item201	1	NO			0.00			0.00		0.000	0.000	INR Zero Only
10.12	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, SINGLE PHASE BUS BAR	item202	1	MTR			0.00			0.00		0.000	0.000	INR Zero Only
10.13	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, GIS METALLIC ENCLOSURE	item203	50	KG			0.00			0.00		0.000	0.000	INR Zero Only
10.14	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, EXPANSION JOINTS	item204	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.15	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, BARRIER INSULATOR	item205	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.16	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, NON-BARRIER INSULATOR	item206	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.17	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, GAS SEALS	item207	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.18	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, GAS DENSITY MONITOR SWITCH	item208	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.19	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, UHF PD SENSOR	item209	1	SET			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :	
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PRICE SCHEDULE
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Sl. No.	Item Description	Item Code / Make	Quantity	Units	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity* GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	13	14	15	16	20	21	51	53	54	55
10.20	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, GAS PRESSURE SWITCH	item210	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.21	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, TEE BEND	item211	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.22	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, ANGLE BEND	item212	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
10.23	Reference Unit Price for addition/ deletion: SUPPLY- GIS: SPARES: 245kV, L-BEND	item213	1	SET			0.00			0.00		0.000	0.000	Zero Only
11.01	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 1600 A, 50 kA, SF6 GIS ICT feeder bay module	item214	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
11.02	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600 A, 50 kA, SF6 GIS ICT feeder bay module	item215	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
11.03	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV, 2500A, 4000A, 50 kA, SF6 GIS Bus coupler bay module	item216	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
11.04	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 2500A-4000A, 50 kA, SF6 GIS Bus coupler bay module	item217	1	SET			0.00			0.00		0.000	0.000	INR Zero Only
11.05	SERVICES- GIS: SUPERVISION OF ERECTION: 245 kV, 4000A, 50kA, 3 single phase (isolated), SF6 gas insulated, metal enclosed bus bars to inter connect each of Circuit Breaker bay module complete with voltage transformer, disconnectors with grounding switch, local control cubicle, SF6 gas monitoring system for the complete bus	item218	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
11.06	SERVICES- GIS: TESTING & COMMISSIONING: 245 kV, 4000A, 50kA, 3 single phase (isolated), SF6 gas insulated, metal enclosed bus bars to inter connect each of Circuit Breaker bay module complete with voltage transformer, disconnectors with grounding switch, local control cubicle, SF6 gas monitoring system for the complete bus	item219	2	SET			0.00			0.00		0.000	0.000	INR Zero Only
11.07	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV,1600A, 50kA, 3 Single phase/ 3Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure (Quantity mentioned here is for 3 Phase type)	item220	250	M			0.00			0.00		0.000	0.000	INR Zero Only
11.08	SERVICES- GIS: TESTING & COMMISSIONING: 245kV, 1600A, 50kA, 3 Single phase/ 3Phase, SF6 Gas Insulated Bus Duct (GIB) outside GIS Hall along with associated support structure (Quantity mentioned here is for 3 Phase type)	item221	250	M			0.00			0.00		0.000	0.000	INR Zero Only
11.09	SERVICES- GIS: SUPERVISION OF ERECTION: 245kV,1600A, 50 kA for 1 sec SF6 to Air Bushing	item222	7	NO			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400 kV and 220kV GIS FOR Powergrid Luhri Nange Project

Enquiry/NIT No: Enquiry No.61Q2300148 Dated 20-Oct-22_NIT No.69200

Name of the Bidder / Bidding Firm / Company :														
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11.1	SERVICES- GIS: TESTING & COMMISSIONING: 245kV,1600A, 50 kA for 1 sec SF6 to Air Bushing	item223	7	NO			0.00			0.00		0.000	0.000	INR Zero Only
11.11	SERVICES- GIS : 420KV, FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	item224	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
11.12	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 420KV GIS SYSTEM COMPLETE	item225	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
12.01	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	item226	10	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
12.02	SERVICES- GIS : REFERENCE UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	item227	10	MAN-DAY			0.00			0.00		0.000	0.000	INR Zero Only
12.03	SERVICES- GIS : REFERENCE UNIT OF GIS INDIVIDUAL ITEM/ EQUIPMENT - HIRING CHARGES OF HV TEST KIT WITH OPERATOR	item228	1	LOT			0.00			0.00		0.000	0.000	INR Zero Only
Total in Figures												0.000	0.000	Zero Only
otated Rate in Words												INR Zero Only		