



Bharat Heavy Electricals Limited

(A Govt. of India Undertaking)

Material Management, 10th Floor, Plot No.C-20/1A/1, Joy Tower,
Sector-62, Noida, Uttar Pradesh, PIN No: 201301

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CORRIGENDUM - 08 TO NIT NO-63589

Subject: Corrigendum-8 to Tender enquiry for Pre-bid Tie up for Supply & Services of 400/220 kV GIS for POWERGRID Navsari Project.

Project : POWERGRID Navsari PROJECT
Equipment / Item : SUPPLY & SERVICES OF 400/220 kV GIS.
Enquiry No/Date : NIT 63589_61G2200250 dated 05.03.2022
BHEL NIT NO : 63589
Original Tender due date : 09.03.2022

This Corrigendum is being issued by BHEL TBG against above mentioned NIT/ enquiry for following to incorporate Technical Corrigendum-2 as attached.

Due date for offer submission shall remain same as **11:00 PM on 04.04.2022 and bids shall be opened 04:00 PM onwards on 04.04.2022**

Revised Price Bid format (Rev.01) is also furnished along with this corrigendum.

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_9147_2**.

Thanking you

Vineet Gupta
BHEL TBG, NOIDA

TECHNICAL CORRIGENDUM - 2 (NAVSARI, KALA & MAGARWADA) Date: 02.04.2022

S No.	VOLUME/SECTION/CLAUSE	VOLUME/SECTION/CLAUSE AS EXISTING	VOLUME/SECTION/CLAUSE AS AMENDED/ADDED																
1.	BOQ / BID PRICE SCHEDULE	Annexure_BOQ_NAVSARI_R1 Annexure_BOQ_NAVSARI_SERVICES_R1	BOQ / Bid Price Schedule has been revised as follows: Please refer Revision 1 of following documents, amendment has been highlighted yellow Annexure_BOQ_NAVSARI_R1 Annexure_BOQ_NAVSARI_SERVICES_R1																
2	PROJECT SPECIFIC DRAWINGS	<table border="1"> <thead> <tr> <th>DESCRIPTION OF DRAWING</th> <th>DRAWING NO.</th> </tr> </thead> <tbody> <tr> <td colspan="2">PROJECT SPECIFIC DRAWINGS</td> </tr> <tr> <td colspan="2">400/220kV NAVSARI (NEW) SUBSTATION</td> </tr> <tr> <td>GENERAL ARRANGEMENT DRAWING OF 400/220KV NAVSARI (NEW) SUBSTATION</td> <td>C/ENGG-SS/WR/ NAVSARI (NEW)/GIS/ GA/01 (REV-00)</td> </tr> </tbody> </table>	DESCRIPTION OF DRAWING	DRAWING NO.	PROJECT SPECIFIC DRAWINGS		400/220kV NAVSARI (NEW) SUBSTATION		GENERAL ARRANGEMENT DRAWING OF 400/220KV NAVSARI (NEW) SUBSTATION	C/ENGG-SS/WR/ NAVSARI (NEW)/GIS/ GA/01 (REV-00)	<table border="1"> <thead> <tr> <th>DESCRIPTION OF DRAWING</th> <th>DRAWING NO.</th> </tr> </thead> <tbody> <tr> <td colspan="2">PROJECT SPECIFIC DRAWINGS</td> </tr> <tr> <td colspan="2">400/220kV NAVSARI (NEW) SUBSTATION</td> </tr> <tr> <td>GENERAL ARRANGEMENT DRAWING OF 400/220KV NAVSARI (NEW) SUBSTATION</td> <td>C/ENGG-SS/WR/ NAVSARI (NEW)/GIS/ GA/01 (REV-01)</td> </tr> </tbody> </table>	DESCRIPTION OF DRAWING	DRAWING NO.	PROJECT SPECIFIC DRAWINGS		400/220kV NAVSARI (NEW) SUBSTATION		GENERAL ARRANGEMENT DRAWING OF 400/220KV NAVSARI (NEW) SUBSTATION	C/ENGG-SS/WR/ NAVSARI (NEW)/GIS/ GA/01 (REV-01)
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3		SPECIAL NOTE	ALL TECHNICAL CLARIFICATION(S) FOR GIS, PUBLISHED BY M/S POWERGRID WITH REFERENCE TO SUBJECT PROJECT SHALL BE DEEMED VALID FOR THIS TECHNICAL SPECIFICATION																

Annexure_BOQ_TABLE

SI. NO.	ITEM DESCRIPTION
1	Navsari Site
	Annexure_BOQ_NAVSARI_R1
	Annexure_BOQ_NAVSARI_SPARE
	Annexure_BOQ_NAVSARI_SERVICES_R1
2	Kala Site
	Annexure_BOQ_KALA
	Annexure_BOQ_KALA_SPARE
3	Magarwada Site
	Annexure_BOQ_MAGARWADA
	Annexure_BOQ_MAGARWADA_SPARE

SI. No.	Item Description	Unit	Qty.	REMARK
1	400/220kV Navsari (New) GIS Substation			
1.01	SUPPLY- GIS : 420KV, 4000 A, 63 KA, SF6 GIS BUS BAR MODULE	SET	2	Refer Section-Project Annexure-IV
1.02	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS BUS REACTOR BAY MODULE	SET	1	Refer Section-Project Annexure-IV
1.03	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS TIE BAY MODULE(WITHOUT PIR)	SET	5	Refer Section-Project Annexure-IV
1.04	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS ICT FEEDER BAY MODULE	SET	3	Refer Section-Project Annexure-IV
1.05	SUPPLY- GIS : 420 KV, 3150 A, 63 KA, SF6 GIS LINE FEEDER BAY MODULE(WITHOUT PIR)	SET	4	Refer Section-Project Annexure-IV
1.06	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS SWITCHABLE LINE REACTOR BAY MODULE	SET	2	Refer Section-Project Annexure-IV
1.07	SUPPLY- GIS : 400KV GIS -SF6 TO OIL INTERFACE MODULE- TR	SET	16	Refer Section-Project Annexure-IV
1.08	SUPPLY- GIS : 400KV GIS -SF6 TO OIL INTERFACE MODULE- RTR	SET	9	Refer Section-Project Annexure-IV
1.09	SUPPLY- GIS : 400KV GIS - SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	EA	25	Refer Section-Project Annexure-IV
1.10	SUPPLY- GIS : 420KV, 3150A, 63KA SF6 TO AIR BUSHING INCLUDING SUPPORT STRUCTURE	SET	12	Refer Section-Project Annexure-IV
1.11	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS AUXILIARY BUS MODULE FOR SPARE TRANSFORMER	SET	1	Refer Section-Project Annexure-IV
1.12	SUPPLY- GIS : CONTROLLED SWITCHING DEVICE FOR 420 KV, 3-PH CIRCUIT BREAKER	EA	8	Refer Section-Project Annexure-IV
1.13	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS ICT FEEDER BAY MODULE FOR IV SIDECONNECTION WITH 765KV ICT	SET	2	Refer Section-Project Annexure-IV
1.14	SUPPLY- GIS : 420KV, 3000A, 63KA, SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB)OUTSIDE GIS HALL ALONGWITH ASSOCIATED SUPPORT STRUCTURE, ETC.	M	5000	Refer Section-Project Annexure-IV
1.15	SUPPLY- GIS : 245KV, 1600 A, 50 KA, SF6 GIS ICT FEEDER BAY MODULE	SET	3	Refer Section-Project Annexure-IV
1.16	SUPPLY- GIS : 220KV GIS -SF6 TO OIL INTERFACE MODULE- TR	SET	9	Refer Section-Project Annexure-IV
1.17	SUPPLY- GIS : 220KV GIS - SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	EA	9	Refer Section-Project Annexure-IV
1.18	SUPPLY- GIS : 245 KV, 3000A, 50KA, SF6 GIS BUS BAR MODULE	SET	4	Refer Section-Project Annexure-IV
1.19	SUPPLY- GIS : 245KV, 3000 A, 50 KA, SF6 GIS BUS COUPLER BAY MODULE	SET	2	Refer Section-Project Annexure-IV
1.20	SUPPLY- GIS : 245KV,3000 A, 50KA FOR 1 SECOND, SF6 GAS-INSULATED METAL ENCLOSED BUS SECTION BAY MODULE	SET	2	Refer Section-Project Annexure-IV
1.21	SUPPLY- GIS : 245KV,1600A, 50KA, 3 X SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB)OUTSIDE GIS HALL ALONGWITH ASSOCIATED SUPPORT STRUCTURE	M	552	Refer Section-Project Annexure-IV
1.22	SUPPLY- GIS : SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.

SI. No.	Item Description	Unit	Qty.	REMARK
1.23	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.
1.24	SUPPLY- GIS : EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.25	SUPPLY- GIS : TOOLS AND TACKLES	SET	1	Non returnable Tools and Tackles for GIS. Bidder to provide detail list along with the bid.
2	Extension of 400kV Navsari (New) GIS Substation			
2.01	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS TIE BAY MODULE(WITHOUT PIR)	SET	1	Refer Section-Project Annexure-IV
2.02	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS ICT FEEDER BAY MODULE	SET	1	Refer Section-Project Annexure-IV
2.03	SUPPLY- GIS : 400KV GIS -SF6 TO OIL INTERFACE MODULE- TR	SET	3	Refer Section-Project Annexure-IV
2.04	SUPPLY- GIS : 400KV GIS - SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	EA	6	Refer Section-Project Annexure-IV
2.05	SUPPLY- GIS : CONTROLLED SWITCHING DEVICE FOR 420 KV, 3-PH CIRCUIT BREAKER	EA	2	Refer Section-Project Annexure-IV
2.06	SUPPLY- GIS : 420KV, 3150 A, 63 KA, SF6 GIS ICT FEEDER BAY MODULE FOR IV SIDECONNECTION WITH 765KV ICT	SET	1	Refer Section-Project Annexure-IV
2.07	SUPPLY- GIS : 420KV, 3000A, 63KA, SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB)OUTSIDE GIS HALL ALONGWITH ASSOCIATED SUPPORT STRUCTURE, ETC.	M	500	Refer Section-Project Annexure-IV
2.08	SUPPLY- GIS : SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
2.09	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.
2.1	SUPPLY- GIS : EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.
3	220kV Navsari (New) GIS Substation (under Consultancy to GETCO)			
3.01	SUPPLY- GIS : 245KV, 1600 A, 50 KA, SF6 GIS LINE FEEDER BAY MODULE	SET	8	Refer Section-Project Annexure-IV
3.02	SUPPLY- GIS : 245KV,1600A, 50KA, 3 X SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB) OUTSIDE GIS HALL ALONGWITH ASSOCIATED SUPPORT STRUCTURE, ETC.	M	2040	Refer Section-Project Annexure-IV

SI. No.	Item Description	Unit	Qty.	REMARK
3.03	SUPPLY- GIS : 245KV, 1600A, 50KA SINGLE PHASE SF6 TO AIR BUSHING INCLUDING SUPPORT STRUCTURE	SET	24	Refer Section-Project Annexure-IV
3.04	SUPPLY- GIS : SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
3.05	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.
3.06	SUPPLY- GIS : EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.

SI. No.	Item Description	Unit	Qty.	REMARK
4	GIS MANDATORY SPARES FOR ESTAB OF 400KV GIS NAVSARI(N) SS			
4.01	400KV GIS -SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	EA	2	
4.02	SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE-400KV GIS	SET	3	
4.03	COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTINGGAS HANDLING PLANT OF EACH TYPE-400KV GIS	SET	2	
4.04	RUBBER GASKETS, O - RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE-400KV GIS	SET	3	
4.05	400KV GIS -MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTAL WEIGHT)	SET	1	
4.06	CONTROL VALVES FOR SF6 GAS OF EACH TYPE-400KV GIS	SET	3	
4.07	400KV GIS -SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
4.08	LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS)AND EARTHING/FAST EARTHING SWITCHES IN CLOSE OR OPEN POSITION IN CASEOF REMOVAL OF THE DRIVING MECHANISM-400KV GIS	SET	3	
4.09	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 420KV GIS	EA	5	
4.1	400KV GIS - SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	5	
4.11	400KV GIS -GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.)ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	5	
4.12	400KV GIS - 3150A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	EA	1	
4.13	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES,LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-400KV GIS	SET	2	
4.14	400KV GIS -ONE POLE OF 3150A CIRCUIT BREAKER WITHOUT PIR WITHINTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETEIN ALL RESPECT	SET	1	
4.15	TRIP COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
4.16	CLOSING COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	

SI. No.	Item Description	Unit	Qty.	REMARK
4.17	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 400KV GIS CIRCUIT BREAKER	SET	1	
4.18	AUXILIARY SWITCH ASSEMBLY OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER	SET	3	
4.19	400KV GIS CIRCUIT BREAKER-OPERATION COUNTER	EA	3	
4.2	400KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
4.21	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	
4.22	400KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FORHYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
4.23	400KV GIS CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATEDMECHANISM, IF APPLICABLE)	SET	1	
4.24	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	
4.25	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	
4.26	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	
4.27	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	
4.28	400KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
4.29	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM,IF APPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	
4.3	400KV GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISMINCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IFAPPLICABLE)	SET	1	
4.31	400KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATINGMECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)	SET	1	
4.32	PRESSURE SWITCHES OF EACH TYPE FOR420KV GIS CIRCUIT BREAKER (FORHYDRAULIC-SPRING OPERATED MECHANISM, IFAPPLICABLE)	SET	1	
4.33	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREKAER	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
4.34	400KV GIS - SINGLE PHASE OF 3150A DISCONNECTOR SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	4	(Note 1- The contractor 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-connectors switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor shall supply these additional types of disconnector switch without any additional price implication to POWER GRID and quantities of these additional type of disconnector switch are deemed 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 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 3- 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.)
4.35	400KV GIS - SINGLE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	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.)

SI. No.	Item Description	Unit	Qty.	REMARK
4.36	400KV GIS - SINGLE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT,ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	2	(NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTHSWITCH (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. 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.)
4.37	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 400KV GIS DISCONNECTOR SWITCH	SET	1	
4.38	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 400KV GIS MAINTENANCE EARTHSWITCH	SET	1	
4.39	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 400KV GIS FAST EARTHING SWITCH	SET	1	
4.4	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-400KV GIS	SET	2	
4.41	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-400KV GIS	SET	2	
4.42	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FAST EARTHING SWITCH (IF APPLICABLE)-400KV GIS	SET	2	

SI. No.	Item Description	Unit	Qty.	REMARK
4.43	DRIVE MECHANISM FOR 400KV GIS DISCONNECTOR SWITCH	SET	1	
4.44	DRIVE MECHANISM FOR 400KV GIS MAINTENANCE EARTH SWITCH	SET	1	
4.45	DRIVE MECHANISM FOR 400KV GIS FAST EARTHING SWITCH	SET	1	
4.46	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS DISCONNECTOR SWITCH	EA	1	
4.47	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS MAINTENANCE EARTH SWITCH	EA	1	
4.48	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS FAST EARTHING SWITCH	EA	1	
4.49	400KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (3 CORES, TYPE-CTA)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALLRESPECT	EA	1	
4.5	400KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (2 CORES, TYPE-CTB)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALLRESPECT	EA	1	
4.51	400KV GIS - SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALLRESPECT	EA	1	
4.52	400KV GIS - SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	EA	1	
4.53	400KV GIS - SURGE COUNTER/ MONITOR	EA	1	
5	GIS MANDATORY SPARES FOR ESTAB OF 220KV GIS NAVSARI(N) SS			
5.01	220KV GIS -SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	EA	2	
5.02	SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE-220KV GIS	SET	3	
5.03	COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTINGGAS HANDLING PLANT OF EACH TYPE-220KV GIS	SET	2	
5.04	RUBBER GASKETS, O - RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE-220KV GIS	SET	3	
5.05	220KV GIS -MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTAL WEIGHT)	SET	1	
5.06	CONTROL VALVES FOR SF6 GAS OF EACH TYPE-220KV GIS	SET	3	

SI. No.	Item Description	Unit	Qty.	REMARK
5.07	220KV GIS -SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
5.08	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	
5.09	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 245KV GIS	EA	5	
5.1	220KV GIS - SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	5	
5.11	220KV GIS -GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.)ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	5	
5.12	220KV GIS - 1600A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	EA	1	
5.13	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES, LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-220KV GIS	SET	2	
5.14	220KV GIS -ONE POLE OF 1600A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
5.15	220KV GIS -ONE POLE OF 3000A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
5.16	TRIP COIL ASSEMBLY WITH RESISTOR FOR245KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
5.17	CLOSING COIL ASSEMBLY WITH RESISTOR FOR245KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
5.18	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 220KV GIS CIRCUIT BREAKER	SET	1	
5.19	AUXILIARY SWITCH ASSEMBLY OF EACH TYPE FOR 245KV GIS CIRCUIT BREAKER	SET	3	
5.2	220KV GIS CIRCUIT BREAKER-OPERATION COUNTER	EA	3	
5.21	220KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
5.22	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
5.23	220KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FORHYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
5.24	220KV GIS CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATEDMECHANISM, IF APPLICABLE)	SET	1	
5.25	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
5.26	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
5.27	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
5.28	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULICOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
5.29	220KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
5.3	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM,IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
5.31	220KV GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISMINCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IFAPPLICABLE)	SET	1	
5.32	220KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATINGMECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)	SET	1	
5.33	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATEDMECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREAKER	SET	1	
5.34	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRINGOPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
5.35	220KV GIS - THREE PHASE OF 1600ADISCONNECTOR SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISMAND SUPPORT INSULATOR ETC., COMPLETE INALL RESPECT	EA	4	<p>(Note 1- The contractorshall supply spare for disconnectorswitch to ensure one to one replacementof all disconnector switch supplied asmain equipment without any requirementof modification in fittings at site tocover all different types ofdisconnector switch supplied. In case,quantity of supplied dis-connectorswitch types (for one to onereplacement) are more than the quantitymentioned in BPS for spare, thecontractor shall supply theseadditional types of disconnector switchwithout any additional priceimplication to POWERGRID and quantitiesof these additional type ofdisconnector switch are deem to beincluded in the quantities mentioned inBPS for spare disconnector. Note 2 - Incase, Dis-connector Switch (DS) & EarthSwitch (ES) is provided in a sameenclosure with common operatingmechanism, then the module comprisingof Dis-connector & Earth switch insingle enclosure with common operatingmechanism is to be provided under thehead of spare Dis-connector only. Note3- In case, Dis-connector Switch (DS)&Earth Switch (ES) is provided in a same enclosure with separate operatingmechanism, then the module comprisingof Dis-connector & Earth switch insingle enclosure with separateoperating mechanism is to be providedunder the head of spare Dis-connectoronly.)</p>

SI. No.	Item Description	Unit	Qty.	REMARK
5.36	220KV GIS - THREE PHASE OF 3000ADISCONNECTOR SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISMAND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	2	(Note 1- The contractorshall supply spare for disconnectorswitch to ensure one to one replacementof all disconnector switch supplied asmain equipment without any requirementof modification in fittings at site tocover all different types ofdisconnector switch supplied. In case,quantity of supplied dis-connectorswitch types (for one to onereplacement) are more than the quantitymentioned in BPS for spare, thecontractor shall supply theseadditional types of disconnector switchwithout any additional priceimplication to POWERGRID and quantitiesof these additional type ofdisconnector switch are deem to beincluded in the quantities mentioned inBPS for spare disconnector. Note 2 - Incase, Dis-connector Switch (DS) & EarthSwitch (ES) is provided in a sameenclosure with common operatingmechanism, then the module comprisingof Dis-connector & Earth switch insingle enclosure with common operatingmechanism is to be provided under thehead of spare Dis-connector only. Note3- In case, Dis-connector Switch (DS)&Earth Switch (ES) is provided in asame enclosure with separate operatingmechanism, then the module comprisingof Dis-connector & Earth switch insingle enclosure with separateoperating mechanism is to be providedunder the head of spare Dis-connectoronly.)
5.37	220KV GIS - THREE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC.,COMPLETE IN ALL RESPECT	EA	1	(NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) &EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMONOPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR &EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TOBE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - INCASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN ASAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULECOMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITHSEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPAREDIS-CONNECTOR ONLY.)

SI. No.	Item Description	Unit	Qty.	REMARK
5.38	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	SET	1	
5.39	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 EARTH SWITCH	SET	1	
5.4	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-220KV GIS	SET	2	
5.41	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-220KV GIS	SET	2	
5.42	DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	SET	1	
5.43	DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	SET	1	
5.44	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	EA	1	
5.45	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	EA	1	
5.46	220KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (4 CORES) WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	EA	2	
5.47	220KV GIS - SINGLE PHASE VT WITH ASSOCIATED ENCLOSURE COMPLETE IN ALL RESPECT	EA	1	
5.48	220KV GIS - SINGLE PHASE GAS INSULATED SURGE ARRESTER WITH ASSOCIATED ENCLOSURE AND INSULATOR COMPLETE IN ALL RESPECT	EA	1	
5.49	220KV GIS - SURGE COUNTER/ MONITOR	EA	1	
6	GIS MANDATORY SPARES FOR 220KV GIS AT NAVSARI-GETCO			
6.01	220KV GIS -SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	EA	1	
6.02	SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURE SWITCH AS APPLICABLE, OF EACH TYPE-220KV GIS	SET	2	
6.03	COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTING GAS HANDLING PLANT OF EACH TYPE-220KV GIS	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
6.04	RUBBER GASKETS, O - RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE-220KV GIS	SET	2	
6.05	220KV GIS -MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTAL WEIGHT)	SET	1	
6.06	CONTROL VALVES FOR SF6 GAS OF EACH TYPE-220KV GIS	SET	2	
6.07	220KV GIS -SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
6.08	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	2	
6.09	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 245KV GIS	EA	3	
6.1	220KV GIS - SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	3	
6.11	220KV GIS -GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.)ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	3	
6.12	220KV GIS - 1600A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	EA	1	
6.13	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES, LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-220KV GIS	SET	1	
6.14	220KV GIS -ONE POLE OF 1600A CIRCUIT BREAKER WITH INTERRUPTER, MAINCIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETE IN ALL RESPECT	SET	1	
6.15	TRIP COIL ASSEMBLY WITH RESISTOR FOR245KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
6.16	CLOSING COIL ASSEMBLY WITH RESISTOR FOR245KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
6.17	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 220KV GIS CIRCUIT BREAKER	SET	1	
6.18	AUXILIARY SWITCH ASSEMBLY OF EACH TYPE FOR 245KV GIS CIRCUIT BREAKER	SET	3	
6.19	220KV GIS CIRCUIT BREAKER-OPERATION COUNTER	EA	3	
6.2	220KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
6.21	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IFAPPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.22	220KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FORHYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
6.23	220KV GIS CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATEDMECHANISM, IF APPLICABLE)	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
6.24	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.25	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.26	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.27	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.28	220KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
6.29	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.3	220KV GIS CIRCUIT BREAKER-COMPLETE SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
6.31	220KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
6.32	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREKAER	SET	1	
6.33	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-220KV GIS CIRCUIT BREAKER	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
6.34	220KV GIS - THREE PHASE OF 1600ADISCONNECTOR SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISMAND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	2	(Note 1- The contractorshall supply spare for disconnectorswitch to ensure one to one replacementof all disconnector switch supplied asmain equipment without any requirementof modification in fittings at site tocover all different types ofdisconnector switch supplied. In case,quantity of supplied dis-connectorswitch types (for one to onereplacement) are more than the quantitymentioned in BPS for spare, thecontractor shall supply theseadditional types of disconnector switchwithout any additional priceimplication to POWERGRID and quantitiesof these additional type ofdisconnector switch are deem to beincluded in the quantities mentioned inBPS for spare disconnector. Note 2 - Incase, Dis-connector Switch (DS) & EarthSwitch (ES) is provided in a sameenclosure with common operatingmechanism, then the module comprisingof Dis-connector & Earth switch insingle enclosure with common operatingmechanism is to be provided under thehead of spare Dis-connector only. Note3- In case, Dis-connector Switch (DS)&Earth Switch (ES) is provided in asame enclosure with separate operatingmechanism, then the module comprisingof Dis-connector & Earth switch insingle enclosure with separateoperating mechanism is to be providedunder the head of spare Dis-connectoronly.)
6.35	220KV GIS - THREE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAINCIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC.,COMPLETE IN ALL RESPECT	EA	1	(NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) &EARTH SWITCH (ES) IS PROVIDED IN A SAME ENCLOSURE WITH COMMONOPERATING MECHANISM, THEN THE MODULE COMPRISING OF DIS-CONNECTOR &EARTH SWITCH IN SINGLE ENCLOSURE WITH COMMON OPERATING MECHANISM IS TOBE PROVIDED UNDER THE HEAD OF SPARE DIS-CONNECTOR ONLY. NOTE 2 - INCASE, DIS-CONNECTOR SWITCH (DS) & EARTH SWITCH (ES) IS PROVIDED IN ASAME ENCLOSURE WITH SEPARATE OPERATING MECHANISM, THEN THE MODULECOMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITHSEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPAREDIS-CONNECTOR ONLY.)

SI. No.	Item Description	Unit	Qty.	REMARK
6.36	220KV GIS - THREE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT,ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE INALL RESPECT	EA	1	(NOTE 1 - IN CASE, DIS-CONNECTOR SWITCH (DS) & EARTHSWITCH (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 MODULECOMPRISING OF DIS-CONNECTOR & EARTH SWITCH IN SINGLE ENCLOSURE WITHSEPARATE OPERATING MECHANISM IS TO BE PROVIDED UNDER THE HEAD OF SPAREDIS-CONNECTOR ONLY.)
6.37	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS DISCONNECTORSWITCH	SET	1	
6.38	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS MAINTENANCE EARTHSWITCH	SET	1	
6.39	OPEN/CLOSE CONTACTOR ASSEMBLY, TIMERS, KEY INTERLOCK, INTERLOCKINGCOILS, RELAYS, PUSH BUTTONS, INDICATING LAMPS, POWER CONTACTORS,RESISTORS, FUSES, MCBS & DRIVE CONTROL CARDS ETC. (AS APPLICABLE) ONEOF EACH TYPE FOR ONE COMPLETE MOM BOX FOR 220KV GIS FAST EARTHINGSWITCH	SET	1	
6.4	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FORDISCONNECTOR-220KV GIS	SET	1	
6.41	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FORMAINTENANCE EARTHING SWITCH-220KV GIS	SET	1	
6.42	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FASTEARTHING SWITCH (IF APPLICABLE)-220KV GIS	SET	1	
6.43	DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
6.44	DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	SET	1	
6.45	DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	SET	1	
6.46	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS DISCONNECTOR SWITCH	EA	1	
6.47	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS MAINTENANCE EARTH SWITCH	EA	1	
6.48	MOTOR FOR DRIVE MECHANISM FOR 220KV GIS FAST EARTHING SWITCH	EA	1	
6.49	220KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (4 CORES) WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALL RESPECT	EA	1	

7	<p>SPARES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS (Unit Prices of Individual Equipment included here or in mandatory spares are required for any Addition/Deletion of Equipment and replacement of damaged items. 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). These rates shall be applicable for all sites i.e. Navsari, Kala & Magarwada</p>			
7.01	SPARES- GIS : 400KV, SINGLE PHASE BUS BAR	MTR	1	Complete in all respect.
7.02	SPARES- GIS : 400KV, GIS METALLIC ENCLOSURE	KG	50	
7.03	SPARES- GIS : 400KV, EXPANSION BELLOWS/ JOINTS	Set	1	For Single Phase of any type and any rating.
7.04	SPARES- GIS : 400KV, TEE BEND	Set	1	For Single Phase of any type and any rating.
7.05	SPARES- GIS : 400KV, ANGLE BEND (135°)	Set	1	For Single Phase of any type and any rating.
7.06	SPARES- GIS : 400KV, L-BEND	Set	1	For Single Phase of any type and any rating.
7.07	SPARES- GIS : 220KV, SINGLE PHASE BUS BAR	MTR	1	Complete in all respect.
7.08	SPARES- GIS : 220KV, GIS METALLIC ENCLOSURE	KG	50	
7.09	SPARES- GIS : 220KV, EXPANSION BELLOWS/ JOINTS	Set	1	For Single Phase of any type and any rating.
7.1	SPARES- GIS : 220KV, TEE BEND	Set	1	For Single Phase of any type and any rating.
7.11	SPARES- GIS : 220KV, ANGLE BEND (135°)	Set	1	For Single Phase of any type and any rating.
7.12	SPARES- GIS : 220KV, L-BEND	Set	1	For Single Phase of any type and any rating.

SI. No.	Item Description	Unit	Qty.	REMARK
8	SERVICES- GIS : 400KV GAS INSULATED SWITCHGEAR (GIS) AS PER TS			
8.01	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF GIS	LOT	1	Supervision of erection of complete 400kV GIS for Navsari Site (i.e. (1.) 400/220kV Navsari (New) GIS Substation, (2.) Extension of 400kV Navsari (New) GIS Substation & (3.)220kV Navsari (New) GIS Substation), complete in all respect including LCC, CSD & SF6 to Oil module (excluding GIB, SF6 to Air Bushing). It also includes supervision of unloading & verification of materials for proper storage at site. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
8.02	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF GIS	LOT	1	Testing and commissioning of complete 400kV GIS system for Navsari Site (i.e. (1.) 400/220kV Navsari (New) GIS Substation, (2.) Extension of 400kV Navsari (New) GIS Substation & (3.)220kV Navsari (New) GIS Substation) is to be executed by contractor complete in all respect including LCC, CSD & SF6 to Oil module (excluding GIB & SF6 to Air Bushing). All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis. Please refer relevant section of technical specification for details. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
8.03	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF GAS INSULATED BUS DUCT SINGLE PHASE	MTR	5500	Single-phase Bus duct.
8.04	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF GAS INSULATED BUS DUCT, I PHASE	MTR	5500	Single-phase Bus duct.
8.05	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF SF6 TO AIR BUSHING, 1 PHASE	SET	12	
8.06	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF SF6 TO AIR BUSHING, 1 PHASE	SET	12	
8.07	SERVICES- GIS : 400KV, 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 HV test kit with operator, accessories & tools required for completion of HV testing. Bays may be commissioned separately.
8.08	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 400KV & 220KV GIS SYSTEM COMPLETE	LOT	1	400kV & 220kV for Navsari Sites complete (i.e. (1.) 400/220kV Navsari (New) GIS Substation, (2.) Extension of 400kV Navsari (New) GIS Substation & (3.)220kV Navsari (New) GIS Substation) with all extensions Including VFTO report.

SI. No.	Item Description	Unit	Qty.	REMARK
9	SERVICES- GIS : 220KV GAS INSULATED SWITCHGEAR (GIS) AS PER TS			
9.01	SERVICES- GIS : 220KV, SUPERVISION OF ERECTION OF GIS	LOT	1	Supervision of erection of complete 220kV GIS for Navsari Site (i.e. (1.) 400/220kV Navsari (New) GIS Substation & (2.)220kV Navsari (New) GIS Substation) complete in all respect including LCC, CSD & SF6 to Oil module (excluding GIB, SF6 to Air Bushing). It also includes supervision of unloading & verification of materials for proper storage at site. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
9.02	SERVICES- GIS : 220KV, TESTING & COMMISSIONING OF GIS	LOT	1	Testing and commissioning of complete 220kV GIS system (i.e. (1.) 400/220kV Navsari (New) GIS Substation, & (2.) 220kV Navsari (New) GIS Substation) is to be executed by contractor complete in all respect including LCC, CSD & SF6 to Oil module (excluding GIB, SF6 to Air Bushing). All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis. Please refer relevant section of technical specification for details. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
9.03	SERVICES- GIS : 220KV, SUPERVISION OF ERECTION OF GAS INSULATED BUS DUCT , 3 X SINGLE PHASE	MTR	2592	
9.04	SERVICES- GIS : 220KV, TESTING & COMMISSIONING OF GAS INSULATED BUS DUCT, 3 X SINGLE PHASE	MTR	2592	
9.05	SERVICES- GIS : 220KV, SUPERVISION OF ERECTION OF SF6 TO AIR BUSHING, 1 PHASE	SET	24	
9.06	SERVICES- GIS : 220KV, TESTING & COMMISSIONING OF SF6 TO AIR BUSHING, 1 PHASE	SET	12	
9.07	SERVICES- GIS : 220KV, 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 HV test kit with operator, accessories & tools required for completion of HV testing. Bays may be commissioned separately.
10	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES (Unit Prices of Individual services included here are required for any Addition/Deletion of Equipment and replacement of damaged items. 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). These rates shall be applicable for all sites i.e. Navsari, Kala & Magarwada			

SI. No.	Item Description	Unit	Qty.	REMARK
10.01	SERVICES- GIS : 400KV / 220kv, REF. 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 contractor) This item will be executed only if repetition of services is required by BHEL.
10.02	SERVICES- GIS : 400KV/220kv, REF. 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 contractor) This item will be executed only if repetition of services is required by BHEL.
10.03	SERVICES- GIS : 400KV, REF. UNIT PRICE 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 the contractor)
10.04	SERVICES- GIS : 220KV, REF. UNIT PRICE 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 the contractor)

SI. No.	Item Description	Unit	Qty.	REMARK
1	Extension of 400kV Kala GIS Substation			
1.01	SUPPLY- GIS : 420KV, 4000A,63KA GIS BUS BAR MODULE EXTENSION	SET	2	Refer Section-Project Annexure-IV
1.02	SUPPLY- GIS : 420 KV, 3150 A, 63 KA, SF6 GIS LINE FEEDER BAY MODULE(WITHOUT PIR)	SET	2	Refer Section-Project Annexure-IV
1.03	SUPPLY- GIS : 420KV, 3150A, 63KA SF6 TO AIR BUSHING INCLUDING SUPPORT STRUCTURE	SET	6	Refer Section-Project Annexure-IV
1.04	SUPPLY- GIS : 420KV, 3000A, 63KA, SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB)OUTSIDE GIS HALL ALONGWITH ASSOCIATED SUPPORT STRUCTURE	M	400	Refer Section-Project Annexure-IV
1.05	SUPPLY- GIS : SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.06	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.
1.07	SUPPLY- GIS : EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.09	SUPPLY- TESTING & MAINTENANCE EQUIPMENT : SF6 GAS ANALYZER	EA	1	
3	SERVICES- GIS : 400KV GAS INSULATED SWITCHGEAR (GIS) AS PER TS			
3.01	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF GIS	LOT	1	Supervision of erection of GIS complete in all respect including LCC & CSD (excluding GIB, SF6 to Air Bushing). It also includes supervision of unloading & verification of materials for proper storage at site. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.

SI. No.	Item Description	Unit	Qty.	REMARK
1	Extension of 400kV Kala GIS Substation			
3.02	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF GIS	LOT	1	Testing and commissioning of GIS complete in all respect including LCC & CSD (excluding GIB & SF6 to Air Bushing) is to be executed by contractor complete in all respect. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis. Please refer relevant section of technical specification for details. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
3.03	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF GAS INSULATED BUS DUCT SINGLE PHASE	MTR	400	Single-phase Bus duct.
3.04	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF GAS INSULATED BUS DUCT, I PHASE	MTR	400	Single-phase Bus duct.
3.05	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF SF6 TO AIR BUSHING, 1 PHASE	SET	6	
3.06	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF SF6 TO AIR BUSHING, 1 PHASE	SET	6	
3.07	SERVICES- GIS : 400KV, 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 HV test kit with operator, accessories & tools required for completion of HV testing. Bays may be commissioned separately.
3.08	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 400KV GIS SYSTEM COMPLETE	LOT	1	400kV & 220kV for Navsari Sites complete (i.e. (1.) 400/220kV Navsari (New) GIS Substation, (2.) Extension of 400kV Navsari (New) GIS Substation & (3.)220kV Navsari (New) GIS Substation) with all extensions Including VFTO report.

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV KALA GIS S/S			
2.01	400KV GIS -SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	EA	1	
2.02	SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE-400KV GIS	SET	2	
2.03	COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTINGGAS HANDLING PLANT OF EACH TYPE-400KV GIS	SET	1	
2.04	RUBBER GASKETS, O - RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE-400KV GIS	SET	2	
2.05	400KV GIS -MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTAL WEIGHT)	SET	1	
2.06	CONTROL VALVES FOR SF6 GAS OF EACH TYPE-400KV GIS	SET	2	
2.07	400KV GIS -SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
2.08	LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS)AND EARTHING/FAST EARTHING SWITCHES IN CLOSE OR OPEN POSITION IN CASEOF REMOVAL OF THE DRIVING MECHANISM-400KV GIS	SET	2	
2.09	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 420KV GIS	EA	3	
2.10	400KV GIS - SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	3	
2.11	400KV GIS -GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.)ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	3	
2.12	400KV GIS - 3150A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	EA	1	
2.13	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES,LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-400KV GIS	SET	1	
2.14	400KV GIS -ONE POLE OF 3150A CIRCUIT BREAKER WITHOUT PIR WITHINTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETEIN ALL RESPECT	SET	1	
2.15	TRIP COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
2.16	CLOSING COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
2.17	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 400KV GIS CIRCUIT BREAKER	SET	1	
2.18	AUXILIARY SWITCH ASSEMBLY OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER	SET	1	
2.19	400KV GIS CIRCUIT BREAKER-OPERATION COUNTER	EA	1	
2.20	400KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV KALA GIS S/S			
2.21	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.22	400KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.23	400KV GIS CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.24	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.25	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.26	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.27	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.28	400KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.29	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.30	400KV GIS CIRCUIT BREAKER-COMplete SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.31	400KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.32	PRESSURE SWITCHES OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.33	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV KALA GIS S/S			
2.34	400KV GIS - SINGLE PHASE OF 3150A DISCONNECTOR SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	2	(Note 1- The contractor 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 disconnector switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor shall supply these additional types of disconnector switch without any additional price implication to POWER GRID and quantities of these additional type of disconnector switch are deemed 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 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 3- 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.)
2.35	400KV GIS - SINGLE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	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.)

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV KALA GIS S/S			
2.36	400KV GIS - SINGLE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT,ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	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.)
2.37	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 400KV GIS DISCONNECTOR SWITCH	SET	1	
2.38	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 400KV GIS MAINTENANCE EARTH SWITCH	SET	1	
2.39	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 400KV GIS FAST EARTHING SWITCH	SET	1	
2.40	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-400KV GIS	SET	1	
2.41	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-400KV GIS	SET	1	
2.42	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FAST EARTHING SWITCH (IF APPLICABLE)-400KV GIS	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV KALA GIS S/S			
2.43	DRIVE MECHANISM FOR 400KV GIS DISCONNECTOR SWITCH	SET	1	
2.44	DRIVE MECHANISM FOR 400KV GIS MAINTENANCE EARTH SWITCH	SET	1	
2.45	DRIVE MECHANISM FOR 400KV GIS FAST EARTHING SWITCH	SET	1	
2.46	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS DISCONNECTOR SWITCH	EA	1	
2.47	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS MAINTENANCE EARTH SWITCH	EA	1	
2.48	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS FAST EARTHING SWITCH	EA	1	
2.49	400KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (3 CORES, TYPE-CTA)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALLRESPECT	EA	1	
2.50	400KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (2 CORES, TYPE-CTB)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALLRESPECT	EA	1	

SI. No.	Item Description	Unit	Qty.	REMARK
1	Extension of 400kV Magarwada GIS Substation			
1.01	SUPPLY- GIS : 420KV, 4000A,63KA GIS BUS BAR MODULE EXTENSION	SET	2	Refer Section-Project Annexure-IV
1.02	SUPPLY- GIS : 420 KV, 3150 A, 63 KA, SF6 GIS LINE FEEDER BAY MODULE(WITHOUT PIR)	SET	2	Refer Section-Project Annexure-IV
1.03	SUPPLY- GIS : 420KV, 3150A, 63KA SF6 TO AIR BUSHING INCLUDING SUPPORT STRUCTURE	SET	6	Refer Section-Project Annexure-IV
1.04	SUPPLY- GIS : 420KV, 3000A, 63KA, SINGLE PHASE, SF6 GAS INSULATED BUS DUCT (GIB)OUTSIDE GIS HALL ALONGWITH ASSOCIATED SUPPORT STRUCTURE, ETC.	M	650	Refer Section-Project Annexure-IV
1.05	SUPPLY- GIS : SF6 GAS REQUIRED FOR PLACING GIS INTO SUCCESSFUL OPERATION	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.06	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.
1.07	SUPPLY- GIS : EARTHING MATERIALS INCLUDING HIGH FREQUENCY EARTHING (AS APPLICABLE)	Lot	1	Complete in all respect in compliance to technical specification and requirements.
1.08	SUPPLY- GIS : TOOLS AND TACKLES	SET	1	Non returnable Tools and Tackles for GIS. Bidder to provide detail list along with the bid.
1.09	SUPPLY- TESTING & MAINTENANCE EQUIPMENT : SF6 GAS ANALYZER	EA	1	
3	SERVICES- GIS : 400KV GAS INSULATED SWITCHGEAR (GIS) AS PER TS			
3.01	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF GIS	LOT	1	Supervision of erection of GIS complete in all respect including LCC & CSD (excluding GIB, SF6 to Air Bushing). It also includes supervision of unloading & verification of materials for proper storage at site. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.

SI. No.	Item Description	Unit	Qty.	REMARK
1	Extension of 400kV Magarwada GIS Substation			
3.02	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF GIS	LOT	1	Testing and commissioning of GIS complete in all respect including LCC & CSD (excluding GIB & SF6 to Air Bushing) is to be executed by contractor complete in all respect. All testing instruments, kits, T&P etc. are to be arranged by contractor on returnable basis. Please refer relevant section of technical specification for details. In the event of changes in scope, payment shall be made on pro-rata basis of circuit breaker bays only.
3.03	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF GAS INSULATED BUS DUCT SINGLE PHASE	MTR	650	Single-phase Bus duct.
3.04	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF GAS INSULATED BUS DUCT, I PHASE	MTR	650	Single-phase Bus duct.
3.05	SERVICES- GIS : 400KV, SUPERVISION OF ERECTION OF SF6 TO AIR BUSHING, 1 PHASE	SET	6	
3.06	SERVICES- GIS : 400KV, TESTING & COMMISSIONING OF SF6 TO AIR BUSHING, 1 PHASE	SET	6	
3.07	SERVICES- GIS : 400KV, 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 HV test kit with operator, accessories & tools required for completion of HV testing. Bays may be commissioned separately.
3.08	SERVICES- GIS : INSULATION CO-ORDINATION STUDIES FOR 400KV GIS SYSTEM COMPLETE	LOT	1	400kV & 220kV for Navsari Sites complete (i.e. (1.) 400/220kV Navsari (New) GIS Substation, (2.) Extension of 400kV Navsari (New) GIS Substation & (3.)220kV Navsari (New) GIS Substation) with all extensions Including VFTO report.

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV MAGARWADA GIS			
2.01	400KV GIS -SF6 GAS PRESSURE RELIEF DEVICE ASSEMBLY OF EACH TYPE	EA	1	
2.02	SF6 PRESSURE GAUGE CUM SWITCH /DENSITY MONITORS AND PRESSURESWITCH AS APPLICABLE, OF EACH TYPE-400KV GIS	SET	2	
2.03	COUPLING DEVICE FOR PRESSURE GAUGE CUM SWITCH FOR CONNECTINGGAS HANDLING PLANT OF EACH TYPE-400KV GIS	SET	1	
2.04	RUBBER GASKETS, O - RINGS AND SEALS FOR SF6 GAS FOR GIS ENCLOSURE OF EACH TYPE-400KV GIS	SET	2	
2.05	400KV GIS -MOLECULAR FILTER FOR SF6 GAS WITH FILTER BAGS (5 % OF TOTAL WEIGHT)	SET	1	
2.06	CONTROL VALVES FOR SF6 GAS OF EACH TYPE-400KV GIS	SET	2	
2.07	400KV GIS -SF6 GAS (5 % OF TOTAL GAS QUANTITY)	LOT	1	
2.08	LOCKING DEVICE TO KEEP THE DIS-CONNECTORS (ISOLATORS)AND EARTHING/FAST EARTHING SWITCHES IN CLOSE OR OPEN POSITION IN CASEOF REMOVAL OF THE DRIVING MECHANISM-400KV GIS	SET	2	
2.09	UHF PD SENSORS OF EACH TYPE ALONG WITH BNC CONNECTOR FOR 420KV GIS	EA	3	
2.10	400KV GIS - SUPPORT INSULATORS (GAS THROUGH) OF EACH TYPE (COMPLETE WITHMETAL RING ETC.) ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	3	
2.11	400KV GIS -GAS BARRIERS OF EACH TYPE (COMPLETE WITH METAL RING ETC.)ALONG WITH ASSOCIATED CONTACTS AND SHIELDS	EA	3	
2.12	400KV GIS - 3150A SF6 TO AIR BUSHING COMPLETE IN ALL RESPECT	EA	1	
2.13	LCC SPARES - AUX. RELAYS, CONTACTORS,PUSH BUTTONS, SWITCHES,LAMPS,ANNUNCIATION WINDOWS, MCB, FUSES,TIMERS, TERMINAL BLOCKS ETC. OF EACHTYPE & RATING-400KV GIS	SET	1	
2.14	400KV GIS -ONE POLE OF 3150A CIRCUIT BREAKER WITHOUT PIR WITHINTERRUPTER, MAIN CIRCUIT, ENCLOSURE AND OPERATING MECHANISM COMPLETEIN ALL RESPECT	SET	1	
2.15	TRIP COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
2.16	CLOSING COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (ASAPPLICABLE)	SET	3	
2.17	RELAYS, POWER CONTACTORS, PUSH BUTTONS, TIMERS & MCBS ETC. (ASAPPLICABLE) OF EACH TYPE FOR 400KV GIS CIRCUIT BREAKER	SET	1	
2.18	AUXILIARY SWITCH ASSEMBLY OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER	SET	1	
2.19	400KV GIS CIRCUIT BREAKER-OPERATION COUNTER	EA	1	
2.20	400KV GIS CIRCUIT BREAKER-HYDRAULIC OPERATING MECHANISM WITH DRIVEMOTOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	

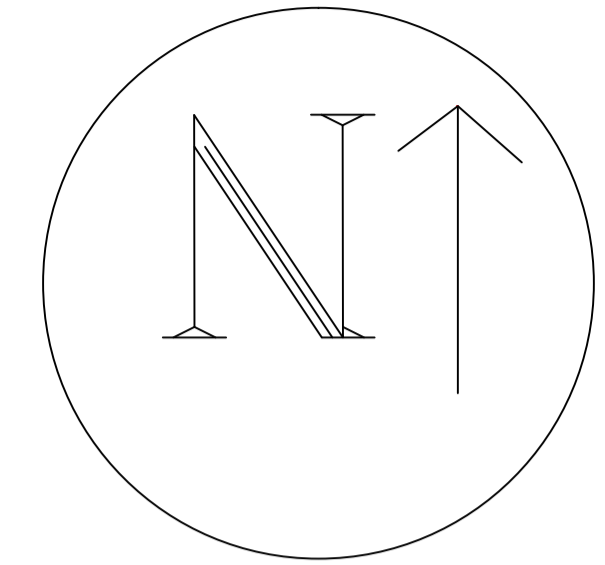
SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV MAGARWADA GIS			
2.21	HYDRAULIC FILTER OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.22	400KV GIS CIRCUIT BREAKER- HOSE PIPE OF EACH TYPE (AS APPLICABLE) (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.23	400KV GIS CIRCUIT BREAKER - N2 ACCUMULATOR (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.24	VALVES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.25	PIPE LENGTH (COPPER & STEEL) OF EACH SIZE & TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.26	PRESSURE SWITCHES OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.27	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.28	400KV GIS CIRCUIT BREAKER-HYDRAULIC OIL (5% OF TOTAL OIL QUANTITY)(FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.29	PRESSURE RELIEF DEVICE OF EACH TYPE (FOR HYDRAULIC OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	
2.30	400KV GIS CIRCUIT BREAKER-COMplete SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.31	400KV GIS CIRCUIT BREAKER- COMPLETE HYDRAULIC-SPRING OPERATING MECHANISM INCLUDING CHARGING MECHANISM ETC. (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.32	PRESSURE SWITCHES OF EACH TYPE FOR 420KV GIS CIRCUIT BREAKER (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)	SET	1	
2.33	PRESSURE GAUGE WITH COUPLING DEVICE OF EACH TYPE (FOR HYDRAULIC-SPRING OPERATED MECHANISM, IF APPLICABLE)-400KV GIS CIRCUIT BREAKER	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV MAGARWADA GIS			
2.34	400KV GIS - SINGLE PHASE OF 3150A DISCONNECTOR SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	2	(Note 1- The contractor 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 disconnector switch types (for one to one replacement) are more than the quantity mentioned in BPS for spare, the contractor shall supply these additional types of disconnector switch without any additional price implication to POWER GRID and quantities of these additional type of disconnector switch are deemed 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 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 3- 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.)
2.35	400KV GIS - SINGLE PHASE MAINTENANCE EARTHING SWITCH INCLUDING MAIN CIRCUIT, ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	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.)

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV MAGARWADA GIS			
2.36	400KV GIS - SINGLE PHASE FAST EARTHING SWITCH INCLUDING MAIN CIRCUIT,ENCLOSURE, DRIVING MECHANISM AND SUPPORT INSULATOR ETC., COMPLETE IN ALL RESPECT	EA	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.)
2.37	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 400KV GIS DISCONNECTOR SWITCH	SET	1	
2.38	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 400KV GIS MAINTENANCE EARTH SWITCH	SET	1	
2.39	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 400KV GIS FAST EARTHING SWITCH	SET	1	
2.40	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR DISCONNECTOR-400KV GIS	SET	1	
2.41	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR MAINTENANCE EARTHING SWITCH-400KV GIS	SET	1	
2.42	LIMIT SWITCHES AND AUX. SWITCHES FOR ONE COMPLETE MOM BOX FOR FAST EARTHING SWITCH (IF APPLICABLE)-400KV GIS	SET	1	

SI. No.	Item Description	Unit	Qty.	REMARK
2	MANDATORY SPARE FOR GIS FOR EXTN. WORKS AT 400KV MAGARWADA GIS			
2.43	DRIVE MECHANISM FOR 400KV GIS DISCONNECTOR SWITCH	SET	1	
2.44	DRIVE MECHANISM FOR 400KV GIS MAINTENANCE EARTH SWITCH	SET	1	
2.45	DRIVE MECHANISM FOR 400KV GIS FAST EARTHING SWITCH	SET	1	
2.46	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS DISCONNECTOR SWITCH	EA	1	
2.47	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS MAINTENANCE EARTH SWITCH	EA	1	
2.48	MOTOR FOR DRIVE MECHANISM FOR 400KV GIS FAST EARTHING SWITCH	EA	1	
2.49	400KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (3 CORES, TYPE-CTA)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALLRESPECT	EA	1	
2.50	400KV GIS - SINGLE PHASE OF CURRENT TRANSFORMER (2 CORES, TYPE-CTB)WITH ASSOCIATED ENCLOSURE AND PRIMARY CONDUCTOR COMPLETE IN ALLRESPECT	EA	1	

535000



765KV PADGE- I & II

LINE-6 FUTURE

LINE-5 FUTURE

LINE-4 FUTURE

LINE-3 FUTURE

LINE-2 FUTURE

LINE-1 FUTURE

110MVAR B/R-2

110MVAR B/R-1

110MVAR L/R-2

110MVAR L/R-1

1X80MVAR SPARE RTR

765KV GIS HALL FUTURE

765KV GIS HALL

CONTROL ROOM

LINE-8 FUTURE

LINE-8 FUTURE

AT-6 (F)

ICT-5(F)

ICT-4(F)

ICT-2

ICT-1

UNDER PRESENT SCOPE UNDER TRANSMISSION NETWORK EXPANSION IN GUJARAT ASSOCIATED WITH INTEGRATION OF RE PROJECTS FROM KHAVDA POTENTIAL RE ZONE

08 NOS. of 220kV GIS LINE FEEDER BAYS AS DEPOSIT WORK OF M/S GETCO

LINE-16 LINE-15 LINE-12 LINE-11
LINE-14 LINE-13 LINE-10 LINE-9

LINE-6 LINE-5 LINE-2 LINE-1
LINE-8 LINE-7 LINE-4 LINE-3

535000

445000

445000

LEGEND:-

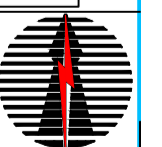
TRANSMISSION NETWORK EXPANSION IN GUJARAT TO INCREASE ITS ATC FROM ISTS (PART-B)	
TRANSMISSION NETWORK EXPANSION IN GUJARAT ASSOCIATED WITH INTEGRATION OF RE PROJECTS FROM KHAVDA POTENTIAL RE ZONE	
08 NOS. of 220kV GIS FEEDER BAYS AT NAVSARI (NEW) (SOUTH GUJARAT) AS DEPOSIT WORK OF M/S GETCO	
FUTURE/EXISTING	

NOTE:

1. ALL DIMENSIONS ARE IN METERS.
2. LOCATION OF ALL BUILDINGS ARE INDICATIVE ONLY.
3. DESTINATION OF FEEDERS MARKED AS FUTURE ARE INDICATIVE ONLY.
4. LOCATIONS OF ROADS, LMS, TOWERS, RAIL CUM ROAD, RAIL TRACKS INSIDE THE SUB STATION ARE TENTATIVE AND SHALL BE FINALISED DURING DETAILED ENGG.
5. FOR SCOPE OF WORK ASSOCIATED WITH SS-84 & SS-85 PACKAGE, TENDER SLD & TS SHALL BE REFERRED

FOR TENDER PURPOSE ONLY

POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



PROJECT : TRANSMISSION NETWORK EXPANSION IN GUJARAT TO INCREASE ITS ATC FROM ISTS (PART-B), TRANSMISSION NETWORK EXPANSION IN GUJARAT ASSOCIATED WITH INTEGRATION OF RE PROJECTS FROM KHAVDA POTENTIAL RE ZONE & 08 NOS. of 220kV GIS FEEDER BAYS AT NAVSARI (NEW) (SOUTH GUJARAT) AS DEPOSIT WORK OF M/S GETCO

SUBSTATION : 765/400/220KV NAVSARI (NEW) GIS SUBSTATION

TITLE : GENERAL ARRANGEMENT DRAWING

DATE	PREPARED BY	DRAWING NO.	REV.
	C/ENGG-SB/WR/NAVSARI(NEW)/GS /CA/01		01