

ANNEXURE-A BOQ

Sl.No.		Description	Items	Detailed Description	Unit	Quantity
A		Supply Item - 220kV GIS as per enclosed SLD with double bus bar scheme comprising of Items	A- GIS 220 kV	The 220 KV SF6 gas insulated switch gear shall have Double Bus Bar arrangement. The SF6 gas insulated switch gear (50 HZ) shall be of the indoor metal- enclosed type, comprising of following modules:- a) Two Line bays:LAKWAR HEP Line-1 and DEHRADUN Line-2 b) Two GT(Generator Transformer) bays: GT 1 & GT 2 c) One bay for Station transformer d) One bay for Bus Coupler e) Two Bus VTs The Switchgear shall be complete with all necessary terminal boxes, inspection window, SF6 gas filling required interconnecting wiring/cabling , grounding connections, gas monitoring equipment and piping, support structures etc. Any other item required for completion of project and not covered above - Complete List to be provided by bidder along with unit prices. The scope of supply shall also include all erection and mounting hardware and interconnecting power,instrumentation and control cables between GIS to LCC and between LCC to LCC including cable tray , glands, lugs, ferrules,walkway/catwalk for maintainance,consumables ,grounding material etc.	lot	1
	A1	BusBar Modules	A1 - BusBar Modules	One set of three single phase(isolated) or three phase encapsulated, 1600A, 50kA for 1sec, SF6 gas-insulated metal enclosed bus bars, each comprising of : a) Three single phase(isolated) or three phase encapsulated individual 1600A bus bars enclosures running across the length of the switchgear to inter connect each of the circuit breaker bay modules in double bus bar configuration. b) Gas monitoring systems, pressure switches, telescopic enclosure etc. as required. c) Barriers (communicating , non-communicating types)	Set	2
	A2	Bus VT for Main Buses	A2 - Bus VT for Main Buses	220kV, 1600A, 50kA for 1sec , SF6 gas insulated Bus VT bay module, Disconnector module with Earth switches (Maintenance & High speed) connected to Main Bus Bars, each comprising of: a) ONE set of 3x1-phase, 1600A, 50kA group operated Disconnector switches, complete with manual and motor driven operating mechanisms. b) THREE nos. single phase Voltage transformers c) ONE set of 3x1-phase, group operated safety grounding switches, complete with manual and motor driven operating mechanisms. (Suitable for Bus Bar Earthing Duty) d) ONE set of 3x1-phase, group operated high speed earthing switches, complete with manual and motor driven operating mechanisms. e) Gas monitoring devices, barriers, pressure switches, etc. as required.	Set	2
	A3	Fully equipped 220kV, 50kA for 1second, SF6 GIS GT bay module	A3 - Fully equipped 220kV, 50kA for 1second, SF6 GIS GT bay module	220kV, 1600A, 50kA for 1 second , SF6 gas-insulated metal enclosed GT bay module. Each set shall be complete & shall comprising of a) ONE set of 3x1-phase, SF6 insulated circuit breaker , complete with operating mechanism b) ONE set of 3x1-phase, 4-core, multi ratio, current transformers (CT A) as per single line diagram. (Core details shall be finalised at detail engg. stage) c)ONE set of 3x1-phase, 3-core, multi ratio, current transformers (CT B) as per single line diagram. (Core details shall be finalised at detail engg. stage) d) THREE sets of 3x1-phase, group operated Disconnector switches, complete with manual and motor driven operating mechanisms. e) Two sets of 3x1-phase, group operated maintenance earthing switches , complete with manual and motor driven operating mechanisms. f) One sets of 3x1-phase, group operated high speed earthing switches , complete with manual and motor driven operating mechanisms. g)ONE set of 3x1-phase, Voltage transformers h)ONE set of 3x1-phase, Surge Arrester i)ONE set of 3x1-phase, GIS to GT transformer interconnecting Module j) Gas monitoring System, pressure switches etc as required. k) Barriers cones,machanis box and other items as required.	Set	2
	A4	Fully equipped 220kV, 50kA for 1second, SF6 GIS BUS COUPLER bay Module	A4 - Fully equipped 220kV, 50kA for 1second, SF6 GIS BUS COUPLER bay Module	230kV, 1600A, 50kA for 1 second , SF6 gas-insulated metal enclosed BUS Coupler bay module. Each set shall be complete & shall comprising of a) ONE set of 3x1-phase, SF6 insulated circuit breaker , complete with operating mechanism b) ONE set of 3x1-phase, 3-core, multi ratio, current transformers (CT A) as per single line diagram. (Core details shall be finalised at detail engg. stage) c) ONE set of 3x1-phase, 3-core, multi ratio, current transformers (CT B) as per single line diagram. (Core details shall be finalised at detail engg. stage) d) TWO sets of 3x1-phase group operated Disconnector switches, complete with manual and motor driven operating mechanisms. e) TWO sets of 3x1-phase, group operated maintenance earthing switches , complete with manual and motor driven operating mechanisms. (If required, high speed fault make grounding switch to be provided) f) Gas monitoring System, pressure switches etc as required. g) Barriers cones,machanis box and other items as required.	Set	1
	A5	Fully equipped 220kV, 50kA for 1 second, SF6 GIS LINE bay Module	A5 - Fully equipped 220kV, 50kA for 1 second, SF6 GIS LINE bay Module	230kV, 1600A, 50kA for 1second , SF6 gas-insulated metal enclosed LINE bay module. Each set shall be complete & shall comprising of a) ONE set of 3x1-phase, SF6 insulated circuit breaker , complete with operating mechanism (suitable for 1&3 phase auto reclose) b) ONE set of 3x1-phase, 3-core, multi ratio, current transformer (CT A) as per single line diagram. (Core details shall be finalised at detail engg. stage) c)ONE set of 3x1-phase, 3-core, multi ratio, current transformer (CT B) as per single line diagram. (Core details shall be finalised at detail engg. stage) d) THREE sets of 3x1-phase group operated Disconnector switches, complete with manual and motor driven operating mechanisms. e) TWO sets of 3x1-phase, group operated maintenance earthing switches , complete with manual and motor driven operating mechanisms. (If required, high speed fault make grounding switch to be provided) f) ONE set of 3x1-phase, group operated high speed earthing switches , complete with manual and motor driven operating mechanisms. g) Gas monitoring System, pressure switches etc as required. h) Barriers cones,machanis box and other items as required.	Set	2
	A6	Fully equipped 220kV, 50kA for 1second, SF6 GIS ST bay module	A6 - Fully equipped 220kV, 50kA for 1second, SF6 GIS ST bay module	220kV, 1600A, 50kA for 1 second , SF6 gas-insulated metal enclosed ST bay module. Each set shall be complete & shall comprising of a) ONE set of 3x1-phase, SF6 insulated circuit breaker , complete with operating mechanism b) ONE set of 3x1-phase, 4-core, multi ratio, current transformers (CT A) as per single line diagram. (Core details shall be finalised at detail engg. stage) c)ONE set of 3x1-phase, 3-core, multi ratio, current transformers (CT B) as per single line diagram. (Core details shall be finalised at detail engg. stage) d) THREE sets of 3x1-phase, group operated Disconnector switches, complete with manual and motor driven operating mechanisms. e) Two sets of 3x1-phase, group operated maintenance earthing switches , complete with manual and motor driven operating mechanisms. f) One sets of 3x1-phase, group operated high speed earthing switches , complete with manual and motor driven operating mechanisms. g)ONE set of 3x1-phase, Voltage transformers h)ONE set of 3x1-phase, Surge Arrester i)ONE set of 3x1-phase, GIS to ST transformer interconnecting Module j) Gas monitoring System, pressure switches etc as required. k) Barriers cones,machanis box and other items as required.	Set	1
	A7	220kV, 1600A GIS duct from SF6 to Oil bushing for GT &ST Connection and GIS Duct from SF6 to Air bushing for Outgoing Lines	A7 - 220kV, 1600A GIS duct from SF6 to Oil bushing for GT &ST Connection and GIS Duct from SF6 to Air bushing for Outgoing Lines	220kV, 1600A 50kA for 1sec , SF6 gas insulated GIS duct shall be complete & comprising of:- a) Three Nos. single phase (isolated) GIS duct from SF6 to Oil bushing for GT &ST Connection and GIS Duct from SF6 to Air bushing for Outgoing Lines b) Gas monitoring devices, barriers, pressure switches, etc. as required. (Total GIS Bus duct length is equal to sum of single phase lengths of all GIS ducts,Which is approximate 600Mtrs + / - 10 %).	lot	1
	A8	220kV,1600A SF6 to Air Bushing (Polymer/composite/ porcelain)	A8 - 220kV,1600A SF6 to Air Bushing (Polymer/composite/ porcelain)	230kV, 1600A, 50 kA for 1sec , 25mm/kV creepage, SF6 gas insulated, SF6 to Air Bushing for Over head connection of Line with GIS.	Nos.	6
	A9	230kV, 1600A SF6 to Oil Bushing	A9 - 230kV, 1600A SF6 to Oil Bushing	230kV, 1600A, 50 kA for 1sec , 25mm/kV creepage, SF6 gas insulated, SF6 to Oil Bhushing for connection of GT/ST with GIS.	Nos.	9
	A10	Local Control Cubicles	A10 - Local Control Cubicles	Bay Control Cabinet for LINES/ GT/ ST BAYS/Bus Coupler/ VT	Lot	1
	A11	Supply of First filling of SF6 gas plus extra for conducting all tests, compensating losses for 10%of total gas. Additionally 10 % of total qunatity of SF6 gas shall also be supplied in non returnable cylinders.	A11 - Supply of First filling of SF6 gas plus extra for conducting all tests, compensating losses for 10%of total gas. Additionally 10 % of total qunatity of SF6 gas shall also be supplied in non returnable cylinders.	First filling of SF6 gas, and hydraulic fluid, if required for the equipment supplied plus an additional quantity sufficient for conducting all tests on equipment at site before placing it into successful operation for compensating losses for 10% of total gas quantity. Additionally, 10 % of total quantity of SF6 gas shall also be supplied in non returnable cylindres. Bidder to note that GIS duct considered is 600Mtrs + / -10% for estimation.	Lot	1
	A12	Supply of structure work for Installation of GIS including support structure for GIS ducts, SF6 to air bushings, supports, platforms, ladders, foundation bolts, embedded parts in floors etc., which are required for installation of GIS as per the specification. (The civil works will be done based on supplier design & drawings).	A12 - Supply of structure work for Installation of GIS including support structure for GIS ducts, SF6 to air bushings, supports, platforms, ladders, foundation bolts, embedded parts in floors etc., which are required for installation of GIS as per the specification. (The civil works will be done based on supplier design & drawings).	Bidder to indicate estimated weight in the bid (in MT) alongwith support documents & unit prices per MT in their offer. Bidder to quote in units as MT. Addition/deletion shall be on unit rate basis but only if there is any change in input. Bidder to note that GIS duct considered is 600Mtrs + / -10% for estimation.	Lot	1

Sl.No.		Description	Items	Detailed Description	Unit	Quantity
	A13	Supply of Earthing material for GIS including High frequency earthing material. The quantity shall be estimated provided by bidder for above floor earthing connection.	A13 - Supply of Earthing material for GIS including High frequency earthing material. The quantity shall be estimated provided by bidder for above floor earthing connection.	Supply of Earthing Material and Supervision of Erection of all Earthing connection for GIS to GIS and GIS to Earth Mesh on Floor shall be in bidder's scope. The quantity shall be estimated by the bidder, based on their design philosophy. Design philosophy shall be submitted alongwith the bid in line with Technical Specification. Supply of Earthing Material and Erection of Earth mesh on floor shall be done by BHEL in supervision of manufacturer as per manufacturer's design limited to following: 2. 75X12 GI Flat 3. 50X6 GI Flat shall be in BHEL's scope. Any other earthing material if required shall be in bidder's scope of supply. Bidder to note that GIS duct considered is 600Mtrs + / -10% for estimation.	Lot	1
	A14	Supply of Consumables (with limited shelf life) required for GIS	A14 - Supply of Consumables (with limited shelf life) required for GIS	Consumables including grouting material having limited shelf life required during erection, testing and commissioning. It shall be supplied just before erection after confirmation from BHEL.(1 lot is for complete package).	Lot	1
B		Supply Items - Mandatory spares	B - Supply Items - Mandatory spares	These prices will be used for addition/deletion/replacement (shall be considered as initial spares)	Lot	1
		220kV GAS INSULATED SWITCHGEAR				
	B1	Disconnecting switch complete with Operating mechanism and all necessary apparatus etc	B1 - Disconnecting switch complete with Operating mechanism and all necessary apparatus etc		No.	1
	B2	Safety Earth switch complete with Operating mechanism and all necessary connecting apparatus.	B2 - Safety Earth switch complete with Operating mechanism and all necessary connecting apparatus.		No.	1
	B3	Spare auxiliary contacts for disconnecting and safety grounding switches	B3 - Spare auxiliary contacts for disconnecting and safety grounding switches		No.	1
	B4	MCB (as applicable) of each type and rating	B4 - MCB (as applicable) of each type and rating		No.	1
	B5	Current Transformers complete in all respect including terminal connectors etc.(Secondary winding)	B5 - Current Transformers complete in all respect including terminal connectors etc.(Secondary winding)		No.	1
	B6	220 kV Bus PT complete in all respect including terminal connectors etc.	B6 - 220 kV Bus PT complete in all respect including terminal connectors etc.		Set	1
	B7	Circuit breakers complete with operating mechanism and all necessities apparatus	B7 - Circuit breakers complete with operating mechanism and all necessities apparatus		No.	1
	B8	Single phase SF6 gas insulated zinc oxide surge arrester	B8 - Single phase SF6 gas insulated zinc oxide surge arrester		No.	1
	B9	Trip coils for circuit breaker	B9 - Trip coils for circuit breaker		Nos.	3
	B10	Closing coils for circuit breaker	B10 - Closing coils for circuit breaker		Nos.	3
	B11	SF6 gas cylinder with 40 kgs of SF6 gas	B11 - SF6 gas cylinder with 40 kgs of SF6 gas		No	1
	B12	SF6 to air Bushing(1ph) (Polymer/composite/Porcelain)	B12 - SF6 to air Bushing(1ph) (Polymer/composite/Porcelain)		No.	1
C		Supply Item - Tools & tackle & Testing Equipment	C - Supply Item - Tools & tackle & Testing Equipment	In addition to mentioned special tools & tackles/ equipment, any other special tools & Tackles/ equipment shall be in bidder's scope and hence bidder to furnish detailed BOQ for special Tools & Tackles/ equipment along with unit prices to be handed over to ultimate customer. Further to this, Bidder to submit list of tools & tackles, slings, spanners, gauges, slings and other lifting devices, drills, instruments and appliances, special in nature and shall be necessary for the complete assembly and erection at site of the GIS, required for installation, gas filling, maintenance, site testing of the GIS and this shall be arranged by bidder on returnable basis only. Bidder shall also submit list of general list of tools & tackles to be arranged by BHEL/its sub contractor. EOT cranes shall be provided by BHEL, capacity of EOT crane to be recommended by bidder.	Lot	1
	C1	SF6 gas filling & evacuating equipment portable	C1 - SF6 gas filling & evacuating equipment portable	Make DILO/ Any equivalent makesubject to customer approval. It shall be in line with As per clause No. 1.01.00 a)& 1.02.00 of ANNEXURE-I of Section-2.	No.	1
	C2	SF6 gas filtering, drying, storage & recycling plant	C2 - SF6 gas filtering, drying, storage & recycling plant	Make DILO/ Any equivalent/reputed makesubject to customer approval. It shall be in line with As per clause No. 1.01.00 b)& 1.02.00 of ANNEXURE-I of Section-2.	No.	1
	C3	SF6 gas leak detector	C3 - SF6 gas leak detector	Any reputed make, subject to customer approval. It shall be in line with clause No. 1.04.00 of ANNEXURE-I of Section-2	Nos.	2
D		Services: Supervision of Erection, commissioning & site testing including earthing	D - Services: Supervision of Erection, commissioning & site testing including earthing	Supervision of Erection, commissioning & site testing of ST BAY, BUS COUPLER BAY, LINE BAYS,GT BAYS, BUS VT BAY,Bus duct,SF6 to Air Bhushing,SF6 to Oil Bhushing Modules etc.	Lot	1
	D1	Insulation co-ordination studies	D1 - Insulation co-ordination studies		Lot	1
	D2	Site visit for supervision of unloading, storage & verification of material at store	D2 - Site visit for supervision of unloading, storage & verification of material at store	Store shall be provided by BHEL	Lot	1
	D3	Supervision of Erection of GIS	D3 - Supervision of Erection of GIS	Complete GIS including busbar, ST BAY, BUS COUPLER BAY, LINE BAYS, GT BAYS, BUS VT BAY,Bus Duct including SF6 to Air Bushing, SF6 to Oil Bhushing and associated modules etc to complete the work in all respect	Set	1
	D4	Testing & Commissioning of GIS	D4 - Testing & Commissioning of GIS	Complete GIS including busbar, ST BAY, BUS COUPLER BAY, LINE BAYS, GT BAYS, BUS VT BAY,Bus Duct including SF6 to Air Bushing, SF6 to Oil Bhushing and associated modules etc.to complete the work in all respect.	Set	1
	D5	Final successful Testing of GIS including arrangement of HV test kit along with Testing personnel	D5 - Final successful Testing of GIS including arrangement of HV test kit along with Testing personnel	HV Test kit shall be arranged by the bidder on returnable basis along with testing personnel for conducting test. Final testing as per IEC for complete GIS including busbar, ST BAY, BUS COUPLER BAY, LINE BAYS, GT BAYS, BUS VT BAY, Ducts, SF6 to Air Bushing, SF6 to Oil Bhushing and associated modules etc.	Lot	1
E		Services: Training	- Services: Training			
	E1	Training for GIS to UJVNL/BHEL engineers - Visit to manufacturer's works = Minimum 30 mandays	E1 - Training for GIS to UJVNL/BHEL engineers -Visit to manufacturer's works = Minimum 30 mandays	Training module shall include concepts and familiarisation oprational aspects of GIS.	Lot	1
	E2	Lodging and boarding of Training participants for GIS to UJVNL engineers at manufacturer's works = 30 mandays	E2 - Lodging and boarding of Training participants for GIS to UJVNL engineers at manufacturer's works = 30 mandays	Lodging and boarding of Training participants shall be in bidder's scope.	Lot	1
	E3	To and Fro charges for Training of participants (for GIS training) of UJVNL engineers at manufacturer's works.(1lot equal 1Tarinee To and Fro charges by 2AC/Air fare from Dehradun to Manufacture works)	E3 - To and Fro charges for Training of participants (for GIS training) of UJVNL engineers at manufacturer's works.(1lot equal 1Tarinee To and Fro charges by 2AC/Air fare from Dehradun to Manufacture works)	1lot equal 1Tarinee To and Fro charges by 2AC/Air fare from Dehradun to Manufacture works.	Lot	10
	E4	Training for GIS to UJVNL engineers -ETC, Operation and maintenance of Plant (GIS) at site =Minimum 30 mandays	E4 - Training for GIS to UJVNL engineers -ETC, Operation and maintenance of Plant (GIS) at site =Minimum 30 mandays	Training for site operation, maintenance and troubleshooting of the GIS .	Lot	1
	E5	Lodging and boarding of Training participants for GIS to UJVNL engineers -at Site = 30 mandays	E5 - Lodging and boarding of Training participants for GIS to UJVNL engineers - at Site = 30 mandays		Lot	0
F		Any other item required for completion of project	- Any other item required for completion of project			
	F1	Supply - Any other item required for completion of project and not covered in Supply portion - Complete List to be provided by bidder along with unit prices.	F1 - Supply - Any other item required for completion of project and not covered in Supply portion - Complete List to be provided by bidder along with unit prices.		Lot	1
	F2	Services - Any other item required for completion of project and not covered in service portion - Complete List to be provided by bidder along with unit prices.	F2 - Services - Any other item required for completion of project and not covered in service portion - Complete List to be provided by bidder along with unit prices.		Lot	1
G		Supply - Unit Prices of Individual Item/Equipment	G - Supply - Unit Prices of Individual Item/Equipment	Unit Prices of Individual Equipment included here or in manadatory 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 (Bay, Busbar etc). Quoting for unit prices is mandatory and shall be considered for evaluation.		
	G1	220kV, 1600A Circuit breaker (1 pole complete with enclosure without operating mechanism)	G1 - 220kV, 1600A Circuit breaker (1 pole complete with enclosure without operating mechanism)		Set	1
	G2	220kV, 1600A Circuit breaker with PIR (1 pole complete without enclosure without operating mechanism)	G2 - 220kV, 1600A Circuit breaker with PIR (1 pole complete without enclosure without operating mechanism)		Set	1
	G3	220kV, 1600A Isolator (1 pole) without operating mechanism	G3 - 220kV, 1600A Isolator (1 pole) without operating mechanism		Set	1
	G4	220 kV Maintenance Earhing switch without operating mechanism (3 pole complete with enclosure and without operating mechanism)	G4 - 220 kV Maintenance Earhing switch without operating mechanism (3 pole complete with enclosure and without operating mechanism)		Set	1
	G5	220 kV High speed earth switch without operating mechanism (3 pole complete with enclosure and without operating mechanism)	G5 - 220 kV High speed earth switch without operating mechanism (3 pole complete with enclosure and without operating mechanism)		Set	1
	G6	220 kV Current transformer (1no. of each type) (Individual prices to be furnished).	G6 - 220 kV Current transformer (1no. of each type) (Individual prices to be furnished).		Set	1
	G7	Operating Mechanism box for 220kV, 1600 A Circuit Breaker	G7 - Operating Mechanism box for 220kV, 1600 A Circuit Breaker		Set	1

Sl.No.		Description	Items	Detailed Description	Unit	Quantity
	G8	Operating Mechanism box for 220kV, 1600 A Isolator	G8 - Operating Mechanism box for 220kV, 1600 A Isolator		Set	1
	G9	Operating mechanism for 220kV, Maintenance Earthing Switch	G9 - Operating mechanism for 220kV, Maintenance Earthing Switch		Set	1
	G10	Operating Mechanism for 220kV, High Speed Earthing Switch	G10 - Operating Mechanism for 220kV, High Speed Earthing Switch		Set	1
	G11	Single Phase Bus bar/bus duct (any type)	G11 - Single Phase Bus bar/bus duct (any type)	Complete single phase 220kV,1600A, 50 kA for 1s bus bar including Gas monitoring systems, barriers, pressure switches	Mtr	1
	G12	Conductor for Single phase Bus bar/ bus duct (any type)	G12 - Conductor for Single phase Bus bar/ bus duct (any type)	Conductor for bus bar, bus duct, GIB, Interconnecting conductors of any type with interconnecting parts as required.	Mtr	1
	G13	GIS metallic enclosure (any type)	G13 - GIS metallic enclosure (any type)	Enclosure for bus bar, bus duct, GIB, straight cast enclosure etc with fixing hardware as required.	Mtr	1
	G14	Epoxy resin insulators for bus support with holes for gas flow (of each type and rating)	G14 - Epoxy resin insulators for bus support with holes for gas flow (of each type and rating)	Bidder to inform details at tender stage	set	1
	G15	Gas barrier insulators (of each type and rating)	G15 - Gas barrier insulators (of each type and rating)	Bidder to inform details at tender stage	set	1
	G16	Density switch	G16 - Density switch		Set	1
	G17	Gas monitoring system devices	G17 - Gas monitoring system devices	1 set =1 no of each type	Set	1
	G18	SF6 to Oil Bhushing for GT/ST	G18 - SF6 to Oil Bhushing for GT/ST		No.	1
	G19	PD sensor	G19 - PD sensor	1 set =1 no of each type	Set	1
	G20	Optical indicator for CB, Isolator	G20 - Optical indicator for CB, Isolator		Set	1
	G21	Elbow /Angle / T-bends	G21 - Elbow /Angle / T-bends		Set	1
	G22	Telescopic enclosure	G22 - Telescopic enclosure		Set	1
	G23	Sleeve enclosoure	G23 - Sleeve enclosoure		Set	1
	G24	Expansion joints for bellows	G24 - Expansion joints for bellows		Set	1
	G25	cross tank	G25 - cross tank		Set	1
	G26	Controlled Switching Device for ONE set of 1600A, 3x1-phase, SF6 insulated circuit breaker without PIR, complete with operating mechanism (suitable for 1&3 phase auto reclose)	G26 - Controlled Switching Device for ONE set of 1600A, 3x1-phase, SF6 insulated circuit breaker without PIR, complete with operating mechanism (suitable for 1&3 phase auto reclose)		No.	1
H		Services: Supervision of Erection, commissioning & site testing including earthing	- Services: Supervision of Erection, commissioning & site testing including earthing	Prices of Supervision erection and Testing & Commissioning included here are required for any Addition/Deletion for days. Quoting for unit prices is mandatory and shall be considered for evaluation.		
	H1	Supervision of Services of manpower for erection per day (excl. travel time)	H1 - Supervision of Services of manpower for erection per day (excl. travel time)		day	1
	H2	Supervision of Services of manpower for Testing & commissioning per day (excl. travel time)	H2 - Supervision of Services of manpower for Testing & commissioning per day (excl. travel time)		day	1
	H3	Hiring charges of HV test kit with Testing personnel	H3 - Hiring charges of HV test kit with Testing personnel	Additional HV test kit charges including charges of manpower, HV test kit, accessories & tools and Testing personnel required for completion of HV test (Dielectric Test after installation of GIS). HV test kit charges include one or more bay at site.	lot	1
Note 1 CT & VT details given in single line diagram are tentative and may change at contract stage.Changes to be incorporated by bidder without any cost and delivery implication to BHEL .						
Note 2 Item no. G1 to G26 and H1 to H3 are optional items and BHEL reserves right at its sole discretion to order these items or not.						