



Bharat Heavy Electricals Limited

(A Govt. of India Undertaking)

Transmission Business Group

Materials Management, 5th Floor, Plot No.25,

Sector-16A, Noida, Uttar Pradesh, PIN No: 201301

Phone: 0120-6748543, Email: gaurav.agarwal@bhel.in

CORRIGENDUM - 08 TO NIT NO-83362

Dated 24-07-2024

Subject: Corrigendum-08 to Tender enquiry for Pre Bid Tie up with the GIS OEM for Supply & Services of 400KV GIS for HTPS KORBA WEST Tender / Project.

Project : 2X660 MW HTPS Korba West
Equipment / Item : Supply & Services of 400kV GIS
Enquiry No/Date : Enquiry No_61Q2500150 Dtd: 24-06-2024
BHEL NIT NO : 83362
Original Tender due date : 05-07-2024
Extended due date : 25-07-2024

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

- a) Issuance of Technical corrigendum-03 (containing revised Technical PQR, BOQ, SLD & Clarification no. 01 to technical specification). Revised price bid format (unpriced) is also enclosed and same need to be followed for bid submission.
- b) Extension of tender due date up to **30-07-2024**.

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

Bidder to ensure submission of offer on or before due date.

Note: Tender ID on CPP Portal is **2024_BHEL_37394_1**.

Thanking you

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

Gaurav Agarwal
BHEL TBG, NOIDA

Ref. No. Technical Corrigendum-03

Project: Pre Bid Tie up for,
EPC Package for Design, Engineering, Manufacturing, Supply, Erection, Testing
And Commissioning of 400kV GIS Switchyard of 2 X 660 Mw Super Critical Thermal Power Project, HTPS, CSPGCL Korba West

Date: 23.07.2024

Sl. No.	Volume/ Section/ Clause	Volume/ Section/ Clause as Existing	Volume/ Section/ Clause as Amended/ Added in Technical Corrigendum-01
1	Pre-qualifying Requirement	Pre-qualifying Requirement Annexure- PQR	Pre-qualifying Requirement Annexure- PQR REV01 (Please refer revised document with 3K format.
2	Section 1/ Part B	Please refer Technical Corrigendum 02/ BILL OF QUANTITIES_ANNEXURE: BOQ REV02_400kV GIS_CSPGCL KORBA	BILL OF QUANTITIES_ANNEXURE: BOQ REV03_400kV GIS_CSPGCL KORBA (Please refer revised BOQ).
3	Section 1	Please refer Technical Specification/ Single Line Diagram REV01	Please refer Technical Specification/ Single Line Diagram REV02 (Please refer the document).
4	Technical Specification		Clarification no. 01 to technical specification (Please refer the document).

Note:

1. The changes/ revision are marked/ highlighted in yellow/ rectangle box.
2. Amendment/ addendum/ clarification/ corrigendum issued herein shall form part of Technical Specification.

Bidders to please note that amendment/addendum/ clarification/ corrigendum issued shall supersede the respective Volume/ Section/ Clause of Technical Specification Document to the extent for the Volume/ Section/ Clause or part thereof the amendment is issued.

**Pre-qualifying Requirement
Annexure- PQR REV01**

Pre-qualifying Requirement (Technical) for 400kV GIS

(i.) The GIS must be offered from Indian manufacturer, who meets the requirement mentioned at Route-1/~~Route-2~~/ Route-3 below.

&

(ii.) Bidder must meet the any of the following qualification Route-1/ ~~Route-2~~/ Route-3,

Route-I:

(5.13.1) The Bidder/ ~~Sub-vendor~~ should have designed, manufactured, erected/ supervised erection, tested/ supervised testing and commissioned/ supervised commissioning of one (1) Gas Insulated Switchgear (GIS) equipment(s) installation having at least ~~six (6) bays~~ **two (2) bays** of 400kV or above voltage class with short circuit current of not less than 40 kA for 1 second, which should have been in successful operation(#) for minimum two (2) years as on the originally scheduled last date of technical bid submission of this tender.

Route-II:

~~(5.13.2) (a) The Bidder/ Sub-vendor should have designed, constructed/ erected, tested and commissioned one (1) Air Insulated Substation/ Switchyard of 400 kV or above voltage class having at least six (6) **two (2)** bays which should have been in successful operation for a minimum period of two (2) **one (1)** years.~~

&

~~(5.13.2) (b) The Bidder/ Sub-vendor associates with a GIS manufacturer for sourcing of GIS equipments who meets the requirement indicated at 5.13.1 above. The associate will also be fully responsible for the performance of the GIS portion of the contract.~~

~~In such an event the Bidder shall arrange a Letter of Technical Support to this effect from its Associate as per the format enclosed in the bidding document. This Letter of Technical Support should be submitted prior to the placement of order on approved vendor.~~

Route-III:

(5.13.3) The Bidder/~~Sub-vendor~~ should have established manufacturing facilities for GIS equipment in India based on technological support of **an associate** (who meets the requirement at (5.13.1) above) and Bidder/~~Sub-vendor~~ should have designed, manufactured, and supplied one (1) Gas Insulated Switchgear (GIS) equipment(s) installation having at least ~~six (6)~~ **two (2)** bays of 400kV or above voltage class. The **associate** will be fully responsible for the performance of the GIS portion of the contract.

In such an event the Bidder shall arrange a Letter of Technical Support to this effect from its **Associate** as per the format enclosed in the bidding document. This Letter of Technical Support should be submitted prior to the placement of order on approved vendor.

Note: -

- 1) For the purpose of qualifying requirement, one no. of bay shall be considered as comprising of at least one circuit breaker (3 phase) with two disconnectors **(3 phase) and single-phase current transformers (3 phase)**.
- 2) (#) Satisfactory operation means certificate issued by the Employer certifying the operation without any adverse remark.

**EPC PACKAGE FOR 2 X 660 MW
SUPER CRITICAL THERMAL POWER PROJECT,
HTPS, KORBA WEST**

(Experience Details - Applicable to all the Bidders)

ATTACHMENT 3K- DOCUMENT(SWITCHYARD) :

Sub: Sub-Qualifying Requirements for 400KV GIS Switchyard : (Route-I)

In order to satisfy the requirement of as indicated in Technical Specification, Clause No. 5.13.I of Annexure-PQR We/ Sub vendor hereby confirm that M/s..... is the Bidder / Sub vendor have designed, manufactured, erected/ supervised erection, tested/ supervised testing and commissioned/ supervised commissioning of one (1) Gas Insulated Switchgear (GIS) equipment(s) installation having at least six (6) bays of 400kV or above voltage class with short circuit current of not less than 40 kA for 1 sec as per stipulated requirements mentioned under Clause no. 5.13.1 Annexure-PQR of Bidding documents. The details of above are as under:

Sl. No.	Item Description	Details
1.	Name and Address of Bidder /sub vendor and Name of contact person with email ID, Telephone & Fax Nos.	
2.	Client Name and its Address, including Tel. No. and Fax no.	
3	Name of the plant / project & its location for which the Bidder / Subvendor have designed, constructed / erected, tested and commissioned one (1) Gas insulated Switchgear (GIS) Substation installation having at least six (6) bays of 400kV or above voltage class with short circuit current of not less than 40 kA for 1 sec .	
4.	Name and designation of the responsible person in Clients organisation.	
5	Name & locatin of the substation / switchyard	
6.	i)Contract No. & Date	
	ii)Brief scope of work	
	iii) Value of Order	
07	Scope of work for the aforesaid contract includes the following for Bidder /sub vendor	

Signature of authorized signatory.....

	(i) Manufactured	Yes/No
	(ii) Supplied	Yes/No
	iii) Type test	Yes/No
	iv) Construction / Erection	Yes/No
	v) Testing	Yes/No
	vi) Commissioning	Yes/No
08	Details of 400kV or above Bays:	
	i) Voltage Level (in KV)	
	ii) No of Bays	
	iii) Short Circuit current rating (in kA for 1 Sec.)	
	iv) Whether GIS insulated Substation/Switchyard or not	Yes/No
09	Date of Commissioning	
10	Date of commencement of successful Operation & No of years of service	
112	Whether one (1) GIS insulated substation of 400kV or above voltage class having at least Six(6) bays which should have been in successful operation for a minimum period of two(2) years prior to the date of Tech-commercial bid opening .	Yes / No
11.	Client(s) certificate(s) enclosed in support of stated experience above at Annexure.....to this Attachment-3K.(Use separate sheet for each experience/Contract)	YES* / NO*

Note :

Signature of authorized signatory.....

1. For the purpose of qualifying requirement, one no. of bay shall be considered as a bay comprising of at least one circuit breaker, two disconnectors and three single phase current transformer.
2. Bidder May gove details of more than one installation for Employer's reference, if he so desires.

*Bidder to strike-off whichever is not applicable.

Date : (Signature).....

Place : (Printed Name).....

(Designation).....

(Common Seal).....

Route-II:

In order to satisfy the requirement of as indicated in Technical Specification, Clause No. 5.13.2(a) of Sub-Section-IA, Part-A, Section-VI, We/ Sub vendor hereby confirm that M/s..... is the Bidder / Sub vendor have designed, manufactured, erected/ supervised erection, tested/ supervised testing and commissioned/ supervised commissioning one (1) Air Insulated Substation/ Switchyard of 400 kV or above voltage class having at least six (6) bays which should have been in successful operation for a minimum period of two(2) years as per stipulated requirements mentioned under Clause no. 5.13.2(a) of Sub-Section-IA, Part-A, Section-VI of Bidding documents. The details of above are as under:

Sl. No.	Item Description	Details
1.	Name and Address of Bidder /sub vendor and Name of contact person with email ID, Telephone & Fax Nos.	
2.	Client Name and its Address, including Tel.	

Signature of authorized signatory.....

	No. and Fax no.	
3	Name of the plant / project & its location for which the Bidder / Subvendor have designed, constructed / erected, tested and commissioned one (1) Air insulated substation of 400kV or above voltage class having at least Six (6) bays.	
4.	Name and designation of the responsible person in Clients organisation.	
5	Name & locatin of the substation / switchyard	
6.	i)Contract No. & Date	
	ii)Brief scope of work	
	iii) Value of Order	
07	Scope of work for the aforesaid contract includes the following for Bidder /sub vendor	
	(i) Manufactured	Yes/No
	(ii) Supplied	Yes/No
	iii)Type test	Yes/No
	iv)Constrction / Erection	Yes/No
	v)Testing	Yes/No
	vi)Commissioning	Yes/No
08	Details of 400kV or above Bays:	
	i)Voltage Level (in KV)	
	ii) No of Bays	
	iii) Short Circuit current rating (in kA for 1 Sec.)	
	iv)Whether Air insulated Substation/Switchyard or not	Yes/No
09	Date of Commissioning	

Signature of authorized signatory.....

10	Date of commencement of successful Operation & No of years of service	
112	Whether one (1) Air insulated substation of 400kV or above voltage class having at least Six(6) bays which should have been in successful operation for a minimum period of two(2) years prior to the date of Tech-commercial bid opening .	Yes / No
11.	Client(s) certificate(s) enclosed in support of stated experience above at Annexure.....to this Attachment-3K.(Use separate sheet for each experience/Contract)	YES* / NO*

Note :

- i) For the purpose of qualifying requirement, one no. of bay shall be considered as a bay comprising of at least one circuit breaker, two disconnectors and three single phase current transformer.
- ii) Bidder May give details of more than one installation for Employer's reference, if he so desires.

*Bidder to strike-off whichever is not applicable.

Date : (Signature).....

Place : (Printed Name).....

(Designation).....

(Common Seal).....

Signature of authorized signatory.....

In order to satisfy the requirement of as indicated in Technical Specification, Clause No. 5.13.2(b) of Sub-Section-IA, Part-A, Section-VI, We/ Sub vendor hereby confirm that M/s..... is the associates with a GIS manufacturer for sourcing of GIS equipments who meets the requirement indicated at 5.13.1 above. The associate will also be fully responsible for the performance of the GIS portion of the contract.

In such an event the Bidder shall arrange a Letter of Technical Support to this effect from its Associate as per the format enclosed in the bidding document. This Letter of Technical Support should be submitted prior to the placement of order on approved vendor.

Sl. No.	Item Description	Details
1.	Name and Address of associate and Name of contact person with email ID, Telephone & Fax Nos.	
2.	Client Name and its Address, including Tel. No. and Fax no.	
3	Name of the plant / project & its location for which the Bidder / Subvendor have designed / constructed / erected, tested and commissioned one (1) GIS insulated substation of 400kV or above voltage class having at least Six (6) bays. with short circuit current of not less than 40 kA for 1 sec .	
4.	Name and designation of the responsible person in Clients organisation.	
5	Name & locatin of the substation / switchyard	
6.	i)Contract No. & Date	
	ii)Brief scope of work	
	iii) Value of Order	
07	Scope of work for the aforesaid contract includes the following for Bidder /sub vendor	
	(i) Manufactured	Yes/No
	(ii) Supplied	Yes/No
	iii) Type test	Yes/No
	iv)Constrction / Erection	Yes/No
	v)Testing	Yes/No

Signature of authorized signatory.....

	vi)Commissioning	Yes/No
08	Details of 400kV or above Bays:	
	i)Voltage Level (in KV)	
	ii) No of Bays	
	iii) Short Circuit current rating (in kA for 1 Sec.)	
	iii)Whether GIS insulated Substation/Switchyard or not	Yes/No
09	Date of Commissioning	
10	Date of commencement of successful Operation & No of years of service	
11	Whether one (1) GIS insulated substation of 400kV or above voltage class having at least Six(6) bays which should have been in successful operation for a minimum period of two(2) years prior to the date of Tech-commercial bid opening .	Yes / No
12.	Client(s) certificate(s) enclosed in support of stated experience above at Annexure.....to this Attachment-3K.(Use separate sheet for each experience/Contract)	YES* / NO*

Note :

i)For the purpose of qualifying requirement, one no. of bay shall be considered as a bay comprising of at least one circuit breaker, two disconnectors and three single phase current transformer.

ii)Bidder May give details of more than one installation for Employer's reference, if he so desires.

*Bidder to strike-off whichever is not applicable.

Signature of authorized signatory.....

Date : (Signature).....

Place : (Printed Name).....

(Designation).....

(Common Seal).....

Signature of authorized signatory.....

ROUTE-III:

We have established manufacturing facilities for GIS Equipment in India based on technological support of an associate M/s Who meet the requirements specified in clause no. 5.13.1 of Annexure-PQR of Bidding Documents and in support of same we give the following details:

We the Bidder/Sub vendor have established manufacturing facilities for GIS equipment in India based on technological support of an associate (who meets the requirement at 5.13.1 above) and Bidder/Sub vendor should have designed, manufactured, and supplied one (1) Gas Insulated Switchgear (GIS) equipment(s) installation having at least six (6) bays of 400kV or above voltage class. The associate will be fully responsible for the performance of the GIS portion of the contract.

In such an event the Bidder shall arrange a Letter of Technical Support to this effect from its Associate as per the format enclosed in the bidding document. This Letter of Technical Support should be submitted prior to the placement of order on approved vendor as per stipulated requirements mentioned under Clause no. 5.13.3 of Annexure-PQR of Bidding documents. The details of above are as under:

For Bidder/sub-vendor's having GIS Manufacturing facility in India:

Sl. No.	Item Description	Details
1	Name & Location of the GIS manufacturing facilities	
2.	Name of contact person with email ID, Telephone & Fax Nos of GIS manufacturing facility.	
3	Name and address of the associate providing technological support with Telephone, Fax and email etc	
4	Whether manufacturing facility for GIS available in India based on technological support of Associate.	Yes*/ No*
5	Name of the plant / project & its location for which the Bidder / Subvendor have designed, constructed / erected, tested and commissioned one (1) GIS insulated substation of 400kV or above voltage class having at least Six (6) bays. with short circuit current of not less than 40 kA for 1 sec .	

Signature of authorized signatory.....

4.	Name and designation of the responsible person in Clients organisation.	
5	Name & locatin of the substation / switchyard	
6.	i)Contract No. & Date	
	ii)Brief scope of work	
	iii) Value of Order	
07	Scope of work for the aforesaid contract includes the following for Bidder /sub vendor	
	(i) Manufactured	Yes/No
	(ii) Supplied	Yes/No
	iii)Type test	Yes/No
	iv)Constrction / Erection	Yes/No
	v)Testing	Yes/No
	vi)Commissioning	Yes/No
08	Details of 400kV or above Bays:	
	i)Voltage Level (in KV)	
	ii) No of Bays	
	iii) Short Circuit current rating (in kA for 1 Sec.)	
	iii)Whether GIS insulated Substation/Switchyard or not	Yes/No
09	Date of Commissioning	
10	Date of commencement of successful Operation & No of years of service	
11	Whether one (1) GIS insulated substation of 400kV or above voltage class having at least Six(6) bays which should have been	Yes / No

Signature of authorized signatory.....

	in successful operation for a minimum period of two(2) years prior to the date of Tech-commercial bid opening .	
12.	Client(s) certificate(s) enclosed in support of stated experience above at Annexure.....to this Attachment-3K.(Use separate sheet for each experience/Contract)	YES* / NO*

Note :

i)For the purpose of qualifying requirement, one no. of bay shall be considered as a bay comprising of at least one circuit breaker, two disconnectors and three single phase current transformer.

ii)Bidder May gove details of more than one installation for Employer's reference, if he so desires.

*Bidder to strike-off whichever is not applicable.

Date : (Signature).....

Place : (Printed Name).....

(Designation).....

(Common Seal).....

Signature of authorized signatory.....

**SUPPORT FOR SATISFACTORY PERFORMANCE OF 400kV GIS FOR KORBA WEST
STPP(2X660MW)**

TO:

[EMPLOYER'S NAME & ADDRESS]

Sub: Letter of Support submitted From(name of the Associate) undertaking the responsibility for satisfactory performance of 400kV GIS.

Dear Sirs,

1. In accordance with the Award of the Contract by (Name of the Contractor) to M/s. (Name of the sub-vendor), we, the aforesaid Associate, (M/s) shall be fully responsible for the satisfactory performance of the 400kV GIS.
2. Further, the manner of achieving the objective set forth in point 1 above shall be as follows
For (Equipment name):
 - (a) We the Associate shall be fully responsible for design, engineering, manufacture, assembly, testing and inspection at manufacturer's works before despatch, packing, insurance, supply, transportation, delivery to project site, handling, storage and preservation at site store, transportation to place of installations, complete work of site assembly, erection, testing at site and commissioning of 400 KV GIS Equipment and putting into satisfactory operation.
 - (b) Further, we shall depute our technical experts from time to time to the Contractor's/*Sub-Vendor's works/Employer's project site as and when necessary to facilitate the successful performance of the 400 KV GIS.
 - (c) Further, We shall ensure proper design, manufacture, supply, installation, testing and commissioning for the successful performance of the 400 KV GIS Equipment covered under the said Contract in accordance with stipulations of Bidding Documents and if necessary the we shall advise the Contractor/*Sub-Vendor suitable modifications of design and implement necessary corrective measures to discharge the obligations under the contract.
 - (d) We shall participate in Technical Co-ordination meetings (TCMs) from time to time, as and when required by Employer.
 - (e) We shall promptly carry out all the corrective measures and shall promptly provide corrected design and shall undertake replacements, rectifications or modifications to the equipment as

Signature of authorized signatory.....

and when required by Employer in case the equipment fails to demonstrate successful performance as per contract at site.

3. We, the Associate do hereby undertake and confirm that this Letter of Support shall be valid till 90(ninety) days after the end of the defect liability period of the contract.

Representative:.....

Signature of the Authorised

For M/s

(Associate)

Name

Designation

Date:.....

Common Seal of the Company

***: Strike off whichever is not applicable.**

Signature of authorized signatory.....

REV No: 03

DATE: 23.07.204

Sl. No.	Item Description	Unit	Qty.	Remarks
1.0	SUPPLY- GIS: 400KV, 63KA FOR 1S, GAS INSULATED SWITCHGEAR (GIS) AS PER TS (Two bus with One & Half Breaker Scheme)			
1.01	GIS SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS BUS BAR MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	2	
1.02	GIS SUPPLY: 400KV, 63 kA, SF6 BUS PT BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	2	400KV PT BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Disconnector with Double Maintenance Grounding Switch, complete with operating mechanism. (b) 3 NO- 1 phase multi winding Voltage Transformer In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable shall be included, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.03	GIS BAY SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS GT FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	2	400KV GIS BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Circuit Breaker compatible for Controlled Switching Facility, complete with operating mechanism (b) 3 SET- 1 NO x3 phase Disconnector, complete with operating mechanism. (c) 3 SET- 1 NO x3 phase Maintenance Grounding Switch, complete with operating mechanism. (d) 6 NO- 1 phase multi ratio Current Transformer (f) 3 NO- 1 phase multi ratio Current Transformer for metering purpose In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.04	GIS BAY SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS ST FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	2	400KV GIS BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Circuit Breaker compatible for Controlled Switching Facility, complete with operating mechanism. (b) 3 SET- 1 NO x3 phase Disconnector, complete with operating mechanism. (c) 3 SET- 1 NO x3 phase Maintenance Grounding Switch, complete with operating mechanism. (d) 6 NO- 1 phase multi ratio Current Transformer (e) 3 NO- 1 phase multi ratio Current Transformer for metering purpose In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.05	GIS BAY SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS LINE FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	2/ 4	400KV GIS BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Circuit Breaker compatible for Controlled Switching Facility, complete with operating mechanism. (b) 3 SET- 1 NO x3 phase Disconnector, complete with operating mechanism. (c) 2 SET- 1 NO x3 phase Maintenance Grounding Switch, complete with operating mechanism. (d) 1 SET- 1 NO x3 phase Fast Acting Earthing Switch, complete with operating mechanism. (e) 6 NO- 1 phase multi ratio Current Transformer (f) 3 NO- 1 phase multi ratio Current Transformer for metering purpose In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.06	GIS BAY SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS LINE FEEDER BAY MODULE FOR INTERCONNECTION WITH EXISTING SWITCHYARD (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	4/ 2	400KV GIS BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Circuit Breaker compatible for Controlled Switching Facility, complete with operating mechanism. (b) 3 SET- 1 NO x3 phase Disconnector, complete with operating mechanism. (c) 2 SET- 1 NO x3 phase Maintenance Grounding Switch, complete with operating mechanism. (d) 1 SET- 1 NO x3 phase Fast Acting Earthing Switch, complete with operating mechanism. (e) 6 NO- 1 phase multi ratio Current Transformer (f) 3 NO- 1 phase multi ratio Current Transformer for metering purpose In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.07	GIS BAY SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS TIE FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	4/ 6	400KV GIS BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Circuit Breaker compatible for Controlled Switching Facility, complete with operating mechanism. (b) 2 SET- 1 NO x3 phase Disconnector, complete with operating mechanism. (c) 4 SET- 1 NO x3 phase Maintenance Grounding Switch, complete with operating mechanism. (d) 6 NO- 1 phase multi ratio Current Transformer In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.08	GIS BAY SUPPLY: 400KV, 3150A, 63 kA, SF6 GIS BUS REACTOR FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	SET	1	400KV GIS BAY MODULE shall include following but not limited to, (a) 1 SET- 1 NO x3 phase Circuit Breaker compatible for Controlled Switching Facility, complete with operating mechanism. (b) 3 SET- 1 NO x3 phase Disconnector, complete with operating mechanism. (c) 2 SET- 1 NO x3 phase Maintenance Grounding Switch, complete with operating mechanism. (d) 1 SET- 1 NO x3 phase Fast Acting Earthing Switch, complete with operating mechanism. (e) 6 NO- 1 phase multi ratio Current Transformer In addition to above, Gas device, UHF sensors, Pressure Switches, Expansion joints/ Flexible connections, Insulators etc. as applicable, however, Controlled Switching Device (CSD), Surge Arrester with counter, Online PD Monitoring System, Local Control Cubicle and End Terminations, if applicable shall be covered separately. GIS shall be complete with all necessary terminal boxes, inspection windows, SF6 gas, grounding connection, pipings for gas monitoring system, trays, support structures with mounting hardware, walkways, interconnecting cables with glands, ferrules, lugs etc. Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.09	GIS SUPPLY: 400KV, ONLINE PD MONITORING SYSTEM (OPMS) FOR 400KV GIS SYSTEM	Lot	1	Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.10	GIS SUPPLY: 400KV, CONTROLLED SWITCHING DEVICE (CSD) FOR 420KV, 3- PH CIRCUIT BREAKER	SET	6/ 10	It is considered for ST & BR BAYS WITH ASSOCIATED TIE BAYS. 1 SET= 1 NO. OF EACH TYPE & RATING Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.11	SUPPLY- GIS : 400KV, 3150A, 1 PHASE GAS INSULATED BUS DUCT (INCLUDING SF6 GAS, STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	MTRS	2200/ 3500	Please refer section-2 (TS for 400KV GIS)- Technical Specification.
1.12	GIS SUPPLY: 400KV, 3150A, 1 PHASE SF6 TO AIR BUSHING (POLYMER) (INCLUDING SF6 GAS, STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	SET	24/ 33	1 SET= 1 NO. OF EACH TYPE & RATING Please refer section-2 (TS for 400KV GIS)- Technical Specification. It is considered for LINE FEEDER BAYS only.

Sl. No.	Item Description	Unit	Qty.	Remarks
1.13	GIS SUPPLY: 390KV, 20KA, CLASS-4, 1 PHASE SURGE ARRESTER WITH SURGE COUNTER (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS)	SET	6	Please refer section-2 (TS for 400kV GIS)- Technical Specification. 1 SET= 1 NO. OF EACH TYPE & RATING It is considered for BUS BAR MODULE only, however, no. of surge arrester, its exact rating and location shall be decided based on insulation coordination/ transient studies.
1.14	GIS SUPPLY: LOCAL CONTROL CUBICLES	SET	42/ 17	Please refer section-2 (TS for 400kV GIS)- Technical Specification. It is considered for GIS BAYS only. These LCC shall include any other requirement related to Bus Earth Switch/ PT Bay etc.
2.0	SUPPLY- GIS: SPECIAL TOOLS AND TESTING & MAINTENANCE INSTRUMENTS AS PER TS			
2.01	GIS SUPPLY: SF6 GAS FILLING AND EVACUATING EQUIPMENT (PORTABLE)	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.02	GIS SUPPLY: SF6 GAS FILTERING, DRYING, STORAGE AND RECYCLING PLANT	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.03	GIS SUPPLY: SF6 GAS LEAK DETECTOR	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.04	GIS SUPPLY: OPERATIONAL ANALYSER WITH DCRM KIT	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.05	GIS SUPPLY: SELF-POWERED HYDRAULIC AERIAL WORKING- PLATFORM WITH ARTICULATED AND FLY BOOM FOR GENERAL PURPOSE MAINTENANCE IN SWITCHYARD AND TRANSFORMER YARD. (SUITABLE FOR 24M WORKING HEIGHT)	NO.	4	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.05	GIS SUPPLY: DEW POINT METER	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.06	GIS SUPPLY: PORTABLE PD MONITORING SYSTEM FOR GAS INSULATED SWITCHGEAR	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.07	GIS SUPPLY: SF6 GAS ANALYZING EQUIPMENT AND INSTRUMENT	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.08	GIS SUPPLY: PORTABLE LEAKAGE CURRENT ANALYZER (FOR GAPLESS SURGE ARRESTER)	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
2.09	GIS SUPPLY: HYDRAULIC PORTABLE TYPE LADDER	NO.	1	Please refer section-2 (TS for 400kV GIS)- Technical Specification.
3.0	SPARES- GIS: 400KV, 63KA FOR 1S, GAS INSULATED SWITCHGEAR (GIS) AS PER TS			
3.01	GIS SPARES: 400kV GIS- SF6 Gas Pressure Relief Devices of each type along with O-Rings	NO.	3	
3.02	GIS SPARES: 400kV GIS- SF6 Pressure gauge with coupling device cum switch or density monitors and pressure gauge, as applicable (of each type)	LOT	1	1 SET= 5% of total population (Max. 5 nos and min.1 nos)
3.03	GIS SPARES: 400kV GIS- Coupling device of each type for pressure gauge cum switch for connecting Gas handling plant	SET	2	
3.04	GIS SPARES: 400kV GIS- Rubber gaskets, O-Rings and seals for SF6 gas, including Circuit Breaker, Disconnecter and other GIS equipment	SET	3	
3.05	GIS SPARES: 400kV GIS- Molecular filter for SF6 gas with filter bags	SET	1	1 SET= 5% of Total weight
3.06	GIS SPARES: 400kV GIS- All type of control valves for SF6 gas of each type	SET	3	
3.07	GIS SPARES: 400kV GIS- SF6 gas cylinder of 50Kgs/ cylinder	LOT	1	LOT 1= 20% of total gas qty
3.08	GIS SPARES: 400kV GIS- Locking device to keep the Dis-connectors and Earthing switches in close or open position in case of removal of the driving mechanism (If applicable)	NO.	3	
3.09	GIS SPARES: 400kV GIS- Spares for Local control cabinet including MCB, fuses, timers, Aux Relays, contactors, push buttons, switches, lamps, annunciation windows etc of each type & rating, terminals of each type (Set)	SET	2	
3.10	GIS SPARES: 400kV GIS- UHF PD sensors of each type, if applicable	LOT	1	LOT 1= 5% of total population (max 5nos and min 1no)
3.11	GIS SPARES: 400kV GIS- Bus Support insulator / gas Barrier of each type along with associated contacts and shields	NO.	5	
3.12	GIS SPARES: 400kV GIS- SF6 to air bushing of each type & rating along with conductor and enclosure for 1 phase enclosure	NO.	1	
3.13	GIS SPARES: 400kV GIS- All types of Corona shield	SET	1	1 SET= 3 No. of each type
3.14	GIS SPARES: 400kV GIS Circuit Breaker- One complete pole (1phase unit) of circuit breaker including CSD/Closing resistor, grading capacitor(as applicable), of each type & rating complete with , interrupter, main circuit , enclosure and marshalling Box with operating Mechanism to enable replacement of any type / rating of CB by spare	SET	1	1 SET= 1 No. of each type & rating
3.15	GIS SPARES: 400kV GIS Circuit Breaker- Tripping coils assembly with resistors as applicable	SET	2	1 SET= 3 No. of each type

Sl. No.	Item Description	Unit	Qty.	Remarks
3.16	GIS SPARES: 400kV GIS Circuit Breaker- closing coil assembly with resistor as applicable (3nos of each type)	SET	2	1 SET= 3 No. of each type
3.17	GIS SPARES: 400kV GIS Circuit Breaker- Relays, Power contactors, push buttons, timers & MCBs etc of each type & rating(If applicable)	SET	1	
3.18	GIS SPARES: 400kV GIS Circuit Breaker- Aux. switch assembly	SET	1	1 SET= 3 No. of each type
3.19	GIS SPARES: 400kV GIS Circuit Breaker- Operation counter	SET	1	1 SET= 3 No. of each type
3.20	GIS SPARES: 400kV GIS Circuit Breaker- Window scope/ Observing window, if applicable	SET	1	1 SET= 3 Nos. of each type
3.21	GIS SPARES: 400kV GIS Circuit Breaker-Spare of Hydraulic operated mechanism if Applicable: a. Hydraulic operating mechanism with drive Motor of each type- 1 no. b. Ferrules and joints & couplings of each type- 1 Set c. Hydraulic Filter of each type- 1 Set d. High Pressure Hose of each type- 1 Set e. N2 accumulator of each type- 2 No. f. Pressure Transducers- 1No. g. Valves of each type- 1 Set h. Orings, gaskets and seals- 1 Set i. Pressure gauges with coupling device of each type- 1 Set j. Hydraulic oil- 20% of total used quantity in substation k. Limit switch- 1 no. of each type l. Pipe length (Copper & steel) of each size & type-1set m. Pressure switch of each type-2nos n. Pressure Relief device of each type- 1set	LOT	1	1 LOT= 1 Set for each type of Circuit Breaker
3.22	GIS SPARES: 400kV GIS Circuit Breaker- Complete Spring operating Mechanism including charging mechanism etc of each type & rating if applicable	SET	1	
3.23	GIS SPARES: 400kV GIS Circuit Breaker- Spring charging motor of each type & rating	NO.	2	
3.24	GIS SPARES: 400kV GIS Disconnecter- Complete set of 3 nos. of single phase/ one 3- ph isolator of each type, dimension, current & voltage rating including main circuit, enclosure, driving mechanism and support insulator etc. to enable replacement of any type/ rating of isolator by spare	SET	1	
3.25	GIS SPARES: 400kV GIS Disconnecter- Complete set of 3 nos. of single phase/ one3-ph Maintenance earthing switch of each type, dimension, current & voltage rating including main circuit , enclosure , driving mechanism and support insulator etc to enable replacement of any type / rating of isolator by spare	SET	1	
3.26	GIS SPARES: 400kV GIS Disconnecter- Complete set of 3 nos. of single phase / one 3-ph Fast earthing switch of each type, dimension, current & voltage rating including main circuit, enclosure, driving mechanism and support insulator etc. to enable replacement of any type / rating of isolator by spare	SET	1	
3.27	GIS SPARES: 400kV GIS Disconnecter- Copper Contact fingers for isolator male & female contact along with corona shield -for one complete (3 phase) isolator of each type and rating	SET	1	
3.28	GIS SPARES: 400kV GIS Disconnecter- Copper Contact fingers for Maintenance earthing switch male & female contact along with corona shield -for one complete (3 phase) isolator of each type and rating	SET	1	
3.29	GIS SPARES: 400kV GIS Disconnecter- Copper Contact fingers for Fast earthing switch male & female contact along with corona shield -for one complete (3phase) isolator of each type and rating, If Applicable	SET	1	
3.30	GIS SPARES: 400kV GIS Disconnecter- Open/ close contactor assembly, timers, key interlock, interlocking coils, relays , push buttons indicating lamps , power contactors, resistors, fuses MCBs & drive control cards etc for one complete MOM box (3-ph gang operated or 1-ph unit) disconnecter and (3 ph) earthing switch of each type and rating for one complete (3 ph) disconnecter and earthing switch of each type & rating, if applicable a) For Disconnecter- 1SET b) For Maintenance Earth switch- 1SET c) For Fast Earthing switch- 1SET	LOT	1	
3.31	GIS SPARES: 400kV GIS Disconnecter- Limit switches and Aux. switches for complete 3-phase equipment, a) For Disconnecter- 1SET b) For earth switch- 1 SET c) For high-speed earth switch- 1SET	LOT	1	
3.32	GIS SPARES: 400kV GIS Disconnecter- Drive Mechanism of each type, a) For isolator- 1SET b) For Maintenance Earth switch- 1SET c) For Fast Earthing switch- 1SET	LOT	1	
3.33	GIS SPARES: 400kV GIS Disconnecter- Motor Drive Mechanism of each type, a) For isolator- 1SET b) For Maintenance Earth switch- 1SET c) For Fast Earthing switch- 1SET	LOT	1	
3.34	GIS SPARES: 400kV GIS Current Transformer- Complete CT, of each type and with enclosure to enable replacement of any type/ rating of CT as spare	SET	1	1 SET= 1 NO. of each type/ rating
3.35	GIS SPARES: 400kV GIS Voltage Transformer- Complete VT of each type and with enclosure to enable replacement of any type / rating of VT as spare	SET	1	1 SET= 1 NO. of each type/ rating
3.36	GIS SPARES: 400kV GIS Surge Arrestor- Complete Surge Arrestors of each type andwith enclosure with surge monitor counter to enable replacement of any type/ rating of VT as spare	SET	1	1 SET= 1 NO. of each type/ rating
3.37	GIS SPARES: 400kV GIS Surge Arrestor- Surge Monitor and counter of each type/ rating	SET	1	1 SET= 1 NO. of each type/ rating

Sl. No.	Item Description	Unit	Qty.	Remarks
4.0	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. Bidder to ensure that the unit prices have a logical relationship with prices of assemblies in main items. Quoting for unit prices is mandatory and shall be considered for evaluation).			
4.01	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR CIRCUIT BREAKER COMPLETE IN ALL RESPECT	Set	1	
4.02	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR DISCONNECTOR	Set	1	
4.03	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH COMPLETE IN ALL RESPECT	Set	1	
4.04	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR FAST ACTING/ HIGH SPEED GROUNDING SWITCH COMPLETE IN ALL RESPECT	Set	1	
4.05	SUPPLY- GIS: SPARES: 400KV, MAINTENANCE EARTHING SWITCH WITH ENCLOSURE COMPLETE IN ALL RESPECT	Set	1	1 SET= 1 NO. of POLE each type and each rating.
4.06	SUPPLY- GIS: SPARES: 400KV, FAST ACTING/ HIGH SPEED GROUNDING SWITCH WITH ENCLOSURE COMPLETE IN ALL RESPECT	Set	1	1 SET= 1 NO. of POLE each type and each rating.
4.07	SUPPLY- GIS: SPARES: 400KV, CURRENT TRANSFORMER (2 CORE) WITH ENCLOSURE COMPLETE IN ALL RESPECT	Set	1	1 SET= 1 NO. of each type and each rating.
4.08	SUPPLY- GIS: SPARES: 400KV, CURRENT TRANSFORMER (3 CORE) WITH ENCLOSURE COMPLETE IN ALL RESPECT	Set	1	1 SET= 1 NO. of each type and each rating.
4.09	SUPPLY- GIS: SPARES: 400KV, CURRENT TRANSFORMER (5 CORE) WITH ENCLOSURE COMPLETE IN ALL RESPECT	Set	1	1 SET= 1 NO. of each type and each rating.
4.10	SUPPLY- GIS: SPARES: 400KV, SINGLE PHASE BUS BAR	Mtrs	1	Complete in all respect.
4.11	SUPPLY- GIS: SPARES: 400KV, GIS METALLIC ENCLOSURE	Kgs	50	
4.12	SUPPLY- GIS: SPARES: 400KV, EXPANSION JOINTS	Set	1	1set= 1 nos. of each type and each rating.
4.13	SUPPLY- GIS: SPARES: 400KV, FLEXIBLE CONNECTIONS	Set	1	1set= 1 nos. of each type and each rating.
4.14	SUPPLY- GIS: SPARES: 400KV, BARRIER INSULATOR	Set	1	1set= 1 nos. of each type and each rating.
4.15	SUPPLY- GIS: SPARES: 400KV, NON-BARRIER INSULATOR	Set	1	1set= 1 nos. of each type and each rating.
4.16	SUPPLY- GIS: SPARES: 400KV, GAS SEALS	Set	1	1set= 1 nos. of each type and each rating.
4.17	SUPPLY- GIS: SPARES: 400KV, GAS DENSITY MONITOR SWITCH	Set	1	1set= 1 nos. of each type and each rating.
4.18	SUPPLY- GIS: SPARES: 400KV, GAS PRESSURE SWITCH	Set	1	1set= 1 nos. of each type and each rating.
4.19	SUPPLY- GIS: SPARES: 400KV, TEE BEND	Set	1	1set= 1 nos. of each type and each rating.
4.20	SUPPLY- GIS: SPARES: 400KV, ANGLE BEND	Set	1	1set= 1 nos. of each type and each rating.
4.21	SUPPLY- GIS: SPARES: 400KV, L-BEND	Set	1	1set= 1 nos. of each type and each rating.

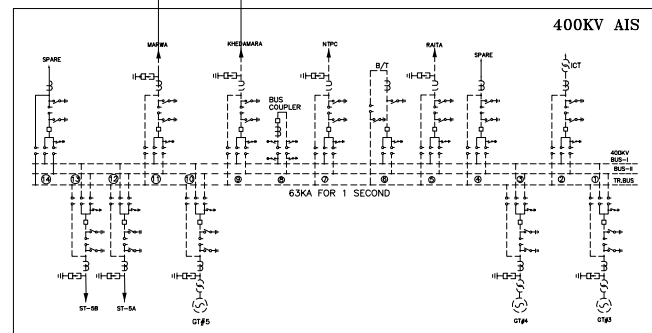
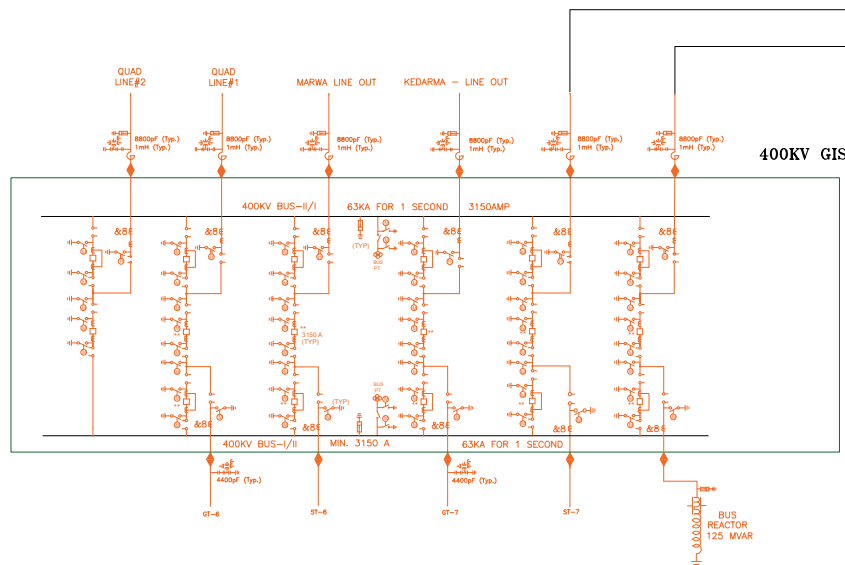
REV No: 03


DATE: 23.07.204

Sl. No.	Description	Unit	Quantity	Remarks
5.0	SERVICES- GIS : 400KV, 63KA FOR IS, GAS INSULATED SWITCHGEAR (GIS) AS PER TS			
5.01	SERVICES- 400kV GIS: SUPERVISION OF ERECTION OF GIS	Bays	42/ 17	Supervision of erection of GIS with main bus, bus PT bat complete as per TS in all respect including LCC and its accessories. It also includes verification of materials for proper storage at site for final storage. Earthing, SF6 Gas Filing works, Internal Cabling from GIS to LCC, including Structure Works are covered under this item. GIS Bus Duct, SF6 to Air Bushing (SAB), Surge Arrester are not covered in this BOQ item.
5.02	SERVICES- 400kV GIS: SUPERVISION OF ERECTION OF 1-PHASE GAS INSULATED BUS DUCT	MTR	2200/ 3500	Supervision of erection of GIB complete as per TS in all respect. GIB shall be considered from first equipment of GIS. Earthing, SF6 Gas Filing works, Internal Cabling including Structure Works are covered under this item.
5.03	SERVICES- 400kV GIS: SUPERVISION OF ERECTION OF 1 PHASE SF6 TO AIR BUSHING	SET	24/ 33	Earthing, SF6 Gas Filing works, including Structure Works are covered under this item.
5.04	SERVICES- 400kV GIS: SUPERVISION OF ERECTION OF 1 PHASE SURGE ARRESTER WITH SURGE COUNTER	SET	6	Earthing, SF6 Gas Filing works, including Structure Works are covered under this item.
5.05	SERVICES- 400kV GIS: TESTING & COMMISSIONING OF GIS	Bays	42/ 17	Testing and commissioning of complete GIS system including main bus, LCC and associated system (LA, VT, CSD etc.) is to be executed by bidder. All the special testing instruments, kits, T&P etc. are to be arranged by bidder on returnable basis. Please refer relevant section of technical specification for details.
5.06	SERVICES- 400kV GIS : TESTING & COMMISSIONING OF GAS INSULATED BUS DUCT	MTR	2200/ 3500	Testing and commissioning of GIB complete as per TS in all respect. GIB shall be considered from first equipment of GIS. All the special testing instruments, kits, T&P etc. are to be arranged by bidder on returnable basis. Please refer relevant section of technical specification for details.
5.07	SERVICES- 400kV GIS : FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	Bays	42/ 17	Carrying out successful HV/ Power Frequency Testing of GIS as per IEC including Arrangement of HV Test kit with operator (on returnable basis) shall be in scope of bidder, which includes charges of HV test kit with operator, accessories & tools required for completion of HV testing. The quoted price shall include GIS bays including Main Bus, GIB, SAB, SOB and other common items as per TS complete in all respect. In this BOQ item, mobilization and demobilization for HV test kit is considered for once. In case of more, for reasons not attributable to bidder, same shall be paid extra as per BOQ Item.
5.08	SERVICES- 400kV GIS : INSULATION CO-ORDINATION STUDIES FOR GIS SYSTEM	LOT	1	1 Lot means Complete study report as per technical specification, Including VFTO report.
5.09	SERVICES- 400kV GIS : TRAINING FOR GIS AT MANUFACTURER WORKS (MIN. 8 NO. CUSTOMER/ BHEL OFFICIAL)	DAY	5	GIS equipments including system description, Basic Design and engineering, Quality Assurance concepts, Erection and operational aspects for the offered equipments. Boarding & Lodging shall be borne by Bidder.
5.10	SERVICES- 400kV GIS : TRAINING FOR GIS AT SITE (MIN. 6 NO. CUSTOMER/ BHEL OFFICIAL)	DAY	5	Operation, Maintenance, Site Testing and Trouble shooting for GIS.

Sl. No.	Description	Unit	Quantity	Remarks
6.0	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)			
6.01	SERVICES- 400kV GIS: REF. UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR SUPERVISION OF ERECTION OF GIS	MANDAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder) This item will be executed only if repetition of services is required by BHEL.
6.02	SERVICES- 400kV GIS: REF. UNIT PRICE OF GIS INDIVIDUAL ITEM/ EQUIPMENT - SERVICES FOR TESTING & COMMISSIONING OF GIS	MANDAY	10	Charges for repetition of services - (if required due to reasons not attributed to the bidder) This item will be executed only if repetition of services is required by BHEL.
	DEMOBILIZATION AND REMOBILIZATION CHARGES			
6.03	SERVICES- 400kV GIS: DEMOBILIZATION AND REMOBILIZATION CHARGES FOR GIS ERECTION SUPERVISION TEAM	Set	2	THIS BOQ ITEM SHALL BE PAYABLE IF REQUIRED FOR REASONS NOT ATTRIBUTABLE TO BIDDER.
6.04	SERVICES- 400kV GIS: DEMOBILIZATION AND REMOBILIZATION CHARGES FOR GIS TESTING & COMMISSIONING TEAM	Set	2	BOQ ITEM SHALL BE PAYABLE IF REQUIRED FOR REASONS NOT ATTRIBUTE TO BIDDER. HV TESTING IS NOT PART OF THIS ITEM.
6.05	SERVICES- 400kV GIS: DEMOBILIZATION & REMOBILIZATION CHARGES OF HV TEST KIT ALONG WITH OPERATOR	Lot	1	In this BOQ item, mobilization and demobilization chages for HV test kit is considered for second time or more , for reasons not attributable to bidder. HV testing charges shall be paid per bay basis as per main HV testing charge.
6.06	SERVICES- 400kV GIS: TYPE TEST CHARGES FOR 400KV GIS (AS PER ANNEXURE- BREAK UP OF TYPE TEST CHARGES FOR 400KV GIS)	Lot	1	Unit rate against each type test shall be quoted and total amount shall be quoted against this item.

Annexure- Breakup of Type test charges for 400kV GIS				
The following type tests on typical 400kV GIS (As Applicable) GIS bay module as per IEC 62271-203. The components forming parts of the GIS which are covered by other standards shall comply with and shall be type tested according to those standards.				
Sl. No.	Description of Test	Number of Type/ Rating	Charges for one Type/ Rating (Rs.)	Total Price (Rs.)
A.	The following type tests on typical 400kV (As Applicable) GIS bay module as per IEC 62271-203. The components forming parts of the GIS which are covered by other standards shall comply with and shall be type tested according to those standards			
(i)	Lightning impulse voltage dry tests.			
(ii)	Switching impulse voltage dry tests.			
(iii)	Power frequency voltage dry tests.			
(iv)	Partial discharge tests.			
(v)	Test to prove the temperature rise of any part of the equipment and measurement of the resistance of the main circuit.			
(vi)	Test to prove the ability of the main circuit and earthing circuit to carry the rated peak and the rated short time withstand current.			
(vii)	Test to verify the making and breaking capacity of the included switching devices.			
(viii)	Test for satisfactory operation of the included switching devices.			
(ix)	Test to prove the strength of enclosures.			
(x)	Gas tightness tests			
(xi)	Electromagnetic capability test (EMC)			
(xii)	Test on partitions			
(xiii)	Internal arc tests			
(xiv)	Mechanical operation tests.			
(xv)	Test to prove the satisfactory operation at limit temperature.			
(xvi)	Verification of degree of protection of auxiliary and control circuit			
(xvii)	Test to prove performance under thermal cycling and gas tightness test on gas barrier insulators			
(xviii)	Capacitive Current switching test			
(xix)	Shunt reactor current switching test			
B	For surge arrester and Bus VT following type tests as per relevant IEC. 400kV (As Applicable) Surge Arrester (As per IEC 60099-4)			
(a)	Insulation withstand test on housing			
(b)	Residual voltage test			
(c)	Long duration current impulse withstand test			
(d)	Operating duty test			
(e)	Partial Discharge Test			
(f)	Leakage Test			
C	400kV (As Applicable) Bus VT (As per IEC 60044-2)			
(a)	Temperature rise test			
(b)	Lighting Impulse test			
(c)	Switching Impulse test			
(d)	Determination of errors			
(e)	Short circuit withstand capability			
Total (Rs.):				



OWNER		CHATTISGARH STATE POWER GENERATION COMPANY LTD.	
		<i>NTPC Limited</i> (A GOVT. OF INDIA ENTERPRISE) ENGINEERING DIVISION	
PROJECT		2X660MW SUPER CRITICAL THERMAL POWER PROJECT KORBA WEST, CHATTISGARH	
TITLE		SWITCHYARD SINGLE LINE DIAGRAM 400KV ARRANGEMENT	
SIZE A1	SCALE	DRG.NO.	REV. 2
		11255-999-POE-J-002	

28

385	VI-A	II-B	14 of 34	1.16.00.1	Scope of work comprises of Design, supply, erection, testing and commissioning of 400kV SFG Gas Insulated switchyard including AIS portion, As shown in Switchyard Single Line diagram (DrG. No 11255-999-POE-J-002). The existing 400 kV switchyard is provided with Two Main and One Transfer Bus scheme. The switchyard shall employ switching scheme for existing as well as the newly proposed switchyard as indicated in single line diagram.	For the AIS extension Bay scope, please provide the following drawings:- 1) Existing Cable trench Layout 2) Existing EHV Equipment Structure Drawings 3) Existing Switchyard Tower and Beam Drawings 4) Existing Earthing Layout Drawing or existing earthing spacing 5) Existing Switchyard Layout & Section drawings Since the scope is extension of the existing switchyard, so the above drawings are required to avoid any mismatches.	Scope of IIB - Electrical System/Equipment removed from the scope. Bidder may please refer to the Electrical Amendment - VIII for the Revised Scope of IIB - Electrical System/Equipment	Integration works with existing switchyard has been removed from the scope. Bidder may please refer to the Electrical Amendment - VIII for the Revised Scope of IIB - Electrical System/Equipment	386	VI-A	II-B	16 of 34	1.16.04.1	400kV AIS equipment: Circuit Breaker (with and without CSD), Bidder understand Circuit Breaker for the 400kV extension bay will be without CSD and without closing resistor/PIR. Please confirm.	Integration works with existing switchyard has been removed from the scope. Bidder may please refer to the Electrical Amendment - VIII for the Revised Scope of IIB - Electrical System/Equipment	387		II-B	19 of 34	1.16.04	The equipment and materials to be supplied by the Contractor shall form a complete 400 kV GIS at CSPGCL HTPS Korba west Project (2 x 660 MW). Switchyard Single Line Diagram Notes point no. 7- Separate GIS CT shall be provided 1) For the 400kV GIS, we understand circuit breaker with CSD is recommended for GT Bays and its corresponding The bays also. Please confirm. 2) Circuit breaker with PIR/Closing resistor is not required for line bays , Please confirm. 3) As per Single line diagram notes point no. 7, the metering CTs are not marked in the SLD, please clarify. 4) Bidder understand the metering CTs will be Air insulated type. Please confirm. 5) Bidder understand separate metering CT in 400kV AIS extension is not applicable. Please confirm.	1. Bidder to refer Amendment EE-9 in this regard. 2. Confirmed 3. Please refer to Notes point no 8 of SLD -Separate GIS CT shall be provided for metering purpose. 4. Bidder understanding is not correct. Separate GIS CT shall be provided for metering purpose. 5. Integration works with existing switchyard has been removed from the scope. Bidder may please refer to the Electrical Amendment - EE-8 for the Revised Scope of IIB - Electrical System/Equipment	388	SECTION III (BDS)	93 of 2053	9.2	As site levelling, infrastructures like construction power, construction offices, Construction store, steel yard etc (as specified in the scope) and SG/TG/Chimney civil works etc are included in the scope of EPC contract. It is necessary that the prospective bidders will tie up with sub agency/sources during bidding stage, so that the award for such work is finalized/placed in the 1st month on award of EPC contract.	In BHEL, selection of subcontractors for various packages is through open tender process. Further, clarification reg subcontractor approval is also being raised & reply awaited from CSPGCL. Hence it is requested not to insist for tie-up with agencies during bidding stage. However, BHEL assures to take up award activities in timely manner to meet the mutually agreed milestone schedule during execution.	Provisions of bidding documents shall prevail
-----	------	------	----------	-----------	---	---	--	---	-----	------	------	----------	-----------	---	---	-----	--	------	----------	---------	---	---	-----	-------------------	------------	-----	---	---	---

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT in Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
1.01	GIS SUPPLY: 400KV, 3150A, 63 ka, SF6 GIS BUS BAR MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item1	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.02	GIS SUPPLY: 400KV, 63 ka, SF6 BUS PT BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item2	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.03	GIS BAY SUPPLY: 400kv, 3150A, 63 ka, SF6 GIS GT FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item3	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.04	GIS BAY SUPPLY: 400kv, 3150A, 63 ka, SF6 GIS ST FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item4	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.05	GIS BAY SUPPLY: 400kv, 3150A, 63 ka, SF6 GIS LINE FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item5	4	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.06	GIS BAY SUPPLY: 400kv, 3150A, 63 ka, SF6 GIS LINE FEEDER BAY MODULE FOR INTERCONNECTION WITH EXISTING SWITCHYARD (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item6	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.07	GIS BAY SUPPLY: 400kv, 3150A, 63 ka, SF6 GIS TIE FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item7	6	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.08	GIS BAY SUPPLY: 400kv, 3150A, 63 ka, SF6 GIS BUS REACTOR FEEDER BAY MODULE (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS) AS PER TS	item8	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.09	GIS SUPPLY: 400KV, ONLINE PD MONITORING SYSTEM (OPMS) FOR 400KV GIS SYSTEM	item9	1	Lot	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.10	GIS SUPPLY: 400KV, CONTROLLED SWITCHING DEVICE (CSD) FOR 420KV, 3- PH CIRCUIT BREAKER	item10	10	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.11	SUPPLY- GIS : 400KV, 3150A, 1 PHASE GAS INSULATED BUS DUCT (INCLUDING SF6 GAS, STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item11	3500	MTRS	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.12	GIS SUPPLY: 400KV, 3150A, 1 PHASE SF6 TO AIR BUSHING (POLYMER) (INCLUDING SF6 GAS, STRUCTURE WITH HARDWARES AND EARTHING MATERIALS)	item12	33	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.13	GIS SUPPLY: 390KV, 20ka, CLASS-4, 1 PHASE SURGE ARRESTER WITH SURGE COUNTER (INCLUDING SF6 GAS, STRUCTURE, HARDWARES & EARTHING MATERIALS)	item13	6	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
1.14	GIS SUPPLY: LOCAL CONTROL CUBICLES	item14	17	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
2.01	GIS SUPPLY: SF6 GAS FILLING AND EVACUATING EQUIPMENT (PORTABLE)	item15	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.02	GIS SUPPLY: SF6 GAS FILTERING, DRYING, STORAGE AND RECYCLING PLANT	item16	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.03	GIS SUPPLY: SF6 GAS LEAK DETECTOR	item17	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.04	GIS SUPPLY: OPERATIONAL ANALYSER WITH DCRM KIT	item18	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.05	GIS SUPPLY: DEW POINT METER	item19	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.06	GIS SUPPLY: PORTABLE PD MONITORING SYSTEM FOR GAS INSULATED SWITCHGEAR	item20	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.07	GIS SUPPLY: SF6 GAS ANALYZING EQUIPMENT AND INSTRUMENT	item21	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.08	GIS SUPPLY: PORTABLE LEAKAGE CURRENT ANALYZER (FOR GAPLESS SURGE ARRESTER)	item22	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
2.09	GIS SUPPLY: HYDRAULIC PORTABLE TYPE LADDER	item23	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.01	GIS SPARES: 400kV GIS- SF6 Gas Pressure Relief Devices of each type along with O-Rings	item24	3	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.02	GIS SPARES: 400kV GIS- SF6 Pressure gauge with coupling device cum switch or density monitors and pressure gauge, as applicable (of each type)	item25	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.03	GIS SPARES: 400kV GIS- Coupling device of each type for pressure gauge cum switch for connecting Gas handling plant	item26	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.04	GIS SPARES: 400kV GIS- Rubber gaskets,“O”Rings and seals for SF6 gas, including Circuit Breaker, Disconnecter and other GIS equipment	item27	3	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.05	GIS SPARES: 400kV GIS- Molecular filter for SF6 gas with filter bags	item28	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
3.06	GIS SPARES: 400kV GIS- All type of control valves for SF6 gas of each type	item29	3	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.07	GIS SPARES: 400kV GIS- SF6 gas cylinder of 50Kgs/ cylinder	item30	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.08	GIS SPARES: 400kV GIS- Locking device to keep the Dis-connectors and Earthing switches in close or open position in case of removal of the driving mechanism (If applicable)	item31	3	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.09	GIS SPARES: 400kV GIS- Spares for Local control cabinet including MCB, fuses, timers, Aux Relays, contactors, push buttons, switches, lamps, annunciation windows etc of each type & rating, terminals of each type (Set)	item32	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.1	GIS SPARES: 400kV GIS- UHF PD sensors of each type, if applicable	item33	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.11	GIS SPARES: 400kV GIS- Bus Support insulator / gas Barrier of each type along with associated contacts and shields	item34	5	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.12	GIS SPARES: 400kV GIS- SF6 to air bushing of each type & rating along with conductor and enclosure for 1 phase enclosure	item35	1	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.13	GIS SPARES: 400kV GIS- All types of Corona shield	item36	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.14	GIS SPARES: 400kV GIS Circuit Breaker- One complete pole (1phase unit) of circuit breaker including CSD/Closing resistor, grading capacitor(as applicable), of each type & rating complete with , interrupter, main circuit , enclosure and marshalling Box with operating Mechanism to enable replacement of any type / rating of CB by spare	item37	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.15	GIS SPARES: 400kV GIS Circuit Breaker- Tripping coils assembly with resistors as applicable	item38	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in <div>Rs. P</div>	TOTAL Ex-Works + F & I AMOUNT including GST in <div>Rs. P</div>	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
3.16	GIS SPARES: 400kV GIS Circuit Breaker- closing coil assembly with resistor as applicable (3nos of each type)	item39	2	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.17	GIS SPARES: 400kV GIS Circuit Breaker- Relays, Power contactors, push buttons, timers & MCBs etc of each type & rating(If applicable)	item40	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.18	GIS SPARES: 400kV GIS Circuit Breaker- Aux. switch assembly	item41	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.19	GIS SPARES: 400kV GIS Circuit Breaker- Operation counter	item42	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.2	GIS SPARES: 400kV GIS Circuit Breaker- Window scope/ Observing window, if applicable	item43	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.21	GIS SPARES: 400kV GIS Circuit Breaker-Spare of Hydraulic operated mechanism if Applicable: a. Hydraulic operating mechanism with drive Motor of each type- 1 no. b. Ferrules and joints & couplings of each type- 1 Set c. Hydraulic Filter of each type- 1 Sets d. High Pressure Hose of each type- 1 Set e. N2 accumulator of each type- 2 No. f. Pressure Transducers- 1No. g. Valves of each type- 1 Set h. Orings, gaskets and seals- 1 Set i. Pressure gauges with coupling device of each type- 1 Set j. Hydraulic oil- 20% of total used quantity in substation k. Limit switch- 1 no. of each type l. Pipe length (Copper & steel) of each size & type-1set m. Pressure switch of each type-2nos n. Pressure Relief device of each type- 1set	item44	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.22	GIS SPARES: 400kV GIS Circuit Breaker- Complete Spring operating Mechanism including charging mechanism etc of each type & rating if applicable	item45	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.23	GIS SPARES: 400kV GIS Circuit Breaker- Spring charging motor of each type & rating	item46	2	NO.	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.24	GIS SPARES: 400kV GIS Disconnecter- Complete set of 3 nos. of single phase/ one 3- ph isolator of each type, dimension, current & voltage rating including main circuit, enclosure, driving mechanism and support insulator etc. to enable replacement of any type/ rating of isolator by spare	item47	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
3.25	GIS SPARES: 400kV GIS Disconnecter- Complete set of 3 nos. of single phase/ one3-ph Maintenance earthing switch of each type, dimension, current & voltage rating including main circuit , enclosure , driving mechanism and support insulator etc to enable replacement of any type / rating of isolator by spare	item48	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.26	GIS SPARES: 400kV GIS Disconnecter- Complete set of 3 nos. of single phase / one 3-ph Fast earthing switch of each type, dimension, current & voltage rating including main circuit, enclosure, driving mechanism and support insulator etc. to enable replacement of any type / rating of isolator by spare	item49	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.27	GIS SPARES: 400kV GIS Disconnecter- Copper Contact fingers for isolator male & female contact along with corona shield -for one complete (3 phase) isolator of each type and rating	item50	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.28	GIS SPARES: 400kV GIS Disconnecter- Copper Contact fingers for Maintenance earthing switch male & female contact along with corona shield -for one complete (3 phase) isolator of each type and rating	item51	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.29	GIS SPARES: 400kV GIS Disconnecter- Copper Contact fingers for Fast earthing switch male & female contact along with corona shield - for one complete (3phase) isolator of each type and rating, If Applicable	item52	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.3	GIS SPARES: 400kV GIS Disconnecter- Open/ close contactor assembly, timers, key interlock, interlocking coils, relays , push buttons indicating lamps , power contactors, resistors, fuses MCBs & drive control cards etc for one complete MOM box (3-ph gang operated or 1-ph unit) disconnecter and (3 ph) earthing switch of each type and rating for one complete (3 ph) disconnecter and earthing switch of each type & rating, if applicable a) For Disconnecter- 1SET b) For Maintenance Earth switch- 1SET c) For Fast Earthing switch- 1SET	item53	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.31	GIS SPARES: 400kV GIS Disconnecter- Limit switches and Aux. switches for complete 3-phase equipment, a) For Disconnecter- 1SET b) For earth switch- 1 SET c) For high-speed earth switch- 1SET	item54	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
3.32	GIS SPARES: 400kV GIS Disconnecter- Drive Mechanism of each type, a) For isolator- 1SET b) For Maintenance Earth switch- 1SET c) For Fast Earthing switch- 1SET	item55	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.33	GIS SPARES: 400kV GIS Disconnecter- Motor Drive Mechanism of each type, a) For isolator- 1SET b) For Maintenance Earth switch- 1SET c) For Fast Earthing switch- 1SET	item56	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.34	GIS SPARES: 400kV GIS Current Transformer- Complete CT, of each type and with enclosure to enable replacement of any type/ rating of CT as spare	item57	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.35	GIS SPARES: 400kV GIS Voltage Transformer- Complete VT of each type and with enclosure to enable replacement of any type / rating of VT as spare	item58	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.36	GIS SPARES: 400kV GIS Surge Arrestor- Complete Surge Arrestors of each type andwith enclosure with surge monitor counter to enable replacement of any type/ rating of VT as spare	item59	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
3.37	GIS SPARES: 400kV GIS Surge Arrestor- Surge Monitor and counter of each type/ rating	item60	1	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.01	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, OPERATING MECHANISM FOR CIRCUIT BREAKER COMPLETE IN ALL RESPECT	item61	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.02	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, OPERATING MECHANISM FOR DISCONNECTOR	item62	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.03	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, OPERATING MECHANISM FOR MAINTENANCE EARTHING SWITCH COMPLETE IN ALL RESPECT	item63	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.04	SUPPLY- GIS: SPARES: 400KV, OPERATING MECHANISM FOR FAST ACTING/ HIGH SPEED GROUNDING SWITCH COMPLETE IN ALL RESPECT	item64	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.05	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, MAINTENANCE EARTHING SWITCH WITH ENCLOSURE COMPLETE IN ALL RESPECT	item65	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400kV GIS for ZX660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in <div>Rs. P</div>	TOTAL Ex-Works + F & I AMOUNT including GST in <div>Rs. P</div>	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
4.06	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, FAST ACTING/ HIGH SPEED GROUNDING SWITCH WITH ENCLOSURE COMPLETE IN ALL RESPECT	item66	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.07	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, CURRENT TRANSFORMER (2 CORE) WITH ENCLOSURE COMPLETE IN ALL RESPECT	item67	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.08	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, CURRENT TRANSFORMER (3 CORE) WITH ENCLOSURE COMPLETE IN ALL RESPECT	item68	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.09	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, CURRENT TRANSFORMER (5 CORE) WITH ENCLOSURE COMPLETE IN ALL RESPECT	item69	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.1	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, SINGLE PHASE BUS BAR	item70	1	Mtrs	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.11	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, GIS METALLIC ENCLOSURE	item71	50	Kgs	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.12	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, EXPANSION JOINTS	item72	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.13	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, FLEXIBLE CONNECTIONS	item73	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.14	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, BARRIER INSULATOR	item74	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.15	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, NON-BARRIER INSULATOR	item75	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only

Tender Inviting Authority: BHEL TBG Noida

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
<div>PRICE SCHEDULE</div> <div>(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)</div>															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In <div>Figures To be entered by the Bidder in Rs. P</div>	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) <div>Rs. P</div>	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) <div>Rs. P</div>	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in <div>Rs. P</div>	TOTAL Ex-Works + F & I AMOUNT including GST in <div>Rs. P</div>	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
4.16	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, GAS SEALS	item76	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.17	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, GAS DENSITY MONITOR SWITCH	item77	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.18	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, GAS PRESSURE SWITCH	item78	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.19	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, TEE BEND	item79	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.2	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, ANGLE BEND	item80	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
4.21	SPARES- GIS: REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SUPPLY ITEMS : 400KV, L-BEND	item81	1	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.01	SERVICES- 400kv GIS: SUPERVISION OF ERECTION OF GIS	item82	17	Bays	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.02	SERVICES- 400kv GIS: SUPERVISION OF ERECTION OF 1-PHASE GAS INSULATED BUS DUCT	item83	3500	MTR	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.03	SERVICES- 400kv GIS: SUPERVISION OF ERECTION OF 1 PHASE SF6 TO AIR BUSHING	item84	33	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.04	SERVICES- 400kv GIS: SUPERVISION OF ERECTION OF 1 PHASE SURGE ARRESTER WITH SURGE COUNTER	item85	6	SET	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.05	SERVICES- 400kv GIS: TESTING & COMMISSIONING OF GIS	item86	17	Bays	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.06	SERVICES- 400kv GIS : TESTING & COMMISSIONING OF GAS INSULATED BUS DUCT	item87	3500	MTR	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.07	SERVICES- 400kv GIS : FINAL SUCCESSFUL HV/ POWER FREQUENCY TESTING OF GIS INCLUDING ARRANGING OF HV TEST KIT ALONG WITH OPERATOR	item88	17	Bays	INR			0.00			0.00		0.000	0.000	INR Zero Only

[Validate](#)
[Print](#)
[Help](#)

Item Wise BoQ

Tender Inviting Authority: BHEL TBG NOIDA

Name of Work: 400kV GIS for 2X660 MW Korba TPS

NIT/Enquiry No: NIT No.83362_61Q2500150 Dtd: 24-06-2024

Name of the Bidder/ Bidding Firm / Company :															
PRICE SCHEDULE (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)															
NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER	NUMBER #	NUMBER #	NUMBER #	TEXT #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	Unit RATE In Figures To be entered by the Bidder in Rs. P	GST (in Percentage)	GST Amount (Unit Rate*Quantity* GST) Rs. P	Unit Freight & Insurance Charges in Rs. P	GST (in Percentage)	GST Amount on F&I (Unit Rate*Quantity*GST) Rs. P	HSN / SAC Code	TOTAL Ex-Works + F & I AMOUNT excluding GST in Rs. P	TOTAL Ex-Works + F & I AMOUNT including GST in Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	12	13	14	15	16	20	21	51	53	54	55
5.08	SERVICES- 400kV GIS : INSULATION CO-ORDINATION STUDIES FOR GIS SYSTEM	item89	1	LOT	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.09	SERVICES- 400kV GIS : TRAINING FOR GIS AT MANUFACTURER WORKS (MIN. 8 NO. CUSTOMER/ BHEL OFFICIAL)	item90	5	DAY	INR			0.00			0.00		0.000	0.000	INR Zero Only
5.10	SERVICES- 400kV GIS : TRAINING FOR GIS AT SITE (MIN. 6 NO. CUSTOMER/ BHEL OFFICIAL)	item91	5	DAY	INR			0.00			0.00		0.000	0.000	INR Zero Only
6.01	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES: - SERVICES FOR SUPERVISION OF ERECTION OF GIS	item92	10	MANDAY	INR			0.00			0.00		0.000	0.000	INR Zero Only
6.02	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES: - SERVICES FOR TESTING & COMMISSIONING OF GIS	item93	10	MANDAY	INR			0.00			0.00		0.000	0.000	INR Zero Only
6.03	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES : DEMOBILIZATION AND REMOBILIZATION CHARGES FOR GIS ERECTION SUPERVISION TEAM	item94	2	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
6.04	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES : DEMOBILIZATION AND REMOBILIZATION CHARGES FOR GIS TESTING & COMMISSIONING TEAM	item95	2	Set	INR			0.00			0.00		0.000	0.000	INR Zero Only
6.05	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES: DEMOBILIZATION & REMOBILIZATION CHARGES OF HV TEST KIT ALONG WITH OPERATOR	item96	1	Lot	INR			0.00			0.00		0.000	0.000	INR Zero Only
6.06	SERVICES- GIS : REFERENCE UNIT PRICE FOR ADDITION / DELETION OF SERVICES: TYPE TEST CHARGES FOR 400KV GIS (AS PER ANNEXURE- BREAK UP OF TYPE TEST CHARGES FOR 400KV GIS)	item97	1	Lot	INR			0.00			0.00		0.000	0.000	INR Zero Only
Total in Figures													0.000	0.000	Zero Only
otepd Rate in Words		INR Zero Only													

Annexure- Breakup of Type test charges for 400kV GIS

The following type tests on typical 400kV GIS (As Applicable) GIS bay module as per IEC 62271-203. The components forming parts of the GIS which are covered by other standards shall comply with and shall be type tested according to those standards.

Sl. No.	Description of Test	Number of Type/ Rating	Charges for one Type/ Rating (Rs.)	Total Price (Rs.)
A.	The following type tests on typical 400kV (As Applicable) GIS bay module as per IEC 62271-203. The components forming parts of the GIS which are covered by other standards shall comply with and shall be type tested according to those standards.			
(i)	Lightning impulse voltage dry tests.			
(ii)	Switching impulse voltage dry tests.			
(iii)	Power frequency voltage dry tests.			
(iv)	Partial discharge tests.			
(v)	Test to prove the temperature rise of any part of the equipment and measurement of the resistance of the main circuit.			
(vi)	Test to prove the ability of the main circuit and earthing circuit to carry the rated peak and the rated short time withstand current.			
(vii)	Test to verify the making and breaking capacity of the included switching devices.			
(viii)	Test for satisfactory operation of the included switching devices.			
(ix)	Test to prove the strength of enclosures.			
(x)	Gas tightness tests			
(xi)	Electromagnetic capability test (EMC)			
(xii)	Test on partitions			
(xiii)	Internal arc tests			
(xiv)	Mechanical operation tests.			
(xv)	Test to prove the satisfactory operation at limit temperature.			
(xvi)	Verification of degree of protection of auxiliary and control circuit			
(xvii)	Test to prove performance under thermal cycling and gas tightness test on gas barrier insulators			
(xviii)	Capacitive Current switching test			
(xix)	Shunt reactor current switching test			
B	For surge arrester and Bus VT following type tests as per relevant IEC. 400kV (As Applicable) Surge Arrester (As per IEC 60099-4)			
(a)	Insulation withstand test on housing			
(b)	Residual voltage test			
(c)	Long duration current impulse withstand test			
(d)	Operating duty test			
(e)	Partial Discharge Test			
(f)	Leakage Test			
C	400kV (As Applicable) Bus VT (As per IEC 60044-2)			
(a)	Temperature rise test			
(b)	Lighting Impulse test			
(c)	Switching Impulse test			
(d)	Determination of errors			
(e)	Short circuit withstand capability			
Total (Rs.):				