Bharat Heavy Electricals Limited

(A Govt. of India Undertaking)
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Sector-62, Noida, Uttar Pradesh, PIN No: 201301
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CORRIGENDUM - 22 TO NIT NO-63420

Dated: 14.09.2022

Subject: Corrigendum-22 to Tender enquiry for Pre-bid Tie up for Supply & Services of 400kV GIS for POWERGRID Khavda-1 Project.

Project	: POWERGRID Khavda-1 PROJECT
Equipment / Item	: SUPPLY & SERVICES OF 400 kV GIS.
Enquiry No/Date	: NIT63420_61Q2200231 dated 28.02.2022
BHEL NIT NO	: 63420
Original Tender due date	**: 09.03.2022**

This Corrigendum is issued by BHEL TBG against above mentioned NIT/ enquiry for-
a) Issue of Technical corrigendum-03 (enclosed)
b) Extension of due date of offer submission/opening up to **21.09.2022**

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

Bidder to ensure submission of offer on or before due.

Note: Tender ID in CPP Portal is **2022_BHEL_8893_1.**

Thanking you

-------Sd/------
Gaurav Agarwal
BHEL TBG, NOIDA

TECHNICAL CORRIGENDUM - 3 (KHAVADA_KPS1) dated 13 Sep 2022

SL	DESCRIPTION	REMARKS
1	Amendment No.-IX dated 08.09.2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS	For scompliance w.r.t. GIS Scope as per tender specification
2	Clarification No.-II dated 08/09/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS	For information
	SPECIAL NOTE	ALL TECHNICAL CLARIFICATION(S) FOR GIS PUBLISHED BY M/S POWERGRID WITH REFERENCE TO SUBJECT PROJECT WILL ALSO VALID FOR THIS TECHNICAL SPECIFICATION

Amendment No.-IX dated 08.09.2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS02 associated with "Transmission scheme for injection beyond 3GW RE power at Khavda PS1 (KPS1)"through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC [Spec No: TBCB/Khavda/KPS1/400kV/GIS/G5]

S. No.	Clause/ Drg. Sl. NO	Existing provision	Amended provision
VOLUME – II(TECHNICAL SPECIFICATIONS) [Doc Code: TBCB/Khavda/KPS1/400kV/GIS/G5/02, February 2022] Volume-III (BID FORM AND PRICE SCHEULES) [Doc Code: TBCB/Khavda/KPS1/400kV/GIS/G5/03, February 2022]			
1	Section, Project, rev0	**2. SCOPE OF WORK** **2.1** The broad scope of this specification covers Extension of following substation elements detailed below **Scope under 400kV GIS (New Section)** i) ICT bay: 4 nos. ii) Bus Reactor: 1×125 MVAR, 420kV iii) Bus Reactor bay: 1 nos. iv) Line bay: 3 nos. v) Bus Sectionalizer Bay :-2nos	**2. SCOPE OF WORK** **2.1** The broad scope of this specification covers Extension of following substation elements detailed below **Scope under 400kV GIS (New Section)** i) ICT bay: 4 nos. ii) Bus Reactor: 1×125 MVAR, 420kV iii) Bus Reactor bay: 1 nos. iv) Line bay: 3 nos. v) Bus Sectionalizer Bay :-2nos **vi)2 nos. of 400kV future lines** **vii)*2 no. of future 500MVA 400/220kV ICT***
2	Clause no 9.18, Section Project, rev 00	2.3.1 **Construction of 400kV KPS1 GIS New Section** **B. Air insulated switchgear (AIS) and Other Main Equipment** **d) CONTROL, RELAY & PROTECTION SYSTEM**: Complete control, relay and protection system as per Section–Control and Relay panels. Decentralized (distributed) type of bus bar protection system shall be provided for 400kV KPS1 New section formed along with Bus sectionaliser bays. **9.0 Specific Requirement** **9.20 New clause**	2.3.1 **Construction of 400kV KPS1 GIS New Section** **B. Air insulated switchgear (AIS) and Other Main Equipment** **d) CONTROL, RELAY & PROTECTION SYSTEM**: Complete control, relay and protection system as per Section–Control and Relay panels. Decentralized (distributed) type of bus bar protection system shall be provided for 400kV KPS1 New section formed along with Bus sectionaliser bays **including future bays**. **9.0 Specific Requirement** **9.20** Clause No. 9.2 of Section GTR rev 15 is amended as

Provision of future bay extension and Space in GIS Hall

The reports for all type tests as per technical specification shall be furnished by the Contractor along with equipment / material drawings. However, type test reports of similar equipments/ material already accepted in POWERGRID shall be applicable for all projects with similar requirement. The type tests conducted earlier should have either been conducted in accredited laboratory (accredited based on ISO / IEC Guide 25 / 17025 or EN 45001 by the national accreditation body of the country where laboratory is located) or witnessed by POWERGRID/representative authorized by POWERGRID/representative of Utility /representative of accredited test lab/ representative of The National Accreditation Board for Certification Bodies (NABCB) certified agency shall also be acceptable.

Unless otherwise specified elsewhere, the type test reports submitted shall be of the tests conducted within the years specified below from the date of NOA. In case the test reports are of the test conducted earlier than the years specified below from the date of NOA, the contractor shall repeat these test(s) at no extra cost to the Employer:-

S. No.	Name of Equipment	Validity of type test(in years)
1	Power Transformer	5
2	LT Transformer	5
3	Shunt Reactor	5
4	OLTC	10
5	Bushing of Power Transformers/Reactors	7
6	Fittings and accessories for Power transformers & Reactors	10
7	Circuit Breaker	10
8	Isolator	10
9	Lighting Arrester	10

10	Wave Trap	10
11	Instrument transformer	10
12	GIS & Hybrid GIS	15
13	LT Switchgear	10
14	Cable and associated accessories	10
15	Relays	7
16	Capacitors	10
17	Battery and Battery charger	10
18	Conductor & Earth wire	10
19	Insulators (Porcelain/Glass)	10
20	Composite Insulators	5
21	PLCC	5

Note

For all other equipment's validity of type test shall be 10 years from date of NOA

Further, in the event of any discrepancy in the test reports i.e. any test report not acceptable due to any design/manufacturing changes or due to non-compliance with the requirement stipulated in the Technical Specification or any/all type tests not carried out, same shall be carried out without any additional cost implication to the Employer.

The Contractor shall intimate the Employer the detailed program about the type tests atleast two (2) weeks in advance in case of domestic supplies & six (6) weeks in advance in case of foreign supplies.

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<td>3</td>
<td>BPS Schedule 1,2 &3</td>
<td>Schedule 1 & 2
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<tr><td>Sr. No.</td><td>Description</td><td>Unit</td><td>Qty</td></tr>
<tr><td>50</td><td>Illumination system for 400 kV GIS hall Extn.</td><td>M2</td><td>1520</td></tr>
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Schedule 3
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<tr><td>Sr. No.</td><td>Description</td><td>Unit</td><td>Qty</td></tr>
<tr><td>41</td><td>Illumination system for 765 kV GIS hall Extn. (Area)</td><td>M2</td><td>1520</td></tr>
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<tr><td>Sr.No.</td><td>Description</td><td>Unit</td><td>Qty</td></tr>
<tr><td colspan="4">Schedule 1 &2</td></tr>
<tr><td>50</td><td>Illumination system for 400 kV GIS hall Extn.</td><td colspan="2">Deleted</td></tr>
<tr><td colspan="4">Schedule-3</td></tr>
<tr><td>41</td><td>Illumination system for 765 kV GIS hall Extn. (Area)</td><td colspan="2">Deleted</td></tr>
<tr><td colspan="4">Schedule 1,2 &3</td></tr>
<tr><td>New Item</td><td>INDOOR LIGHTNING FOR GIS BUILDING (AS PER TECHNICAL SPECIFICATION) including AHU & Relay Rooms as applicable</td><td>M2</td><td>1830</td></tr>
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<td>Second Envelope Bid Form and Attachments</td>
<td>Existing File

"14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev1"</td>
<td>In view of above,

The existing file

"14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev1"

Stand replaced as

"14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev2"</td>
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Clarification No.-II dated 08/09/2022 to the Bidding Documents for Pre Bid Tie up for 400kV GIS Substation Package SS02 associated with "Transmission scheme for injection beyond 3GW RE power at Khavda PS1 (KPS1)"through Tariff Based Competitive Bidding (TBCB) route prior to RfP bid submission by POWERGRID to BPC [Spec No: TBCB/Khavda/KPS1/400kV/GIS/G5]

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
VOLUME – II(TECHNICAL SPECIFICATIONS) [Doc Code: TBCB/Khavda/KPS1/400kV/GIS/G5/02, February 2022] Volume-III (BID FORM AND PRICE SCHEULES) [Doc Code: TBCB/Khavda/KPS1/400kV/GIS/G5/03, February 2022]				
1	General		Request you to provide us the site person contact details for site visit.	Required details shall be provided during detailed engineering stage.
2	14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev1/ Sch-1[Supply]/ Sl. No. 38 to & 49 /Power & Control Cables **&** 14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev1/ Sch-3 [Installation]/ Sl. No. 38 to & 40 /Power & Control Cables		We would like to inform you that Power & Control cable quantity mentioned in Sch-1 [i.e. Supply] are not matching with quantity mentioned in Sch-3 [i.e. Installation]. Request you to kindly clarify and provide us updated price schedule accordingly	Bidder may quote as per BPS. Further, please refer Annexure V to Section Project Rev 0 "METHODOLOGY FOR SUPPLY, INSTALLATION & SIZING OF CABLES".
3	14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev1/ Sch-1[Supply]/ Sl. No. 50 /Illumination [Indoor] **&** Sch-2[Freight & Insuarnce]/ Sl. No. 50		From Section project, we understand that bidder has to consider Indoor illumination system for extended GIS building, extended relay room & extended AHU room. Whereas in the price schedule it is mentioned only for extended 400KV	Kindly refer Amendment-IX.

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
	/Illumination [Indoor] **&** Sch-3[Installation]/ Sl. No. 41 /Illumination [Indoor] And Section-Project/clause no. 2.3.B/Air Insulated switchgear (AIS) and other Main Equipment / sl. no. I) / Page no. 7 of 18 / Illumination System		GIS hall. Request you to kindly clarify and provide us updated price schedule accordingly	
4	14-Second Envelope - Bid Form and Price Schedule_KPS1-SS02_Rev1/ Sch-3[Installation]/ Sl. No. 41 /Illumination [Indoor]		We understand that there is typo error in the item description. It is mentioned for 765KV GIS hall but in the place of 765 it should be 400KV GIS hall. Request you to please review & update accordingly	Kindly refer Amendment-IX.
5	CRP	Bus Bar Protection Bus Sectionalizer	We understand that bay unit which is required in bus section for present scope of bus bar protection is in bidder's scope. Other bay unit in bus section which needs to be integrated with existing bus bar protection not in bidder's scope. Please confirm/clarify	Kindly refer Amendment-IX.

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
6	Section-Project /clause no. 2.3.B /Air Insulated switchgear (AIS) and other Main Equipment / sl. no. g) / Page no. 6 of 18 / Lightning System		We understand that the lightning protection (DSLP) for area under present scope is in the bidder's scope. Kindly note as there is no defined area given for Switchyard for extension works and further, locations of 765/400kV ICTs, and 400kV Line Gantry locations are unknown now, it is not possible for proper estimation of the LM quantities required for DSLP Protection. Hence, we kindly request to provide the BPS line item for LM structures in Metric Ton (MT) or define the Switchyard present scope area & locations of ICTs & Line Gantries with respect to 400kV GIS building	As per clause no. 2.4 of section project, the design of layout is is the scope of contractor. Hence, suitable provision of DSLP is to be decided by bidder only. Bidder may quote as per provision of bidding documents.
7	Section-project/clause no. 2.3.B/Air Insulated switchgear (AIS) and other Main Equipment / sl. no. h) / Page no. 6 of 18 / Fire Protection System		We understand that Fire Alarm and annunciation system is required for extended relay room. But whereas in the price schedule, there is no line item for Fire Protection system for Extended relay room. Request you to clarify & please	Fire detection and alarm system for relays room is included in line item Sr. no. 59 "Fire protection system- 400kV GIS hall extension".

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			provide updated price schedule accordingly.	
8	Section-project/clause no. 2.3.B/Air Insulated switchgear (AIS) and other Main Equipment / sl. no. h) / Page no. 6 of 18 / Fire Protection System		We understand that separate new Fire Alarm and detection Panels to be considered for extended portion of the GIS building. We do not envisage any integration between new panel and existing Panel. Please confirm/clarify	Confirmed.
9	Section-project/clause no. 2.3.B/Air Insulated switchgear(AIS) and other Main Equipment / sl. no. h) / Page no. 6 of 18 / Fire Protection System		We understand that Annunciation Signals for HVWS system to be integrated with Existing Annunciation Panels in the FFPH and Main control room. We do not envisage any new Annunciation Panel for HVWS system under present scope. Please confirm/clarify.	At present Integration of HVWS system with existing annunciation panel in FFPH & Main control room is envisaged. However, in case adequate provisions for accommodating HVWS signals for present scope is not available in existing annunciation panels, separate panels shall be provided by bidder. Further, in case of providing new panel integration with existing system shall be in present scope of work.
10	Section-project/clause no. 2.3.B/Air Insulated switchgear(AIS) and other Main Equipment / sl. no. h) / Page no. 6 of 18 / Fire Protection System		We understand that bidder has to consider extension of Hydrant System only for Bus reactor. Extension of Hydrant system for extended GIS Building are not	As per clause No. 46 of specific requirement (Rev 06) of Technical Specification, suitable hydrant points by extending existing hydrant system shall be provided in extended

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
			applicable as the same is not mentioned in the price schedule. Please confirm/clarify.	portion of GIS hall.
11	Section-Project/clause no. 2.3.1.1.A/420KV Gas Insulated Switchgear/ sl. no. b) / Page no. 4 of 18 / EOT Crane		We understand that Girder extension means the extension of Long Travel Beam along the length of the extended portion of the building & we do not envisage any modification in the EOT crane. Please confirm/clarify	Confirmed.
12	Section-Project/clause no. 2.3.1.1.A/420KV Gas Insulated Switchgear/ sl. no. b) / Page no. 4 of 18 / EOT Crane		In case, the width of extended portion of the building is more than the width of existing GIS hall, then clarify how the extension of Beam to be considered.	Width of GIS Hall is to be matched with existing GIS Hall, GIS may be designed accordingly.
13	Section-Project/clause no. 2.3.1.1.A/420KV Gas Insulated Switchgear/ sl. no. c) / Page no. 4 of 18 / EOT Crane		We understand that new AHU units with ducting arrangement to be considered for the extended portion of building for ventilation system. We do not envisage any modification/extension of existing ventilation system. Please confirm/clarify.	Confirmed.

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S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
14	02_Annexure-IV-420kV GIS description_R1/Description of 420kV GIS modules/Equipment / sl. no. b) / GIS Bus Section Module / Page No. 1of 5	Extension piece (Interface) modules, as required to extend existing busbars along with necessary GIS bus ducts to connect to bus section module.	We understand that there is a sufficient space between Existing Building Wall and Existing Feeder GIB for routing the New Feeder GIB from New GIS Bay to Equipment (i.e ICTs/Line Gantries). We do not envisage to consider any additional space inside GIS hall between existing GIS Modules/Future Extensions module and New GIS Bay modules other than space required for adaptor modules. Kindly confirm/clarify.	Bidder may quote as per provision of bidding documents.
15.	Request For Existing 400KV GIS Layout		Kindly share the existing 400kV GIS Layout for proper estimation of following. 1. Main Bus bar Lengths 2. Internal [Inside GIS hall] GIB routing.	Required details shall be provided during detailed engineering stage.
16	02_Annexure-IV-420kV GIS description_R1/ Description of 420kV GIS modules/Equipment / sl. no. b) / GIS Bus Section Module / Page No. 1of 5 Extension piece (Interface) modules, as required to extend existing busbars		Please provide us the existing GIS building along with GIS drawing, complete plan and section view, to understand the following enabling us to design the adapter module. 1) Bay to bay distance (mm) 2) Height from floor level to lower phase of bus-bar 3) Phase to phase distance @ bus-bar 4) Distance between bus-bar 1 and	All the details/documents shall be provided to successful bidder during detailed engineering.

S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
	along with necessary GIS bus ducts to connect to bus section module.		bus-bar 2 5) Clearance between bus-bar from building wall 6) Diameter of bus-bar enclosure, 7)PCD of bus-bar flange 8) Existing spacer flange diameter, bolt size Please inform us the rated operating gas pressure of existing GIS. Any consumables, O rings of existing GIS required during removing of existing GIS cover and connecting of adapter module shall be out of our scope.	
17	14-Second Envelope - Bid Form and Price Schedule_KPS1 SS02_Rev1.xlsx / Schedule-1 & Schedule-2 / GIS Spares / Sl. no. 90 & Sl. 91 TRIP COIL ASSEMBLY WITH RESISTOR FOR420KV GIS CIRCUIT BREAKER (AS APPLICABLE) And CLOSING COIL ASSEMBLY WITH RESISTOR FOR 420KV GIS CIRCUIT BREAKER (AS APPLICABLE)		We would like to inform you that resistor is a part of trip coil assembly / closing coil assembly. Separately Resistor is not applicable. Considering above, we understand that bidder to quote accordingly. Please Confirm	Bidder may quote as per provision of bidding documents.
18	14-Second Envelope - Bid Form and Price Schedule_KPS1		We understand that the bidders who are having the GCB design of spring operated mechanism, shall be quoted	Bidder may quote as per provision of bidding documents.

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S.N	Clause No.	Text as per Bid	Bidder's Queries	Clarification
	SS02_Rev1.xlsx / Schedule-1 & Schedule-2 / GIS Spares / Sl. no. 95 & Sl. 104 and Sl.no. 106 to 108		zero against the spare line item (i.e. Sl. no. 95 & Sl. 104 and Sl. no. 106 to 108) of Hydraulic operated mechanism. Please Confirm.	