



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
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CORRIGENDUM - 01 TO NIT NO-83363

Dated 28.06.2024

Subject: Corrigendum-01 to Tender enquiry for Pre Bid Tie up with the GIS OEM for Supply & Services of 400KV GIS for 1X800MW UKAI TPP Tender/ Project.

Project : 1X800 MW Ukai TPP Extension Unit#7
Equipment / Item : Supply & Services of 400kV GIS
Enquiry No/Date : Enquiry No. 61Q2500151 dated 24-06-2024
BHEL NIT NO : 83363
Original Tender due date : 05.07.2024

This Corrigendum is issued by BHEL TBG against above mentioned NIT/ enquiry for issuance of Technical corrigendum (enclosed).

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_37400_1**.

Thanking you

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

Gaurav Agarwal
BHEL TBG, NOIDA

Ref. No. Technical Corrigendum-01

Project: Pre Bid Tie up for,
EPC Tender for Design, Engineering, manufacturing, Supply, Erection, Testing
and Commissioning of 400kV Switchyard of 1x800 MW ULTRA SUPERCRITICAL UNIT NO. #7ON ASH DYKE AREA AT UKAI TPS.

Date: 27.06.2024

Sl. No.	Volume/ Section/ Clause	Volume/ Section/ Clause as Existing	Volume/ Section/ Clause as Amended/ Added in Technical Corrigendum-01
1	--	PQR for 400kV GIS Switchyard	Format of LETTER OF SUPPORT FOR SATISFACTORY PERFORMANCE is provided, PQR requirement remains same.
2	Section-2/ Clause no. 29.02.01	Equipment Specification under scope of Supplies Bays to be provided:Eight bays (1GT+ 1ST + 2 Line Fdr.+ 2 Tie Fdr. + 2 spare) + 2 Nos. Bus PT. Future Space Provision: One feeder each on both sides with fully equipped up to SF6 to Air bushing.	Scope of supply (400KV GAS INSULATED SWITCHGEAR)- The rrevised requirement is as follows, Bays to be provided:Eight bays (1GT+ 1ST + 2 Line Fdr. + 2 Tie Fdr. + 2 spare (1 Reactor + 1 Line bay) + 2 Nos. Bus PT. Future Space Provision : One feeder each on both sides with fully equipped up to SF6 to Air bushing Note: Out of two spare line bays considered in GIS, one bay shall be considered as Reactor bay having rating 400 kV, 125 MVAR with necessary control and protection. CSD (Controlled Switching Device) and its setting & protection shall also be provided for Reactor charging. However, Reactor is not in the bidder's scope of supply.
3	Section-2/ Clause no. 29.00.00	Equipment Specification under scope of Supplies PIR shall be provided for Two outgoing lines plus Two spare bays including Tie Breakers.	PIR (Pre Insertion Resistor) or CSD (Controlled Switching Device) shall be provided for Two outgoing lines plus two Spare Bays (One reactor bay and one line bay)

Note:

1. The changes/ revision are marked/ highlighted in yellow.
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.



GUJARAT STATE ELECTRICITY CORPORATION LIMITED
1X800 MW ULTRA SUPER CRITICAL UNIT NO#7 ON ASH DYKE
AREA AT UKAI TPS

VOLUME - VI

PART - A

BID SPECIFICATION NO.: ETG106-EPC-UKAI/UNIT # 7-CS-01

AMENDMENTS

REV. - 0



**GUJARAT STATE ELECTRICITY CORPORATION LIMITED
1X800 MW ULTRA SUPER CRITICAL UNIT No. # 7 TO BE
CONSTRUCTED
ON ASH DYKE AREA AT UKAI TPS**

BID DOCUMENT

FOR

EPC CONTRACT

BID SPECIFICATION NO.: ETG106-EPC-UKAI/UNIT# 7-CS-01

VOLUME - VI PART-A

AMENDMENT TO TENDER SPECIFICATION -5

(Technical-3)

PREPARED BY



(An ISO 9001:2015 certified Company)

STEAG Energy Services India Pvt. Ltd.

(A wholly owned subsidiary of STEAG Group, Germany)
A-29, Sector-16, NOIDA - 201301, INDIA

Amendment for the tender for “Design, Engineering, Manufacture, Supply, Construction, Erection, Testing & Commissioning works for the EPC Package of Coal Fired UKAI THERMAL POWER PROJECT EXTENSION UNIT-7 (1 X 800 MW SUPERCRITICAL UNIT ON ASH DYKE AREA) on the basis of single point responsibility turnkey contract”.

Tender No. GSECL/P&P/EPC/800MW/

SI No	Volume No. /Part No.	Sub Section No. / Sub Section Title/ Drg No	Clause No.	Existing Specification	Comments / Clarifications	Ammended as under
M-79	Vol-III / Part-A	Section-2 / Technical Specification Steam Turbine & Aux.	21.02.02 (iv)	(iv) “Overall pressure drop between HP turbine exhaust and IP turbine strainer inlet: 7.5% (maximum) : however Bidder to optimize and indicate	Owner is requested to modify as below: Overall pressure drop between HP turbine exhaust and IP turbine strainer inlet: "Bidder to optimize"	(iv) “Overall pressure drop between HP turbine exhaust and IP turbine strainer inlet: Bidder to optimize Correction factor for the same shall not be allowed in PG Test calculation.
C-17	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.21.03 (i)	The Fuel Oil shed stone, screenings, fine gravel, clean coarse sand (river sand)	Please allow bidder to use crushed stone sand (M-Sand) also as per IS-383-2016 in place of only River/natural sand, as the availability of river sand is limited in near by project site & it may create hindrance on project during execution.	Bidder to read "Crushed stone sand (M-Sand) / River / natural sand of required standards as per respective IS code provision" instead of only "river sand / natural sand"
	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.29.10	Coal Stock Shed:, joints filled with river sand .		
	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	11.18.04	River/natural sand shall be used for construction of brick works, plastering and finishing works.		
	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	(vii)	River/natural sand shall be used for concrete works.		

	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	22.02.08	Natural/river sand shall be used for plastering works.		
M-80	VOLUME -	SECTION - 2 Fuel Oil handling System	xiii (c)	One (01) no. LDO Day tank (in new plant area)		One (01) no. LDO/LSHS Day tank of 500KL capacity (in new plant area)
C-18	VOLUME -	Layout SECTION - 2	9.02.33 xiii)	Passage way between power house building 'C' row and boiler 1st row column shall be minimum 15 m wide. Clear height shall be 8m except in control building area, where the minimum head room shall be 5m.	C-row to first row of Boiler column is normally 12.0M (in-line with standard practice) , Customer to please review this special requirement. Since, There is a space limitation hence customer to allow bidder to proceed ahead with 12.0M. Please confirm	Passage way between power house building 'C' row and boiler 1st row column shall be minimum 12 m wide . Clear height shall be 8m except in control building area, where the minimum head room shall be 5m.
C-19	VOLUME -	Layout SECTION - 2	9.02.39	PIPING AND CABLE ROUTING i) Minimum clear height of cable/pipe trestle, within the power block area, i.e. from transformer yard to road behind chimney, shall be 8.0m bottom of steel (BoS). ii) Minimum clear height of cable/pipe trestles, at road/rail crossings shall be 8.0m (BoS). iii) Trestle height in outlying area shall be 5.0m (BoS).	Trestle height in Outlying area is normally 3.0M (BOS), Customer to review.	(iii) Bidder to follow Tender specifications. However, the areas where no movement of man, material is envisaged or besides the boundary wall, the trestle height with 3.0 M (BOS) shall be allowed. These shall be decided during detail engineering.
M-81	ume III Pa	Section - 1 / Technical Specification for SG Power cycle	2.34.00	The spray water for desuperheating station shall be supplied from boiler feed pump discharge or inter-stage tap-off. The bidder shall provide pressure and temperature control valves to meet the requirements of auxiliary steam system.	Spray shall be taken from CEP discharge line and accordingly one no. of spray control valve shall be provided, in line with practice followed for all supercritical projects including NTPC projects. Please confirm.	The spray water for desuperheating station shall be supplied from boiler feed pump discharge or inter-stage tap-off or CEP outlet . The bidder shall provide pressure and temperature control valves to meet the requirements of auxiliary steam system.
EE-41		Vol-III Part-B Section-1 / Electrical Technical Specification	8.08.02	The following Type test shall be performed atleast on one switchgear of each current and voltage rating:	Type test Report shall be submitted for review We shall submit valid type test reports for the type tests listed in this clause. Customer is requested to kindly accept. Alternatively, we propose to conduct (i) Dielectric tests (impulse & pF voltage withstand tests) & (ii) Temperature rise tests against this order. For the remaining tests, we shall submit valid type test reports for customer reference.	Bidder shall have to conduct (i) Dielectric tests (impulse & pF voltage withstand tests) & (ii) Temperature rise tests on atleast one switchgear of each current and voltage rating. For other type test, bidder shall have to submit valid type test reports for review as per latest CEA guideline and its ammendments time to time.

M-82	VOLUME - III, PART - A	SECTION - 4 / TECHNICAL SPECIFICATION MECHANICAL MATERIAL HANDLING SYSTE	2.14.03	<p>Two (02) Nos. locomotives along with all accessories and loco shed with repair bay.</p> <p>GSECL Response, dtd. 23.05.2024:</p> <p>Locomotive specifications: Type of Service: Hauling and shunting, Type of Locomotive: Diesel Electric Loco with single cabine, Engine HP: min. 1350HP with 6 cylinder inline, Axle Arrangement: CO-CO, Axle Load: 21 Tons (plus or minus 2%), Max.Speed with trailing load: 60 Kms (Max.), Fuel Tank Capacity: min. 5000 Ltr, Brake type: IRAB-1 Air brake, It shall having Microprocessor based control system with governor. Maximum Tractive Effort: 370 kN.</p>	<p>Engine Min HP shall be 1350hp but cylinder shall be 12/16 in VEE arrangement. Engine OEM Cummins/CATERPILLAR does not have engine with inline configuration of 6-cylinder for such higher rating.</p> <p>Owner is requested to modify the spec.</p>	<p>Bidder shall have to provide locomotive with engine having below specifications;</p> <p>Locomotive specifications: Type of Service: Hauling and shunting, Type of Locomotive: Diesel hydraulic Loco with single cabine, Engine HP: min. 1350HP with 12/16 cylinder in VEE arrangement.</p> <p>Other specifications as per manufacturer standards.</p>
EE-42	Volume-III/Part-B	Section-1 / Electrical Technical Specification	29.02.01	<p>Bays to be provided:Eight bays (1GT+ 1ST + 2 Line Fdr.+ 2 Tie Fdr. + 2 spare) + 2 Nos. Bus PT.</p> <p>(400KV GAS INSULATED SWITCHGE AR)</p> <p>Future Space Provision: One feeder each on both sides with fully equipped up to SF6 to Air bushing.</p>	--	<p>Bays to be provided:Eight bays (1GT+ 1ST + 2 Line Fdr.+ 2 Tie Fdr. + 2 spare (1 Reactor + 1 Line bay) + 2 Nos. Bus PT.</p> <p>Future Space Provision : One feeder each on both sides with fully equipped up to SF6 to Air bushing</p> <p>Note: Out of two spare line bays considered in GIS, one bay shall be considered as Reactor bay having rating 400 kV, 125 MVAR with necessary control and protection. CSD (Controlled Switching Device) and its setting & protection shall also be provided for Reactor charging. However, Reactor is not in the bidder's scope of supply.</p>



GUJARAT STATE ELECTRICITY COPRORATION LIMITED
1X800 MW ULTRA SUPER CRITICAL UNIT NO#7 ON ASH DYKE
AREA AT UKAI TPS
BID SPECIFICATION NO.: ETG106-EPC-UKAI/UNIT # 7-CS-01

VOLUME - VI

PART - B

PRE-BID RESOLUTIONS

REV. - 0



**GUJARAT STATE ELECTRICITY CORPORATION LIMITED
1X800 MW ULTRA SUPER CRITICAL UNIT No. # 7 TO BE
CONSTRUCTED
ON ASH DYKE AREA AT UKAI TPS**

**BID DOCUMENT
FOR
EPC CONTRACT
BID SPECIFICATION NO.: ETG106-EPC-UKAI/UNIT# 7-CS-01**

**VOLUME - VI PART-B
PRE-BID RESOLUTIONS (TECHNICAL-3)**

PREPARED BY



(An ISO 9001:2015 certified Company)
STEAG Energy Services India Pvt. Ltd.
(A wholly owned subsidiary of STEAG Group, Germany)
A-29, Sector-16, NOIDA - 201301, INDIA

Pre-bid clarifications for the tender for “Design, Engineering, Manufacture, Supply, Construction, Erection, Testing & Commissioning works for the EPC Package of Coal Fired UKAI THERMAL POWER PROJECT EXTENSION UNIT-7 (1 X 800 MW SUPERCRITICAL UNIT ON ASH DYKE AREA) on the basis of single point responsibility turnkey contract”.

Tender No. GSECL/P&P/EPC/800MW/

Sl No	Volume No. /Part No.	Sub Section No. / Sub Section Title/	Clause No.	Existing Specification	Comments / Clarifications	GSECL Response / Clarification dtd. 25.06.2024
1	Vol-III / Part-A	Section-2 / Technical Specification Steam Turbine & Aux.	2.12.11 (v)	Oil Purifier: (v) Duplex type filters/strainers with stainless steel element of 5 micron or a size suited to the requirements of the turbine.	Duplex type filters/strainers is not envisaged for OIL PURIFIER assembly by bidder. However, Duplex filter mounted on main oil tank is provided in lube oil system as required in spec: Vol-III-A, Section-2, Clause No: 2.12.09 (XXI), Page-18.	Bidder shall have to consider applicability of Duplex type Filter / Strainer as per Oil Purifier manufacturer's standard practice.
2	Vol-III / Part-A	Section-2 / Technical Specification Steam Turbine & Aux.	2.12.05	Turbine lube oil system, BFP Lube oil systems, Clean oil tank (COT and Dirty oil Tank (DOT) shall have in-built oil contamination monitoring system including online NAS value measurement. In addition, bidder shall have to provide one set portable oil contamination Analyzer GSECL Response, dtd. 23.05.2024: For FRF oil, Online contamination measurement with NAS value measurement system to be supplied by Bidder and for Turbine oil portable lube oil filtration unit with NAS measurement to be supplied by Bidder. GSECL Response, dtd. 13.06.2024: Bidder shall provide online contamination monitor with NAS value measurement for FRF oil and Turbine lub oil.	Bidder shall provide online contamination monitor with NAS value measurement for both FRF oil and Turbine lub oil, which is also portable in nature. Therefore additional supply of one set of Portable Oil contamination Analyzer is not required and not envisaged by bidder.	NAS measurement shall be online only. Further, the same equipment can be used as portable device too for measurement of relevant fluid. However, in addition to this one nos Portable oil contamination analyzer shall also to be provided for TDBFP oil.
3	Vol-III / Part-A	Section-2 / Technical Specification Steam Turbine	21.02.02 (iv)	“Overall pressure drop between HP turbine exhaust and IP turbine strainer inlet: 7.5% (maximum) : however Bidder to optimize and indicate	Owner is requested to modify as below: Overall pressure drop between HP turbine exhaust and IP turbine strainer inlet: "Bidder to optimize"	Refer Ammendment sr No: M-79

4	VOLUME-III / PART-A	Section-7 / FGD, LIME HANDLING SYSTEM & CHIMNEY	3.31.09	<p>Limestone Storage system shall consist of two nos. of limestone storage silos, Rod gates, Rack & pinion Gates, Vibrating feeders, belt feeders, weigh feeders, interconnecting belt feeders, interconnecting chutes and DE system. Limestone storage silos shall be design to store limestone of at least 4.5 days (each silos) requirement of the plant.</p> <p>GSECL Response, dtd. 23.05.2024: Two silos of 4.5 days capaci each will be provided.</p>	<p>Bidder understand that additional day silo of 1 day storage as per clause 3.31.23 is not required.</p> <p>Only 2 Silos of 4.5 days storage each above ball mill is required as per LHP flow diagram.</p> <p>Please confirm.</p>	<p>Pre-bid resolution dtd. 23.05.2024 is self explanatory. However, bidder's understand is correct. Only 2 nos Silos each having capacity of 4.5 days storage each above ball mill is required as per LHP flow diagram.</p>
5	VOLUME-III / PART-A	Section-7 / FGD, LIME HANDLING SYSTEM & CHIMNEY	3.31.23	<p>i) Bidder to provide two nos. of storage silos each having capacity of 4.5 days for maximum limestone requirement of FGD system. Each silos shall be interconnected for feeding limestone to any of silo. Requirement in addition to the storage silo 2X100% Limestone day storage silos each silo having minimum 24 hours storage capacity of maximum limestone requirement of FGD system. The storage silos shall be complete with supporting steel structure, platforms, staircase, Reclaim Vibrating/bin Feeder, air canons, power operated gates, gravimetric feeders, level switches (radar frequency 3D type), DE, air relief devices etc.</p>		
6	VOLUME - IV	BID DRAWING	-	<p>FLOW DIAGRAM FOR LIMESTONE HANDLING SYSTEM</p>		
7	Revised plot plan			<p>GSECL had furnished the revised plot plan on 03.06.2024</p>	<p>It is to be noted that two types of boundary wall are mentioned in the plot plan as below: 1. Boundary wall 2. Boundary wall with retaining wall</p> <p>GSECL is requested to please furnish the following: a. The cross-section of "boundary wall with retaining wall" including height, depth & top level of retaining wall and height of boundary wall above retaining wall. b. The FGL of road along the both types of boundary wall.</p>	<p>The elevation of roads, foundation / retaining wall depth, etc. to be decided as per topography survey report and Geo-technical report. The boundary wall above road level shall be followed as per technical specification.</p>

8	VOLUME - VI/ PART - A	AMENDMENT ANNEXURE 10, PQR for 400kV GIS	Route-II & Route-III of the PQR for 400kV GIS	Amendment (EE-37) Annexure-10 (PQR for 400kV GIS)	Kindly check and provide the requisite format for "Letter of Technical Support".	Amendment No. EE-37- Annexure-10 (PQR for 400kV GIS) Rev.01 is attached herewith.
9	Vol-III / Part-B	Section-1 / Electrical Technical Specification	29.00.00 400KV GAS INSULATED SWITCHGEAR	<p>GSECL Response dtd. 23.05.2024: PIR shall be provided for Two outgoing lines plus Two spare bays including Tie Breakers.</p> <p>GSECL Response dtd. 13.06.2024: Pre-bid resolution prevails.</p>	<p>Regarding the technical requirement for 400kV GIS, it was agreed and conveyed by GSECL to consider either PIR or CSD for outgoing line bays plus 2 spare bays including breaker in line with CEA regulations. However, the same has not been confirmed in the pre bid resolution against the bidder's query. Kindly check and confirm that the provision of PIR/CSD is acceptable.</p> <p>Initial query-Owner may please clarify the requirement of PIR for the circuit breakers.</p> <p>Query as per VC 06062024-In accordance with the power system requirement and as per the technical standards for construction of Electrical Plants and Electric Lines regulation-2022 issued by CEA, The circuit breakers of 400 kV voltage class for lines of length more than 200 km shall be provided with Pre Insertion Resistors or Controlled Switching Devices for controlling switching over voltage. Accordingly, we request you to kindly review your requirement and keep the provision of PIR/CSD for line bays.</p>	PIR (Pre Insertion Resistor) or CSD (Controlled Switching Device) shall be provided for Two outgoing lines plus two Spare Bays (One reactor bay and one line bay)
10	VOLUME - III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	3.01.09	Consider all floor casting in PHB and Pump-house or Equipment Building roof with deck-sheet arrangement.	Roofing system for pump houses mentioned at point 1 & point 2 is contradictory. Also please refer Sr. No. 169 of "Part-B Pre-bid Resolutions (Technical)" - Civil. Where in roofing system for pump houses is mentioned as "Pump houses Roof shall be RCC with metal deck sheet. please clarify which is to be followed.	Roof shall be RCC with metal deck sheet for all pump houses.

	VOLUME - III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.16.09	The pump house structure shall be of R.C.C frame.		
	VOLUME - III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.21.02	Fuel Oil Pump House This building shall be a single storied framed superstructure with RCC columns, structural steel roof truss (with rafter and tie level plan bracings), purlins and roof slab. The roof slab shall comprise minimum 40 mm thick (above the crest of metal deck sheet) RCC slab supported on profiled metal deck sheet.		
	VOLUME - III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	10.01.03	However, pump houses shall have structural steel super structure with Galvalume sheet roofing.		
11	Volume-III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.16.02	RCC cooling water channel shall be of rectangular shape and designed as a water retaining structure	PRV may please be allowed in forebay and channel to counter balance the uplift. Without PRV the thickness of base raft will be huge, which in turn will increase the project cost.	Tender conditions prevails
12	Volume-III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	23.14.00	Water Proofing Treatment for Concrete structures	The prottive coating is required only for Class-5 exposure as per Table-4 of IS456-2000. Thus application or rquirement of protective coating shall be as per IS-456-2000, Table-4.	Please refer pre-bid resolution uploaded on dtd 23.05.24, page no: 285 of 291

13	Volume-III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	23.14.00	Bituminous or Tar Coating on External Surface	The protective coating is required only for Class-5 exposure as per Table-4 of IS456-2000. Thus application or requirement of protective coating shall be as per IS-456-2000, Table-4.	Please refer pre-bid resolution uploaded on dtd 23.05.24, page no: 285 of 291
14	Volume-III	Part-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	23.14.00	Protective Coating on Inside Surface	The protective coating is required only for Class-5 exposure as per Table-4 of IS456-2000. Thus application or requirement of protective coating shall be as per IS-456-2000, Table-4.	Please refer pre-bid resolution uploaded on dtd 23.05.24, page no: 285 of 291
15	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.21.03 (i)	The Fuel Oil shed stone, screenings, fine gravel, clean coarse sand (river sand)	Please allow bidder to use crushed stone sand (M-Sand) also as per IS-383-2016 in place of only River/natural sand, as the availability of river sand is limited in near by project site & it may create hindrance on project during execution.	Refer Amendment sr No: C-17
	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	7.29.10	Coal Stock Shed:, joints filled with river sand .		
	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	11.18.04	River/natural sand shall be used for construction of brick works, plastering and finishing works.		
	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	(vii)	River/natural sand shall be used for concrete works.		

	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	22.02.08	Natural/river sand shall be used for plastering works.		
16	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	17.05.00	Self-compacting concrete (SCC) shall also be used wherever required due to dense reinforcement like less than 60mm clear distance between adjacent bars. It should be used mainly for underground structures and water retaining structures. The mix design of SCC shall be properly designed as per codes and standards.	Please allow bidder to use high workability concrete instead of Self-compacting concrete (SCC). The use of the same will increase the project cost.	Bidder to follow tender specifications.
17	VOLUME - III	PART-D/TECHNICAL SPECIFICATION CIVIL, STRUCTURAL AND ARCHITECTURAL WORKS	(ii)	The source of supply, type or brand of cement within the same structure or portion thereof shall not be changed without prior approval from the Engineer in-charge.	The source of supply and brand of cement may not be same but the type & grade of cement shall be same within the same structure. Bidder envisaged no approval for brand change is required from customer. Such stringent condition will create hindrance on project execution.	Tender Specification is self explanatory.
18	VOLUME - I	SECTION - 2 Fuel Oil handling System	xiii (c)	One (01) no. LDO Day tank (in new plant area)	In the absence of relevant data in the tender specification following is being considered in line with discussion: 1. The day oil tank shall have the same capacity as the new LDO tank, i.e., 500 kl. 2. The LDO transfer pumps should be suitable for transferring over approximately 1 km distance. 3. The OWS shall be placed in the new plant area. kindly confirm.	1. Both LDO/LSHS Tanks (i.e. Tank in new plant area and existing plant dyke area) Capacity shall be 500 KL. 2. The LDO transfer pumps should be suitable for transferring from existing dyke area to new tanks and distance shall be decided during detailed engineering as per approved plot plan. 3. For new plant area: The OWS shall be placed. For old plant area: Bidder has to connect necessary drain to existing facilities for new constructed facilities in existing area. 4. Approx. Size of the existing HFO tank is as under; Height: 9.04 mtrs and Diameter: 9.06 mtrs.

19	VOLUME - I	Layout SECTION - 2	9.02.35	Adequate space for maintenance of steam turbine/generator and condenser shall be provided in the layout. Requisite lay down area shall be provided for each unit on TG floor and same shall be approachable with Electric Overhead Travelling (EOT) crane. One transverse bay with adequate space shall be provided for each Unit in TG building for unloading and maintenance purposes. TG EOT crane is required to handle the heaviest component other than the generator stator.	Bidder understands that One unloading bay of 12.0M will be provided as the first bay of TG building. Please confirm	Bidder to consider minimum 20 mtr x 30 mtr size for repair bay at 0.00 mtr floor. Laydown space at operating floor is to unload material at operating floor as per the industry standard practice.
20	VOLUME - I	Layout SECTION - 2	9.02.33 xi)	The Turbine repair bay area shall be sized for minimum of 20 m x 30 m.	By Turbine repair bay, Bidder understands that Laydown area/space at operating floor which is already being provided as a standard practice. Please confirm	Bidder to consider minimum 20 mtr x 30 mtr size for repair bay at 0.00 mtr floor. Laydown space at operating floor is to unload material at operating floor as per the industry standard practice.
21	VOLUME - I	Layout SECTION - 2	9.02.33 xiii)	Passage way between power house building 'C' row and boiler 1st row column shall be minimum 15 m wide. Clear height shall be 8m except in control building area, where the minimum head room shall be 5m.	C-row to first row of Boiler column is normally 12.0M (in-line with standard practice) , Customer to please review this special requirement. Since, There is a space limitation hence customer to allow bidder to proceed ahead with 12.0M. Please confirm	Refer Ammendment sr no: C-18
22	VOLUME - I	Layout SECTION - 2	9.02.35 i)	Adequate space for maintenance of steam turbine/generator and condenser shall be provided in the layout. Requisite lay down area shall be provided for each unit on TG floor and same shall be approachable with Electric Overhead Travelling (EOT) crane. One transverse bay with adequate space shall be provided for each Unit in TG building for unloading and maintenance purposes. TG EOT crane is required to handle the heaviest component other than the generator stator.	By transverse bay with adequate space, Bidder understands that One unloading bay of 12.0M will be provided as the first bay of TG building. Please confirm	Bidder to consider 20 mtr x 30 mtr for repair bay at 0.00 mtr floor. Laydown space at operating floor is to unload material at operating floor as per the standard practice.
23	VOLUME - I	Layout SECTION - 2	9.02.34	STEAM GENERATOR AREA i) The lay down area shall be provided on any one side of SG, which would facilitate easy access for erection and maintenance. Equipments located outdoor shall be provided with covered roof /canopy.	C-row to first row of Boiler column is normally 12.0M (in-line with standard practice), Customer to please review this special requirement. Since, There is a space limitation hence customer to pls. please allow bidder to proceed ahead with 12.0M.	Noted & agreed

24				<p>ii) Power Cycle piping area between power house building C-row and Boiler 1st column shall have canopy / covered with roof.</p> <p>iii) Maintenance room for boiler, mills and fans shall be provided, with space to store tools and tackles and consumables of BMD.</p>	<p>Further, C-row to first row of Boiler column area is normally occupied by piping which is already insulated therefore open to sky without canopy/covered with roof, Customer to pls. review this special requirement and allow bidder to proceed without canopy/covered with roof. Please confirm</p>	<p>Noted & agreed. However interconnection platform/walk way between boiler & turbine shall be provided with canopy / shed.</p>
25					<p>Handling arrangement , bay along with crane is already provided for maintenance of boiler, mills & fans, hence separate maintenance room for boiler is not required (as per standard practice) , However, if specifically required kindly specify the size, location & ventilation requirement of the maintenance room for boiler. Please confirm</p>	<p>Bidder to follow Tender specifications. Sizing of maintenance room shall be minimum 10 mtr x 20 mtr with adequate ventilation & lighting arrangements and Location shall be finalized during detail engineering.</p>
26	VOLUME - I	Layout SECTION - 2	9.02.39	<p>PIPING AND CABLE ROUTING</p> <p>i) Minimum clear height of cable/pipe trestle, within the power block area, i.e. from transformer yard to road behind chimney, shall be 8.0m bottom of steel (BoS).</p> <p>ii) Minimum clear height of cable/pipe trestles, at road/rail crossings shall be 8.0m (BoS).</p> <p>iii) Trestle height in outlying area shall be 5.0m (BoS).</p>	<p>Trestle height in Outlying area is normally 3.0M (BOS), Customer to review.</p>	<p>Refer Ammdment sr no: C-19</p>
27	Volume III Part	Section - 1 / Technical Specification for SG Power cycle	2.34.00	<p>The spray water for desuperheating station shall be supplied from boiler feed pump discharge or inter-stage tap-off. The bidder shall provide pressure and temperature control valves to meet the requirements of auxiliary steam system.</p>	<p>Spray shall be taken from CEP discharge line and accordingly one no. of spray control valve shall be provided, in line with practice followed for all supercritical projects including NTPC projects. Please confirm.</p>	<p>Refer Ammdment sr no:M-81</p>
28		Vol-III Part-B Section-1 / Electrical Technical Specification	8.08.02	<p>The following Type test shall be performed atleast on one switchgear of each current and voltage rating:</p>	<p>Type test Report shall be submitted for review</p> <p>We shall submit valid type test reports for the type tests listed in this clause. Customer is requested to kindly accept.</p> <p>Alternatively, we propose to conduct (i) Dielectric tests (impulse & pF voltage withstand tests) & (ii) Temperature rise tests against this order. For the remaining tests, we shall submit valid type test reports for customer reference.</p>	<p>Refer Ammdment sr no: EE-41</p>

29	Section-2 /LEAD TECHNICAL SPECIFICATION	Sub Section No. 2.00.00 / BROAD SCOPE OF SUPPLY AND SERVICES Page 54 ETG106-EPC-LEAD-TS	Clause No:2.16.15 xiv) ELECTRICAL	Local Control Panel/JB/PBs- Local Control panels for all auxiliaries and power supply arrangement, JBs as required for all systems and local stop PB stations for all unidirectional motors and bidirectional drive motors (except for MOV), DC starter panels etc	<p>Bidder understand that the requirement of Local control panels is generic requirement and to be provided based on the system requirement. Kindly note that critical equipment like ID/FD/PA FANS and their LOS are directly controlled from DCS. Local control panels and local start PB are not recommended and not provided in any of the projects executed so far by BHEL , considering the critical nature of the equipment for ensuring plant availability. Also, kindly note that BHEL as a FANS OEM do not recommend the same considering the safety of equipment and personnel.</p> <p>Hence, bidder proposes that local control panels and local start are not provided for the ID/FD/ PA fans & their LOS. These shall be DCS controlled only. Emergency stop push button shall however be provided.</p> <p>Owner may kindly review critically and confirm</p>	Please refer corrigendum-11, Technical pre-bid resolution-2, sr no: 47.
30	VOLUME - III, PART - A	SECTION - 4 / TECHNICAL SPECIFICATION MECHANICAL MATERIAL HANDLING SYSTEM	2.14.03	<p>Two (02) Nos. locomotives along with all accessories and loco shed with repair bay.</p> <p>GSECL Response, dtd. 23.05.2024:</p> <p>Locomotive specifications: Type of Service: Hauling and shunting, Type of Locomotive: Diesel Electric Loco with single cabine, Engine HP: min. 1350HP with 6 cylinder inline, Axle Arrangement: CO-CO, Axle Load: 21 Tons (plus or minus 2%), Max.Speed with trailing load: 60 Kms (Max.), Fuel Tank Capacity: min. 5000 Ltr, Brake type: IRAB-1 Air brake, It shall having Microprocessor based control system with governor. Maximum Tractive Effort: 370 kN.</p>	<p>Engine Min HP shall be 1350hp but cylinder shall be 12/16 in VEE arrangement. Engine OEM Cummins/CATERPILLAR does not have engine with inline configuration of 6-cylinder for such higher rating.</p> <p>Owner is requested to modify the spec.</p>	Refer Ammendment sr no: M-82



GUJARAT STATE ELECTRICITY CORPORATION LIMITED

**1X800 MW ULTRA SUPER CRITICAL UNIT NO#7
ON ASH DYKE AREA AT UKAI TPS**

BID DOCUMENT

FOR

EPC CONTRACT

BID SPECIFICATION NO.: ETG106-EPC-UKAI/UNIT # 7-TS-01


VOLUME - VI, PART - A

AMENDMENT ANNEXURE- 10

PQR OF 400 kV GIS

STEAG Energy Services India Pvt. Ltd.

(A wholly owned subsidiary of STEAG Group, Germany)
A-29, Sector-16, NOIDA - 201031, INDIA

	GUJARAT STATE ELECTRICITY COPORATION LIMITED	VOLUME - III
	1X800 MW ULTRA SUPER CRITICAL UNIT NO#7 ON ASH DYKE AREA AT UKAI TPS	PART - A
	BID SPECIFICATION NO.: ETG106-EPC-UKAI/UNIT # 7-TS-01	ANNEXURE-10
	PQR FOR 400 kV GIS	Rev.01

VOLUME - VI, PART - A AMENDMENT ANNEXURE 10

PQR FOR 400 kV GIS

PREPARED BY




(An ISO 9001:2015 certified Company)

STEAG Energy Services India Pvt. Ltd.

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A-29, Sector-16, NOIDA - 201031, INDIA

JUNE, 2024

	GUJARAT STATE ELECTRICITY COPORATION LIMITED	VOLUME - III
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PQR FOR 400 kV GIS SWITCHYARD

Route-I:

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 of 400 kV 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.

~~Route-II:~~

~~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) bays which should have been in successful operation for a minimum period of two (2) years.~~

~~AND~~

~~The Bidder/Sub vendor associates with a GIS manufacturer for sourcing of GIS equipments who meets the requirement indicated at Route I 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:

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 Route-I 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 400 kV 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:- For the purpose of qualifying requirement, one no. of bay shall be considered as a comprising of at least one circuit breaker, two disconnectors and single phase current transformers.

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(On Company's Letter Head)

LETTER OF SUPPORT FOR SATISFACTORY PERFORMANCE
of..... (Name of Equipment / System*)
for 1X800 MW ULTRA SUPERCRITICAL UNIT #7 UKAI TPS
PROJECT PACKAGE.

To,

[EMPLOYER'S NAME & ADDRESS]

Sub: Letter of Technical Support submitted From (name of the Associate*/
Collaborator*/ Technology provider* / Licensor*) undertaking the responsibility for
successful performance of(name of equipment/system*).

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*/Collaborator*/Technology provider*/Licensor*, (M/s) shall be fully
responsible for the successful performance of the(name of equipment/system*).


2. Further, the manner of achieving the objective set forth in point 1 above shall be as
follows for (name of equipment/system*):

(a) We shall provide design, manufacturing and assembly drawings of..... (name of
equipment/system*). (name of equipment/system*) which shall be
manufactured and supplied as per above design provided by us and the drawings approved
by the Employer.

(b) We shall depute technical experts to Bidder's/sub-vendor's works for supervision
during manufacturing, assembly, erection, commissioning and final testing (as and when
necessary) of the..... (name of equipment/system*).

(c) 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/system* as and when required by Employer in case the
equipment/system* fails to demonstrate successful performance as per contract at site.

(d) We shall participate in Technical Co-ordination meetings (TCMs) from time to time,
as and when required by the Employer.

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3. We, the Associate*/Collaborator*/Technology provider*/Licensor* do hereby undertake and confirm that this Letter of Technical Support shall be valid until the end of defect liability period of the contract.

Signature of the Authorised Representative.....

For M/s.....

(Associate*/Collaborator*/Technology Provider*/Licensor*)

Address

Name

Designation

Date:.....

Common Seal of the Company

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