



ENGINEERING PROJECTS(INDIA)LTD.
(A. Govt. of India Enterprise)
Contracts Division, New Delhi

EPI/CO/CON/968/870

14th November' 2024

Subject : Tender for "Design, Engineering, Supply, Fabrication, Installation, Testing and Commissioning of Overall Mechanical Package with detail engineering (i.e. Absorber shell with its Internal Equipment, Booster Fans, Ducting system, Oxidation Air-Blowers, Recirculation Pumps, Tanks, Lime and Gypsum handling system etc.) in all respects (on EPC Mode) for the project "Supply, Installation, Commissioning & Testing of FGD system for 500 MW Unit No.6 of Ukai TPS with 03 years comprehensive O&M contract".

Reference : 1) NIT No: EPI/CO/CON/968/870 Dated: 06.11.2024
2) Addendum 01 Dated: 11.11.2024 (Pre-Bid meeting link)

Corrigendum-01

Reference to the subject e-Tender and pre-bid meeting held on 11.11.2024, EPI's reply on Pre-Bid queries are attached as **Annexure-I**.

All other terms & conditions of the tender shall remain unchanged.

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Tender for "Design, Engineering, Supply, Fabrication, Installation, Testing and commissioning of Overall Mechanical Package with detail engineering (i.e. Absorber shell with its Internal Equipment, Booster Fans, Ducting system, Oxidation Air-Blowers, Recirculation Pumps, Tanks, Lime and Gypsum handling system etc.) in all respects (on EPC Mode) for the project "Supply, Installation, Commissioning & Testing of FGD system for 500 MW Unit No.6 of Ukai TPS with 03 years comprehensive O&M contract"

NIT NO: EPI/CO/ CON/ 968/870 dated 06.11.2024

SI. No.	Tender Reference	Description	Bidder's Query	EPIL's Reply
1	Vol-II Page 41 of 457	(D) Scope of Supply & Erection work for FGD system	The Scope of O&M Page 979 to 997 of the Tender is missing .We understand there is no O&M in scope of bidder for this tender.Hope bidder understanding is correct.	O&M is not in the scope of Bidder.
2	Vol-II Page 437 of 457	General	In the equipment list remarks column, reference of Data sheets for each equipment is indicated. Request to provide the indicated data sheets.	Equipment list & Technical specification shared in the NIT is tentative only and it may vary at the time of Detail engineering (Detail engineering is in the Bidders Scope) Basic engineering data reference shown in Remarks column shall be share with successful bidder only.
3	Vol-II Page 79 of 457	Penalties	Penalties are indicated for full plant shut down. In case the fault is due to instrumentation or electrical defects which are not attributable to supplies made under mechanical package, the same will not apply to the mechanical contractor. Hope our understanding is correct	NIT condition shall prevail.
4	Vol-II Page 437 of 457	Mechanical equipments and technical specifications	Bidder seeks clarification on the required operation philosophy for the limestone and gypsum handling systems. Specifically, should these systems operate in automatic or manual mode? please confirm what type of operating system bidder needs to consider.	Technical specification of the NIT shall prevail.
5	Vol-II Page 437 of 457	Mechanical equipments and technical specifications-SO2 removal system	The absorber dimensions provided are 15.8 m in diameter and 42.2 m in height. Could you please clarify the basis for these specific values? Additionally, would it be permissible for the bidder to explore alternative design parameters to meet the required flow rate.please confirm	The Basic Engineering has been finalized by our Technology partner. For alternate design parameter - Bidders to follow NIT Condition.
6	Vol-II Page 437 of 457	Mechanical equipments and technical specifications-Limestone preparation system	Dimensions provided for the wet ball mill are 2.2 m in diameter and 6.5 m in length. Bidder understands that alternative design parameters may be proposed to achieve the required flow rate.please confirm	The Basic Engineering has been finalized by our Technology partner. For alternate design parameter - Bidders to follow NIT Condition.
7	General	Civil work	Bidder understanding is that civil work, including excavation, filling, leveling, area grading, equipment foundation, RCC, walls, plastering, construction of trenches, drain systems, pipe supports, pedestals, walkways, and platforms, is within the scope of EPIL. Hope bidder understanding is correct.	All civil and Structural works are in the scope of EPIL. The bidder has to make all necessary arrangement for approaching to site for fabrication & erection and Installation of equipments by doing necessary area grading, All Type Platforms (Temporary and Permanent) is in the scope of Bidder.
8	General	Electrical work	Electrical work which includes power distribution, grounding, cabling from the main feeder to the site, panel installation, cable trays, termination of cables, operational philosophy, and other related electrical works, falls within the scope of EPIL. The bidder will be responsible for the cabling of equipment and instruments from respective equipments to local control station only.Hope bidder undersatnding is correct.	Bidder understanding is correct. However, bidder will be responsible for supplying and laying of cables from their equipment to FGD control room. The equipment grounding, JB & respective cable Tray (from equipment to JB or local control station) shall be in bidder's scope.
9	General	Structural work	Structural work, including pipe racks, structures required for mechanical equipment, supports for piping, platforms, ladders, foundations for equipment, and other related structural works, will fall within the scope of EPIL.Hope bidder understanding is correct.	Shall be as per the NIT.
10	General	Architectural work	Any architectural work, including design and construction of buildings, flooring, false ceilings, partitions, painting, finishes, doors and windows, and other related architectural works, will fall within the scope of EPIL.Hope bidder understanding is correct.	Scope shall be as per the NIT.
11	Vol-II Page 414 of 457	Approved vendor list	We understand approved vendor list is indicative purpose for tendering.A bidder can select any other vendor also having PTR and meeting performance parameters.	The bidder's understanding is correct; however, the bidder must have to obtain prior vendor approval (by submitting relevant credentials) for any vendor other than the list, for any items.
12	ACC-4 of 457	Insurance	We understand that EPIL WILL take all the insurance policies like CAR,EAR ,Marine etc. except workmen compensation as per Additional condition of contract (ACC). Which amount will be debited from the bill of contractor on Pro rata basis.kindly confirm	NIT condition shall prevail.

NIT NO: EPI/CO/ CON/ 968/870 dated 06.11.2024

Sl. No.	Tender Reference	Description	Bidder's Query	EPIL's Reply
13	Vol II (Technical) 441 of 457	UKAI TPS 1x500 MW FGD- LIST OF MECHANICAL EQUIPMENT AND TECHNICAL SPECIFICATION / SIZES/ QUANTITY*	Bidder understand that complete electrical and I&C system is with Owner, Bidder request owner to provide the terminal point (where Bidder will interface with owner system).	Single point of power for construction will be given to the bidder from construction power MCC located near pump house building. However, the Instrument list is provided in the tender document. Further the interfacing details shall be provided to successful bidder.
14	Vol II (Technical) 441 of 457	UKAI TPS 1x500 MW FGD- LIST OF MECHANICAL EQUIPMENT AND TECHNICAL SPECIFICATION / SIZES/ QUANTITY*	Based on the BOQ qty provided in technical spec, Bidder understand that there is no Piping, Valves, Pipe rack and cable rack etc. in Bidder scope. All these items are in owner scope. Bidder requests owner to kindly confirm the bidders understanding.	Equipment list & Technical specification shared in the NIT is tentative only and it may vary at the time of Detail engineering (Detail engineering is in the Bidders Scope) All Piping Including Pipe support and structures, valves, along with all accessories are in the scope of Bidder. Only Pipe rack and Cabel Rack is in the scope of EPIL. The Basic Engineering has been finalized by our Technology partner, however detail engineering in the bidders scope.
15	Vol II (Technical) 441 of 457	UKAI TPS 1x500 MW FGD- LIST OF MECHANICAL EQUIPMENT AND TECHNICAL SPECIFICATION / SIZES/ QUANTITY*	Bidder requests to provide the terminal points for all the interface with owner system / facilities.	As per Technical Specificatoin (Pg no. 52 of 457) and Single point of power for construction will be given to the bidder from construction power MCC located near pump house building.
16	Vol II (Technical) 387 of 457	Drawings	Bidder understands that owner has shared project specific drawings and BOQ, accordingly bidder has to estimate the cost and quote. If there is any change in BOQ during execution, Bidder shall be eligible for cost compensation and extension in time. Accordingly, Owner will provide change order.	Equipment list & Technical specification shared in the NIT is tentative only and it may vary at the time of Detail engineering. No price variation is applicable as per NIT
17	Vol II (Technical) 387 of 457	Drawings	Bidder request owner to share AutoCAD Drgs to estimate the BOQ qty and cost accordingly	NIT condition shall prevail.
18	Vol II (Technical)408 of 457	EPI-M-DE-D02-001-007 GA Drawing of Absorber Sheet 7 of 12: Absorber Tray Support	Bidder understands that Tray (S32205) and Tray support (E250) material will be Flake glass lined. Bidder request owner to kindly confirm the same.	Technical specification of the NIT shall prevail.
19	Vol II (Technical)403 of 457	EPI-M-DE-D02-001-001 GA Drawing of Absorber Sheet 1 of 12: General View and Notes	Bidder understands that Tray (S32205) and Tray support (E250) material will be Flake glass lined. Bidder request owner to kindly confirm the same.	Technical specification of the NIT shall prevail.
20	General		Bidder understands that all the Basic engineering details, data sheet, FGD GA and Absorber details will be provide by owner and Bidder has to just fabricate the material as per details drawing prepared by bidder and approved by owner and dispatch material to site for erection and commissioing. Bidder requests owner to kindly confirm the bidders understanding.	Scope shall be as per the NIT.
21	General		Since Civil is with Owner, So Bidder request owner to provide the schedule of Civil foundation readiness/handover to Bidder so that Bidder can plan delivery of material accordingly	Clear workfront shall be provided to sucessful bidder for erection of mechanical equipment as and when required.
22	General		Since Electrical and I&C system is with Owner so bidder request owner to provide schedule of electrical Switchgear readiness and Power availability at terminal point, to start the cold commissioning of FGD equipment's at site.	Electrical Switchgear will be ready by the time cold commissioning will start.
23	General		In Booster Fan Package, Please find the technical queries : >> Actual operating density for different operating points >> Operating temperatures for different operating points >> Technical data – Volume flow, pressure increase, inlet pressure etc. for Guarantee / 100% TMCR Point >> Inlet static pressure for given operating points >> Kindly clarify whether given pressure in " C.Booster Fan Boq" are static pressure or Total pressure ?	Technical specification of the NIT shall prevail.
24		Providing the Basic Design & Engineering of FGD System (P&ID, Process Flow Diagram, General Assembly / Plan/Plant Layout)	EPIL will provide complete Basic Design & Engineering. We just have to proceed detail engineering based on this input. Please confirm.	NIT condition shall prevail.

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25		Providing of Detailed Engineering/ final specifications of Mechanical (Static & Rotating equipment, Instrumentation)	It is in our scope. However, it is limiting to Mechanical package battery limits only (i.e., beyond these battery limits no electrical & instrumentation detailed engineering). Please confirm.	NIT condition shall prevail.
26		Size of equipment / items of Mechanical items	These are to be supplied as per the detailed engineering (i.e., meeting specifications, size, quantity). Please Confirm.	The Basic Engineering has been finalized by our Technology partner, however detail engineering in the bidders scope.
27		Providing equipment load list for all civil designs. (ex: Equipment foundation, structural designs details etc.)	All Civil Works including Civil design, architectural designs, all structural designs and all civil foundations in EPIL's Scope. However, bidder shall need to provide mechanical equipment load list only for civil works. Please confirm.	NIT condition shall prevail.
28		Providing all structural works	Except duct support structures, all other structures (Temporary & Permanent) for equipment erection shall be in EPIL's scope. Please confirm.	NIT condition shall prevail.
29		Mechanical: SITC of static & rotating equipment (Ex: Blowers with motors, pumps with Motors, Actuator with drive etc.) (SITC- Supply Installation Testing & Commission)	As per the bill of quantity, specifications given in the tender to be followed. Please confirm.	The detail engineering will be done on the basis of technical specification and basic engineering done by our technology partner. However the Bill of quantities of mechanical equipments is tentative.
30		Electrical: Providing SLD diagrams	Based on the electrical load list provided by us, EPIL will take up the final SLD preparation and will share with us. Please confirm.	confirmed
31		Electrical: Providing equipment Electrical Load List	Our scope is limiting to mechanical related electrical load list only. Please confirm.	confirmed
32		Electrical: SITC of Rotating equipment with starter panel / VFD panels	Our scope includes related to electrical works shall be up-to/ nearest starter panel / VFD panels only. Beyond these equipment's /points all necessary electrical works design, including power cabling, cable trays, JB's and auxiliary items, any structural supports for routing/installation shall be in EPIL's scope. Please confirm.	Confirmed but Starter Panel/ VFD/ Local control Starter is in bidder Scope.
33		Electrical: SITC of all switchgear, electrical panels, all power cabling and its associated items	These are under EPIL's scope (i.e., Beyond the battery limits of mechanical package). Please confirm	confirmed
34		Electrical: Power Cable laying and terminations at our equipment/ items installed	These are under EPIL's scope (i.e., Beyond the battery limits of mechanical package). Please confirm.	The bidder will be responsible for the cabling from respective equipment to local control station/ VFD/ Starter panel
35		Instruments: SITC of All Instruments	Our scope includes related to instrumentation within the mechanical package boundary limits only. Beyond these equipment's /points all necessary instrumentation works design, including control cabling, cable trays, JB's and auxiliary items, any structural supports for routing/installation shall be in EPIL's scope. Please confirm	The scope includes, supply, erection & commissioning of all the field instruments as per the list enclosed in the tender. However, all the control cable (from from instrument to FGD control room),cable tray (from instrument to local JB), JB and any auxillary items shall be in bidder scope of work
36		Electrical & Instrumentation cabling and terminations.	Our scope is limiting to battery limits of mechanical package only beyond this EPIL's scope. Please confirm.	As per NIT
37		Instrument Air & Compressed Air: SITC of all piping, valves and associated auxiliary items.	We understand it is in our scope. However, EPIL shall provide necessary air taping points near to the respective system / equipment. Please confirm.	Bidder has to provide necessary compressor for Inst air and compressed air, necessary piping has to be done by Bidder
38		Water Line: SITC of all piping, valves and associated auxiliary items.	We understand it is in our scope. However, EPIL shall provide necessary water taping points near to the FGD system. Please confirm	NIT condition shall prevail.
39		Cooling Water: Supply of Cooling Water	We understand it is in our scope. However, EPIL shall provide necessary cooling water points near to the FGD system. Please confirm	NIT condition shall prevail.
40		Approved Vendor's List: Wherever the Vendor list is not provided (ex. Agitators, Mist Eliminators, Recycle Pumps, Spray Nozzles, etc.)	We will propose the suitable vendor/s of equipment/item/components not specified in the tender document for your approval at the time of detailed engineering stage. Please confirm. We will also propose the alternative suitable vendor/s of equipment/item/components other than the specified in the tender document for your approval at the time of detailed engineering stage. Please confirm.	Successful bidder shall propose the alternative vendors and shall get approved from client/ EPIL respectively

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41		Process: Performance Guarantee (Aux. Power, Water, Limestone, SO ₂ Emission, Gypsum, etc.)	<p>The Process & Basic Design & Engineering is providing by EPIL.</p> <p>We are only going to do detailed engineering and SITC of equipment/item as per specification.</p> <p>In such case, the efficiency/performance guarantee of various equipment lies with us, whereas, the Performance Guarantee is in EPIL's scope.</p> <p>Please Confirm.</p>	NIT condition shall prevail.
42		Document Review Process	We expect that within 7 working days EPIL will provide comments / approval. Please confirm.	NIT condition shall prevail.
43		Inspection Agency / Third Party	EPIL to confirm the name of Inspection Agency / Third Party Agency, if any.	NIT condition shall prevail.
44		Providing Site	We understand that since all the civil works including area grading, site clearing, levelling etc. are in EPIL scope therefore, we expect the site shall be provided with area grading / in one level to take up the erection works without any hampering. Please confirm.	NIT condition shall prevail.
45		Design, Engineering, Supply, Fabrication, Installation, Testing and Commissioning of Overall Mechanical Package with detail engineering (i.e. Absorber shell with its Internal Equipment, Booster Fans, Ducting system, Oxidation Air-Blowers, Recirculation Pumps, Tanks, Lime and Gypsum handling system etc.) in all respects (on EPC Mode) for the project "Supply, Installation, Commissioning & Testing of FGD system for 500 MW Unit No.6 of Ukai TPS with 03 years comprehensive O&M contract	We understand that there are no O & M involved in this tender scope after successful commission/handing over. Please Confirm.	Bidder's understanding is correct.
46		Variation in the quantity & Specifications	<p>Based on the Basic Design & Engineering we shall need to undertake the detailed engineering only.</p> <p>However, in the tender the specifications and the quantities of major supplies are fixed.</p> <p>Also, the tender is lump sum based. In such case, the variation in specification/ quantity to fulfil the overall system requirement, it is anticipated that there may be a change in quantity/ specification. In such case, the variation shall be justified by us to consider beyond the scope of work as an extra item and paid appropriately. Please Confirm.</p>	No price variation is applicable as the NIT
47		UNDER ROUTE 2 ABOUT THE VALID TIE-UP AGREEMNT WITH QFGDM `	<p>SINCE THE TENDER DOESN'T MENTION ABOUT THE STAMP PAPER DULY NOTARIZED FOR TIE-UP AGREEMENT.</p> <p>THEREFORE, WE UNDERSTAND THE TIE-UP AGREEMENT CAN BE SUBMITTED ON WHITE PAPER DULY SIGNED & STAMPED BY BOTH THE PARTIES.</p> <p>PLEASE CONFIRM.</p>	TIE-UP AGREEMNT WITH QFGDM SHALL BE SUBMITTED ON STAMP PAPER DULY NOTARIZED
48				

Sl. No.	Tender Reference	Description	Bidder's Query	EPIL's Reply																		
49	NIT clause 1 1 of 56 and 2 of 56	<p>1. The Scope of Work under this tender shall include Design, Engineering, Procurement and Construction (EPC) of Mechanical works (as detailed in the tender documents) for the project "Supply, Installation, Commissioning & Testing of FGD system for 500 MW Unit No.6 of Ukai TPS with 03 years comprehensive O&M contract", which includes Supply, Fabrication, Quality NIT No: EPI/CO/CON/968/870 Page 2 of 56 Control, Erection and Commissioning/ Supervision of Erection, & Commissioning, Supply of Mandatory Spares, Performance Testing& Guarantee (as per the Technical Specification), Operations & Maintenance (O&M) for the Supplied items for 3 years.</p> <p>The scope of Mechanical Packages comprises the supply, storage at site, as specified hereinafter but without excluding any other necessary components, which are not mentioned herein but are required for the completeness and efficient, easy and reliable operation of the system. The works includes supply of all materials, consumables, tools, mandatory spares etc. as per approved drawings and specifications, but not limited to the following:</p>	<p>ISGEC understand that this tender is applicable only for FGD Mechanical equipment and associated systems of UTPS unit # 6, requesting EPIL to confirm.</p> <p>Additionally, ISGEC understand based on Prebid meeting with EPIL that complete (including foundations, tranches, sumps, RCC buildings etc.) Civil (excluding steel supports), Electrical (except applicable equipment drive / motors), C&I (except applicable field instruments) are excluded from this tender, requesting EPIL to confirm.</p> <p>Hence, requesting EPIL to provide the revised terminal points as applicable for this tender and inline with the above scope.</p>	Technical specification of the NIT shall prevail.																		
50	NIT Clause 2 2 of 56 and 3 of 56	2. Main List Of Mechanical Equipment For Ukai FGD		Technical specification of the NIT shall prevail.																		
51	Clause no. 3 pg no. 16	<p>3.0 SCOPE OF WORK</p> <p>3.1 The scope of work covered in this Tender shall be as per the Bill of Quantities, Specifications, Drawings, Instructions, Orders issued to the Contractor from time to time during the pendency of work. The Drawings for this work, which may be referred for tendering, provide general idea only about the work to be performed under the scope of this contract. These may not be the final drawings and may not indicate the full range of the work under the scope of this contract. The work will be executed according to the Drawings to be released as "GOOD FOR CONSTRUCTION" from time to time by the Engineer-In-Charge of EPI and according to any additions/ modifications/ alterations/deletions made from time to time, as required by any other drawings that would be issued to the Contractor progressively during execution of work. It shall be the responsibility of the Contractor to incorporate the changes that may be in the scope of work, envisaged at the time of tendering and as actually required to be executed.</p>		Technical specification of the NIT shall prevail.																		
		<p>3.0 SCOPE OF WORK</p> <p>3.2 The quantities of various items as entered in the "BILL OF QUANTITIES" are indicative only and may vary depending upon the actual requirement. The Contractor shall be bound to carry out and complete the stipulated work irrespective of the variation in individual items specified in the Bill of Quantities. The variation of quantities will be governed as per clause No.69 of GCC.</p>		Technical specification of the NIT shall prevail.																		
52	Vol. II 4.0 Scope of Supplies and Works/Services: clause 4 pg 123 of 997	<p>(D) Scope of Supply & Erection work for FGD system:</p> <p>The scope of supply & services is detailed out in the following Sections.</p> <table border="1"> <thead> <tr> <th>Section</th> <th>Description</th> <th>Total pages</th> </tr> </thead> <tbody> <tr> <td>Section-VII</td> <td>Scope of work for Civil works</td> <td>328-728</td> </tr> <tr> <td>Section-VIII</td> <td>Scope of work for Mechanical equipment and associated system</td> <td>729-787</td> </tr> <tr> <td>Section-IX</td> <td>Scope of work for Electrical system</td> <td>788-907</td> </tr> <tr> <td>Section-X</td> <td>Scope of work for Control & Instrumentation system</td> <td>907-978</td> </tr> <tr> <td>Section-XI</td> <td>Scope of work for Comprehensive operation and Maintenance</td> <td>979-997</td> </tr> </tbody> </table>	Section	Description	Total pages	Section-VII	Scope of work for Civil works	328-728	Section-VIII	Scope of work for Mechanical equipment and associated system	729-787	Section-IX	Scope of work for Electrical system	788-907	Section-X	Scope of work for Control & Instrumentation system	907-978	Section-XI	Scope of work for Comprehensive operation and Maintenance	979-997		Technical specification of the NIT shall prevail.
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53	<p>Vol. II</p> <p>7.0 TERMINAL POINTS AND EXCLUSIONS: (A) TERMINAL POINTS:</p> <p>clause no. 7.0 (A)</p> <p>pg 134 of 997</p>	<p>7.0 TERMINAL POINTS AND EXCLUSIONS:</p> <p>(A) TERMINAL POINTS:</p> <p>a For IITPS:</p> <table border="1" data-bbox="454 338 931 705"> <thead> <tr> <th>Sr. No.</th> <th>Description</th> <th>Terminal point (as per tender)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Raw Flue gas</td> <td>Tapping from existing flue gas duct of both the pass after ID fan outlet damper/gate</td> </tr> <tr> <td>2</td> <td>Clean flue gas</td> <td>Flue gas Discharge to new chimney (150 mtr height), including construction of new chimney.</td> </tr> <tr> <td>3</td> <td>Clarified water</td> <td>For APH wash dump line below APH.</td> </tr> <tr> <td>4</td> <td>CW blow down</td> <td>From CD blow-down line behind ESP. Quantity: 70 M³/hr Bidder to consider booster pump for intake of CW blow down to process water tank.</td> </tr> <tr> <td>5</td> <td>Service water</td> <td>At single point near DS pump house.</td> </tr> <tr> <td>6</td> <td>Potable water</td> <td>At single point near DS pump house.</td> </tr> <tr> <td>7</td> <td>Waste water</td> <td>Considered PH control and discharge waste water in existing ash slurry sump.</td> </tr> <tr> <td>8</td> <td>Firefighting system</td> <td>At single point near DS pump house.</td> </tr> <tr> <td>9</td> <td>Service air</td> <td>Consider 2x100% compressor & dryer with 25% margin in required capacity for FGD system.</td> </tr> <tr> <td>10</td> <td>Instrument air</td> <td>Bidder to consider 2x100% compressor & dryer with 25% margin in required capacity for FGD system.</td> </tr> <tr> <td>11</td> <td>Limestone handling system</td> <td>Bidder to provide 07 days limestone storage shed and feeding of limestone from storage shed to limestone handling system is in bidders scope.</td> </tr> <tr> <td>12</td> <td>Gypsum handling system</td> <td>Up to gypsum storage shed having gypsum storage capacity of 05 days.</td> </tr> <tr> <td>13</td> <td>Electrical supply</td> <td>Tapping from existing 220KV bus bar main -1 and bus bar main-2 (AIS).</td> </tr> <tr> <td>14</td> <td>Lime dosing for Waste water Neutralization</td> <td>Considering from lime storage room having capacity of 1 month storage and feeding of lime through bucket conveyor.</td> </tr> </tbody> </table>	Sr. No.	Description	Terminal point (as per tender)	1	Raw Flue gas	Tapping from existing flue gas duct of both the pass after ID fan outlet damper/gate	2	Clean flue gas	Flue gas Discharge to new chimney (150 mtr height), including construction of new chimney.	3	Clarified water	For APH wash dump line below APH.	4	CW blow down	From CD blow-down line behind ESP. Quantity: 70 M ³ /hr Bidder to consider booster pump for intake of CW blow down to process water tank.	5	Service water	At single point near DS pump house.	6	Potable water	At single point near DS pump house.	7	Waste water	Considered PH control and discharge waste water in existing ash slurry sump.	8	Firefighting system	At single point near DS pump house.	9	Service air	Consider 2x100% compressor & dryer with 25% margin in required capacity for FGD system.	10	Instrument air	Bidder to consider 2x100% compressor & dryer with 25% margin in required capacity for FGD system.	11	Limestone handling system	Bidder to provide 07 days limestone storage shed and feeding of limestone from storage shed to limestone handling system is in bidders scope.	12	Gypsum handling system	Up to gypsum storage shed having gypsum storage capacity of 05 days.	13	Electrical supply	Tapping from existing 220KV bus bar main -1 and bus bar main-2 (AIS).	14	Lime dosing for Waste water Neutralization	Considering from lime storage room having capacity of 1 month storage and feeding of lime through bucket conveyor.		<p>Technical specification of the NIT shall prevail.</p>
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14	Lime dosing for Waste water Neutralization	Considering from lime storage room having capacity of 1 month storage and feeding of lime through bucket conveyor.																																															
54	<p>Vol. II</p> <p>7.0 TERMINAL POINTS AND EXCLUSIONS: (B) EXCLUSIONS:</p> <p>pg 136 of 997</p>	<p>(B) EXCLUSIONS: Nil</p>		<p>Technical specification of the NIT shall prevail.</p>																																													
55	<p>Vol. II</p> <p>General Scope of Work</p> <p>General:</p> <p>1 of 4 to 4 of 4</p>	<p>General Scope of Work</p> <p>General:</p> <p>The contractor's scope shall include design, engineering, supply, fabrication, installation, testing and commissioning of entire mechanical works for flue gas desulphurization system and its auxiliaries for each unit. Technical details of steam generators, characteristics of the coal, ash and other relevant design data are given at clause no. 03 of Section-IV of Project Synopsis.</p> <p>The FGD system shall be based on wet limestone FGD technology and intended to reduce the emissions of sulphur dioxide in flue gas produced by coal being fired in boiler to the limits as in the technical specification. 03 years comprehensive operation and maintenance contract is also in the scope of contractor.</p> <p>All Mechanical Equipments and Systems:</p>		<p>Technical specification of the NIT shall prevail.</p>																																													
56	<p>Vol. II</p> <p>Scope of work for Mechanical equipment and associated system</p> <p>SECTION-VIII</p> <p>A. General:</p> <p>731 of 997</p>	<p>Scope of Supply & Erection for Mechanical equipment and associated systems</p> <p>A. General:</p> <p>The contractor's scope of supply shall include engineering, design, manufacture, supply, erection, commissioning and testing of complete mechanical, electrical, C&I with associated civil and structural works for Flue Gas Desulphurization system and its auxiliaries for each unit.....</p> <p>Complete Electrical & Control & Instrumentation system as required for the FGD system shall be included in the scope of supply. All electrical drives and actuators required for the equipment / valves / dampers shall be in the contractor's scope. Complete Civil works, structures, foundation required for all the equipment etc. is included in the contractor's scope of work. The contractor shall also include all supporting and structural works, like pipe, trestles, platforms, staircases in their scope of work</p> <p>The scope of supply identified for FGD system here are minimum requirements and unless specifically excluded from the contractor's scope mentioned in Terminal Points and Exclusions, any equipment / system not included in this specification but integral to the system offered by the contractor to meet the intent of this specification, shall also be included in the scope of the contractor.</p>		<p>Technical specification of the NIT shall prevail.</p>																																													
57	<p>Vol. II</p> <p>BOQ table</p> <p>1 of 11 to 11 of 11</p>	<p>Gujarat State Electricity Corporation Limited (GSECL)</p> <p>PROJECT: Supply, installation, commissioning & testing of FGD system for 1X500 MW Unit No.6 of Ukai TPS with 03 years comprehensive O&M contract</p>	<p>ISGEC understand that the drawings and BOQ as furnished along with Tender are only indicative for tendering purpose, however, supplier to revise the same during detail engineering stage based on their design and as applicable to achieve Performance Guarantees offered by them, requesting EPIL to confirm.</p>	<p>The Basic Engineering has been finalized by our Technology partner.</p> <p>For alternate design parameter - Bidders to follow NIT Condition.</p>																																													

Sl. No.	Tender Reference	Description	Bidder's Query	EPIL's Reply
58	Vol. II drawings PDF file page 387 to 413	Tender drawings including plot plan, absorber arrangement drawing and other detail drawings		
59		Attachment 16 - PLC architecture	Attachment is not available in tender, requesting EPIL to provide.	To be shared with successful bidder.
60	Vol II - General Scope of Work, pg 80	ii) Sufficient slope for the ducts and stiffeners to be provided to avoid accumulation of ash particles/water under any working conditions.	Slope shall be maintained for absorber inlet duct only.	Technical specification of the NIT shall prevail.
61	Vol II - General Scope of Work, pg 337	Internal stiffening elements shall consist of trusses, preferably comprised of extra-strong steel pipes (min. dia. 76.2 mm) acting in conjunction with external stiffeners. Such internal stiffeners for the flue gas duty between boiler and FGD shall be provided with erosion protection shields.	Since, Internal stiffeners are designed considering 1.5 mm corrosion allowance, erosion protection shields are not required.	Technical specification of the NIT shall prevail.
62	Vol II - General Scope of Work, pg 338	c. Damper / Gate: All the gates shall be designed for tight shut off. The gates shall have a guaranteed gas tightness efficiency (on flow) of not less than 99.95% along the duct as well as from the duct to atmosphere or from atmosphere to the duct, depending on the pressure in both the damper open and damper closed condition without the use of seal air fans of the damper.	1. Materials of Seals for Dampers & Gates shall be as per Manufacture's standard 2. Since, sealing efficiency of Bi-plane dampers are not mentioned in the spec, Seal efficiency of Bi-Plane Dampers shall be as per Manufacture's standard	Technical specification of the NIT shall prevail.
63	NIT pg 1 of 56	Completion Period 15 Months	Completion Period of 15 Months is very stringent considering Absorber on Critical Path. We propose Completion Period of 24 Months.	NIT conditions shall prevail.
64	Volume - II (Additional Conditions of Contract) clause 18, pg 6 of 23	Payment Terms: A) Against Supply of Material 10% On Submission of unpriced Purchase Order (Acceptance by Vendor) And submission and Approval of Vender Drawings.	As the scope of Work includes various equipment for which Vendor Drawings will be released in a phased manner as per project schedule. Therefore, it is requested to release this 10% payment as advance against ABG.	NIT conditions shall prevail.
65		Payment Terms: A) Against Supply of Material 10% after successful E&C	As Erection and Commissioning Price and Payment Terms are separately provided, we request you to adjust this 10% payment along with 70% MRC Payment in order to make the MRC Payment as 80%.	NIT conditions shall prevail.
66		Payment Terms: B) Against Erection, Testing and Commissioning 80% on successful erection of Equipment	We believe that this payment will be paid on pro rata basis based RA Bills. Please confirm. We request 10% advance against ABG on Site Mobilisation. Based on the above, we propose amendment in payment terms for Erection & Commissioning as follows: I. 10% Advance against ABG on Site Mobilisation. ii. 80% on progressive erection at site against RA Bills. iii. 5% against Successful PG Test. iv. 5% on completion of Punch Points.	NIT conditions shall prevail.
67	Volume - II (Additional Conditions of Contract) clause 19, pg 6 of 23	LAND FOR LABOUR HUTS/ SITE OFFICE AND STORAGE ACCOMMODATION	Site Establishment, Labour Hutment and Storage Space shall be prepared by the Bidder. However, Land/Space for the same shall be allocated by the Employer. Kindly confirm. Employer to also confirm that space for Site Office and Storage Area shall be provided within the plant premises.	NIT conditions shall prevail.
68	Open	Limestone - Material Specifications	Kindly provide bulk density, Moisture and lump size	Technical specification of the NIT shall prevail.
69	Open	Gypsum - Material Specifications	Kindly provide bulk density, Moisture and lump size	Technical specification of the NIT shall prevail.
70	Drawing EPM-M-BE-B01-001-004	Inline magnetic Seperator for limestone belt conveyor	We are requesting to consider Cross belt magnet ILMS is difficult to fix at head pulley	Technical specification of the NIT shall prevail.
71	Drawing EPM-M-BE-B01-001-004	Elevator	Kindly provide the scope and specification of elevator	Technical specification of the NIT shall prevail.
72	Drawing EPM-M-BE-B01-001-009	Telescopic Chute	Kindly provide the scope and specification of Telescopic Chute	Technical specification of the NIT shall prevail.
73	Volume II – Additional Conditions of Contract, Technical Specification & Drawings 4.0 Scope of Supplies and Works/Services: clause D pg 41/457	(D) Scope of Supply & Erection work for FGD system: Section-IX Scope of work for Electrical system 788-907	Referred section is not available in tender	To be shared with successful bidder.