

Project	:	Carbonated Fly Ash Brick (C-Brick) Plant of 2 Lakh per Day Capacity at NTPC Ramagundam
GEPNIC Tender Ref. No:	:	2025_NTPC_98848_1

Clarification No 02 to Technical Specification (Section VI)

Ref: CS-3100-702-9-CLRF02_TECH

Sr. No.	Document Name	Page No.	Description	Bidder's Queries	NTPC Reply
1	AMDT01_TS / Point no. 03	-	Wherever existing pipe rack is used, it shall be the responsibility of bidder to adequately strengthen it and provide supporting analysis / calculations based on 'on site condition'. NTPC Reply: Details shall be provided during the detail engg. stage if such requirement arises.	In order to determine the required support and perform an accurate load analysis, the bidder would require the details of the existing pipe rack. However, due to the unavailability of this information at this stage, the bidder shall consider a new pipe rack for the proposed facility.	New pipe Rack is allowed as per TS
2	AMDT01_TS / Point no. 04	-	This 3D Miniature Moving Model shall be delivered by the bidder at Netra or any location suggested by Netra with 3 months of award of this contract. NTPC Reply: As per TS	To create a 3D model detail engineering to be performed and requires involvement of multiple stakeholders hence the bidder requests that the 3D Miniature Model be delivered within 3 months after completion of detailed engineering. Please accept.	As per TS
3	AMDT01_TS / Point no. 06	-	Bidder shall supply calibrated instruments, T&P, manpower, and all necessary requirements including raw materials for conducting PG Test etc. NTPC Reply: As per TS	As per TS Point 21 on Page 6 of 115: "Provide all raw material (viz lime, etc.) required for plant commissioning and O&M. NTPC shall provide Raw material (viz Fly Ash) and Utilities (viz electricity, water, steam etc.) at designated terminal points free of cost. Arrangement for handling of raw material from NTPC's terminal point to the site shall be in the scope of bidder. Fly ash transportation shall be done in bulker from terminal point. " Please confirm the bidder's understanding.	As per TS
4	AMDT01_TS / Point no. 07	-	The bidder shall be responsible for insurance of the facilities until the handing over of the facilities to the owner. NTPC Reply: As per TS	Bidder requests confirmation that insurance for NTPC-owned facilities shall be in the clients' scope. The bidder shall be responsible for insurance of bidder's scope of supply(e.g. personnel, equipment, and materials etc.)	As per TS
5	AMDT01_TS / Point no. 08	-	C. Drawings & Terminal Points: NTPC Reply: Utilities and Plot Plan marked in GLP	The bidder requests pipe routing details from the terminal points to the proposed Area A and Area B, designated for the CO ₂ capture unit and the C-brick plant. Additionally, the pipe routing between the CO ₂ capture unit and the C-brick plant interface, as these details are not indicated in the provided plot plan.	Terminal points shown during pre-bid conference, pipe routing to be decided during detailed engg as mentioned in last clarification.
6	AMDT01_TS / Point no. 10	-	Size and exact location of flue gas tapping in existing flue gas duct, shall be decided by NTPC and Bidder with mutual consultation. NTPC Reply: To be decided during detailed engineering	Bidder requests NTPC to confirm the size and location of the gas tapping point from the existing flue gas duct, as this information is critical for evaluating routing and pipe rack sizes considerations.	Tentative location shown during prebid conference. Exact tapping point and sizing to be finalised during detailed engg.
7	AMDT01_TS / Point no. 11	-	Mechanical Requirements MOC for Sr. 1 to 19 NTPC Reply: As per TS	As per bidder's understanding, the MOC shall be considered strictly as specified in the TS. Bidder is not considering any alternatives other than specified in TS, unless explicitly mentioned in the specification. Any changes to the MOC during detailed engineering shall be mutually discussed and agreed upon. Kindly confirm if our understanding is correct.	Provisions of TS to be followed, as mentioned in last clarification
8	AMDT01_TS / Point no. 35	-	Scope: The formation of cable trench/tray shall be required for cable laying shall be under bidder's scope. NTPC Reply: Shall be finalized during detail engg.	Bidder request confirmation on the proposed G+1 arrangement of the switchgear room prior to the detailed engineering stage. This arrangement has a direct impact on the layout, structural design, space planning, and electrical cable routing.	Details to be finalised during detailed engg.
9	AMDT01_TS / Point no. 63	-	In addition to the codes and standards specifically mentioned in the relevant technical specifications for the equipment / plant / system, all equipment parts, systems and works covered under this specification shall comply with all currently applicable statutory regulations and safety codes of the Republic of India. NTPC Reply: Bidder to comply the stipulations of Technical Specifications.	Bidder request client to consider statutory approvals, including environmental clearance and tree removal, shall fall under client's scope. Bidder shall provide technical support as required.	Bidder to comply with stipulation of technical specifications.

10	AMDT01_TS / Point no. 67	-	Filling, Compaction, Levelling and Grading of site (as required) and ensuring their correctness is the responsibility of Bidder. NTPC Reply: Bidder is requested to visit site for better understanding of the site conditions. Detailed topo survey shall be in the scope of the Bidder.	Bidder requests NTPC to provide the existing FGL for both proposed areas to support contour and site planning.	Bidder is requested to visit site for better understanding of the site conditions. Detailed topo survey shall be in the scope of the Bidder.
11	AMDT01_TS / Point no. 68	-	Disposal of surplus excavated soil outside the site boundary as directed by NTPC. NTPC Reply: Bidder to comply the stipulations of Technical Specifications.	Bidder request to owner that, the disposal of excavated earth shall be within 500 m distance from the plot premises	Bidder to comply the stipulations of Technical Specifications, as per details mentioned in last clarification.
12	AMDT01_TS / Point no. 105	-	A.3. Scope of Work: pt. no.9: Bidder shall provide new pipe rack for this project. However, with appropriate design, bidder can consider common rack for 'Flue Gas Duct', 'Steam Pipe' and 'Water Pipes' (DM, SW, Fire Water etc.). Wherever existing pipe rack is used, it shall be the responsibility of bidder to adequately strengthen it and provide supporting analysis / calculations based on 'on site condition' NTPC Reply: a) All the details marked in the Plot plan attached. b) From Plant A to Plant B Routing shall be finalized during detailed engineering which is in Bidders Scope. Also, bidder is requested to visit	Bidder reiterates request to provide the routing for: 1) Steam piping to Area A & B 2) CO ₂ piping between Area A and B 3) Cable routing to Area A & B, to ensure proper planning. 4) Utilities routing from terminal points to Area A & B.	Terminal points marked in plot plan and shown during pre-bid meeting. Details to be decided during detailed engg.
13	AMDT01_TS / Point no. 64	-	Geotech investigation and Soil Bearing Test (SBT), if required shall be carried out by Bidder through NTPC approved Geotech agency as mentioned in Appendix-1. NTPC Reply: a) Detailed Investigation shall be in the scope of the Bidder. Soil report of the nearby area attached for reference only. b) Bidder is requested to visit site for better understanding of the site conditions. Detailed topo survey shall be in the scope of the Bidder.	Bidder request to owner please Provide SBC for Borehole no. 1 to 10, to understand the soil properties of area A & area B.	Detailed Investigation shall be in the scope of the Bidder. Soil report of the nearby area for reference purpose only, provided during last clarification
14	AMDT01_TS / Point no. 69	-	8. As required and with express approval of NTPC, dismantling / demolition of existing structure at site earmarked as Area-A (CO ₂ Capture, Compression, and Storage Block and Area-B (C-Brick Manufacturing Block) alongside area clearance, transport and handing over of dismantled material to NTPC (within plant premises), site levelling and grading, cleaning of vegetation (including statutory clearance, if required) shall be in the scope of bidder. NTPC Reply: Bidder to comply the stipulations of Technical Specifications.	Bidder requests NTPC to provide details of structures to be dismantled, including dimensions and depth. Clearing of vegetation and statutory clearances shall be in client's scope. Please confirm.	Structures to be dismantled shown during Pre-bid meeting. Details provided in last clarification. Bidder to comply the stipulations of Technical Specifications.
15	General	-	Soil stabilization NTPC Reply: The same shall be as per the detailed geotechnical investigation report which is in the scope of Bidder.	Based on current geotechnical data, soil stabilization is not envisaged by the bidder unless specified in the final soil report.	As per TS
16	AMDT01_TS	3 & 4 of	Annexure-1: Proposed area for C-brick and Carbon Capture Unit	Bidder requests NTPC to provide the piping routing and interface details from the terminal points to the proposed Areas A and B, for the Carbon Capture and C-Brick facilities respectively.	To be decided during detailed engg.
17	AMDT01_TS / Point no. 121	-	NTPC reply : 02 feeders to be provided from existing 6.6kV HT FGD switchgear	Bidder considered one set of interconnection between Existing FGD switchgear to new main 6.6kV switchgear only in bidder scope inline with tender scope of supply and tender SLD. Any redundant incoming cables are not considered. Kindly confirm.	Feeder to be provided from existing 6.6kV HT switchgear as per SLD. The second feeder mentioned in last clarification is spare & optional.
18	AMDT01_TS / Point no. 16	-	NTPC reply : 1. Route length approx. 500 meter (the locations already shown during pre-bid meeting) 2. Pipe rack and cable laying is in scope of bidder		
19	Cl. No. F -5, -1 / Page no. 42 of 115	-	-Scope: 1. 6.6kV / 0.433kV, 1.25 MVA & 1MVA distribution transformers (1 nos each).	Bidder understand that, transformer shall be sized actual load with 20% design margin	Actual load + 20% Design margin

19	AMDT01_TS / Point no. 27 & 28	-	NTPC reply : Actual load + 20% Design margin (6.6kV/0.433 kV)	(1x100% configuration) in each substation. Kindly confirm	(6.6kV/0.433 kV)
20	AMDT01_TS / Point no. 76	3 of 115	Therefore, each block is planned to include its own Control Room, PLC, and Electrical MCC etc. The approximate distance between Area-A and Area-B is 1 KM. NTPC Reply:Pls refer technical specification/page 84/clause 15	Bidder understand that two way communication between "CO2 Capture, Compression, and Storage Block' control PLC" and the "'C-Brick Manufacturing Block' control PLC" is required in this project. Further communication from individual systems to any other control system or any other existing control system is not required in this project. Bidders scope shall be limited with in Bidders battery limit. Please confirm.	pls refer the said clause: " <i>Two-way communication must be established between Individual control room PLCs i.e. 'CO2 Capture, Compression, and Storage Block' control PLC and the 'C-Brick Manufacturing Block' control PLC.</i> " Two way communication is within battery limit of project only.
21	AMDT01_TS / Point no. 78	24 of 115	i) Bidder shall provide both fire detection and fire protection system including fire extinguishers, as required for CO2 solvent, auxiliary chemicals, plant mechanical / electrical / C&I equipment etc., as per TAC/NFPA/IS 3034/OISD and approved/accepted by NTPC. NTPC Reply: As per TS	Bidder shall follow IS 2198 /NFPA standard for Fire alarm & detection system	As per TS
22	AMDT01_TS / Point no. 79	24 of 115	ii) Fire alarm cum control panel shall be extended to and interfaced with main plant / main security PLC for information exchange. NTPC Reply: The Alarm/indication to be made available in CISF room.	Bidder shall consider MODBUS provision in fire alarm panel in both plants. Further any soft communication , hardwired signal exchange, integration etc. with other's main plant / main security PLC or with CISF room is excluded from Bidders scope.	Provision to be made in main plant CISF control room as specified in TS
23	AMDT01_TS / Point no. 86	85 of 115	20. All the electronic modules PCB should have conformal coatings that can provide protection against extreme moisture, corrosive gases and aggressive dust, or combinations thereof. NTPC Reply: As per technical specifications.	Please accept Conformal coating for PLC system modules as per OEM proven standard.	As per TS
24	AMDT01_TS / Point no. 88	86 of 115	As a customer support, the Contractor shall periodically inform and upgrade the Anti-Virus software of the workstations/servers/switches/firewall as applicable till completion of the warranty period and also till the completion of the AMS period. NTPC Reply: As per technical specifications	AMS is not in bidders scope. Bidder scope shall be limited till completion of the warranty period.	Pls refer TS/page number 3/clause A2/SN 3 :Comprehensive O&M for a period of 1 year from the date of commissioning is in bidder's scope.
25	AMDT01_TS / Annexure 1	-	Service Water terminal point in the plot plan	Bidder request to please indicate terminal points for DM Water, Cooling Water	DM water marked already marked in GLP provided in last clarification. Service water is present in existing brick plant
26	D.3. Mechanical Requirements	20 of 115	7. Pumps x) Design Code (Process Pump): ISO 13709 / API 610, xi) Design Code (Water Pump): ASME B73.1 / ISO 5199	Bidder considered all the pumps for the proposed C-brick project will be of non-API considering that the project is not pertained in to refinery application. Please confirm bidder's understanding	As per TS
27	D.3. Mechanical Requirements	21 of 115	11. Compressed Air System (Instrument & Plant Air): xi) Design Standard: API 617 or Eqv	Bidder considered all the applicable compressor/blowers/fans for the proposed C-brick project will be of non-API considering that the project is not pertained in to refinery application. Please confirm bidder's understanding	As per TS
28	D.3. Mechanical Requirements	21 of 115	11. Compressed Air System (Instrument & Plant Air: viii) Lubrication: Non-lubricated (oil-free)	Bidder considered lubricated type air compressor , please confirm.	As per TS
29	D.3. Mechanical Requirements	21 of 115	10. Cooling Water System: (iii) Cooling Tower Blowdown (including pumps and peripherals)	Please confirm the battery limit for CT blowdown (length) align with location of the cooling tower and also bidder has not considered any treatment for CT blowdown.	CT blowdown to be connected to nearest drain pipe going to ETP (approx 1.5 Km)
30	D.3. Mechanical Requirements	21 of 115	12.Compressed Air Buffer Vessel: ii) Capacity of each Air Receiver Tank: 40 Cub.Mtr	Bidder request for 2 x 5m3 of buffer vessel capacity for the air buffer vessel. Please confirm.	As per TS

31	D.3. Mechanical Requirements	24 of 115	18.CO2 Compressor: viii) Design Code: API 618	The proposed applicable compressors/fan/blower shall be non-API and as per OEM standard. Please confirm the same	As per TS
32	F. Electrical Requirements:	44 of 115	6. Basic Design & Detailed Engineering: 2. Sizing and selection of electrical equipment as per applicable hazardous area classification to be developed by Contractor. 4. Hazardous Area classification drawings including plans at various levels, elevation drawing, list of hazardous hydrocarbon material along with their characteristics.	As the CO ₂ Capture Block and c-brick plant is considered a safe area zone, bidder understands that all equipment including instruments, analyzers, light fitting, motors, etc. will be Non-Flameproof type. Kindly confirm bidder's understading.	Classification of Hazard area, will be done as per Hazop Study for the project.
33	F. Electrical Requirements:	40 of 115	1. Design Philosophy: 17.Classification of hazardous areas for all area shall be done as per guideline indicated in latest IS 5572 and equipment selection for hazardous area shall be as per IS 16724/IEC 60079-14. All electrical equipment in hazardous area shall be minimum suitable for ZONE 2, Gas group IIA/IIB/IIC, Temperature class T1.....T6.		
34	F. Electrical Requirements:	82 of 115	28. Hazardous Area: PESO approval shall be obtained for equipment installed in hazardous area for both indigenous and imported equipment's.	Since the CO ₂ Capture and C-Brick facilities are located in a safe area, bidder understands that PESO approval is not required for the equipment. Requesting confirmation on the same.	PESO approval shall be obtained, as required