

**REPLIES TO PRE BID QUERIES LOT-2 DATED 14.072026**  
**SYN GAS SYNTHETIC NATURAL GAS (SNG) PLANT (METHANATION UNIT) AT BARDHAMAN**  
**PNMM/PC-217/E/003 dated 09.02.2026**

| Sr No. | Discipline | Document Title                                         | Page No.                  | Clause No.          | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------|------------|--------------------------------------------------------|---------------------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1      | Process    | PC217/E/001/P-II/SEC-2.0                               | 7 of 8 ( Page 17 of 1214) | 3.13                | Bidder understands the quality of pre treated condensate specified in section 3.13 is for process condensate generated within the unit & not the steam condensate.                                                                                                                                                                                                                                                                                                                                                              | Bidder understanding is correct                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 2      | Process    | PC217/E/003/P-II/SEC-1.0                               | 9 of 1214                 | 2.3.2               | Bidder understands that service water pumps are not in bidder's scope. Service water at required pressure for use in hose station shall be provided at single point near LSTK-3 BL.                                                                                                                                                                                                                                                                                                                                             | Service water at Battery limit of LSTK-3, at the condition mentioned at cl. No. 3.10 of Sec 2.0 of technical part of Tender shall be supplied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 3      | Process    | PC217/E/003/P-II/SEC-1.0                               | 9 of 1214                 | 2.3.4               | Bidder understands that process condensate along with steam condensate shall be combined within LSTK 3 BL and shall be provided as a single tie-in at LSTK 3 BL to be further treated in Owner's CPU.                                                                                                                                                                                                                                                                                                                           | There shall be separate tie-in Point for Process condensate and Steam Condensate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 4      | Process    | PC217/E/001/P-II/SEC-4.0                               | 30 of 1214                | 2.4                 | Bidder understands that there is only sweet KOD to be provided as there is no Sulphur in the incoming Feed. Owner to confirm.                                                                                                                                                                                                                                                                                                                                                                                                   | Bidder to design the plant considering Maximum Sulphur and Chloride Level as 0.1 ppmv Accordingly, bidder may decide requirement of KOD and requirement of Guard bed to take care of the contaminants.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 5      | Process    | PC217/E/001/P-II/SEC-4.0                               | 31 of 1214                | 3.5                 | Bidder's scope shall be limited to routing the mitigated flare load through dedicated (sweet & sour) KOD till plant BL. No flare stack/package shall be considered by the bidder. Kindly confirm. If above understanding of no flare stack in bidder's scope is correct, request client to provide the backpressure at BL for both sweet & sour flare lines. Accordingly, referring to section 5.4 (Environment) of Design basis, bidder understands that no stack analysers shall be considered by the Bidder. Kindly confirm. | Bidder's scope is limited to routing the mitigated flare load through dedicated (sweet & sour) KO drum up to the battery limit. Flare package is not in the present tender scope and shall be covered under separate tender/package. Therefore, the back pressure at Battery limit is not available at this stage and shall be finalized/provided by the flare package contractor during detailed engineering of the separate flare package. Further stack analyser are not in the bidder's scope under this present tender, however the scope include all instrumentation required for statutory & environmental compliance. |
| 6      | Process    | PC217/E/001/P-II/SEC-4.0                               | 32 of 1214                | 3.7                 | The mentioned clause states that "BFW pump shall be interchangeable for feeding steam generation system of any of the gasifier train" Bidder requests owner to clarify this statement and provide more details.                                                                                                                                                                                                                                                                                                                 | The last line of this clause shall Not applicable for this tender as in the LSTK-3 package there is no gasifier train. Therefore this particular line may be considered as deleted                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 7      | Process    | PC217/E/001/P-II/SEC-4.0                               | 32 of 1214                | 3.12                | It is mentioned that "All cooling water exchangers shall have cooling water on tube side with SS304 tubes" However please note that, as per bidder SS304 may not be suitable for chloride content of 300ppm as mentioned in cooling water specification (Section 2.0 Utilities, Clause 3.4). Request Owner to check and confirm the chloride content in cooling water & the metallurgy specified for exchanger tubes using cooling water.                                                                                       | Bidder to consider duplex SS or higher MOC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 8      | Process    | PC217/E/001/P-II/SEC-4.0                               | 33 of 1214                | 5.1.3               | Request Owner to provide the EIA study report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EIA clearance under owner scope . EIA clearance under process                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 9      | Process    | PC217/E/003/P-II/SEC-5.1 - Design Philosophy - Process | 48 of 1214                | Section 1 - General | It is mentioned under section 1 - General that "All design shall confirm to the latest edition of the applicable sections of ASME, ASTM, IEEE, NFC, TEMA, AISI, NEMA, AISC, ACI, OSHA, UBE and other governing codes or standard practices"<br><br>Please confirm applicability of OISD for the subject project, particularly OISD 152                                                                                                                                                                                          | The LSTK-3 shall also comply with applicable OISD, API NFPA, IEC/IS, PESO, and other relevant statutory and engineering standards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Sr No. | Discipline | Document Title                                                | Page No.              | Clause No. | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|--------|------------|---------------------------------------------------------------|-----------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10     | Electrical | DESIGN PHILOSOPHY –ELECTRICAL                                 | 8 of 84 (763 of 1214) | 1.5        | <p>As per clause, "Two (2) nos. 33 kV feeders, as normal power supply, each rated for 100% load, shall be provided by Owner at 33 kV Gas Insulated Switchgear (GIS) located in Main Receiving Sub-Station (MRSS). In addition to that, One (1) no. 11 kV feeder, as emergency power supply, shall be provided by Owner at 11 kV Emergency Switchboard located in Main Receiving Sub-Station (MRSS).</p> <p>Incoming Power Supply details are required viz. voltage level, Earthing system, fault level etc. (For LSTK Package-3).<br/>Key Single line diagram of Upstream is required.</p> | <p>The voltage levels have already been specified in the relevant clause. Two (2) normal power supply feeders shall be provided at 33 kV voltage level, and one (1) emergency power supply feeder shall be provided at 11 kV voltage level from the Main Receiving Substation (MRSS).</p> <p>The details pertaining to the earthing system, fault level, and the key upstream Single Line Diagram (SLD), among others, shall be furnished during the detail engineering stage upon receipt/finalization of the relevant engineering data, drawings, and documents from the Electrical Distribution System (EDS) Package Contractor, as the EDS package shall be executed separately by another EPC contractor.</p>             |
| 11     | Electrical | DESIGN PHILOSOPHY –ELECTRICAL                                 | 8 of 84 (763 of 1214) | 1.5        | <p>As per Point no.1 above, 11kV Emergency Supply from Upstream is proposed to be provided from OWNER, then details of same to be provided.</p> <p>As per Bidder understanding, Redundancy for Emergency Power Supply will not be provided. Accordingly downstream Electrical System to be provided by Bidder. Please confirm Bidder understanding is correct.</p>                                                                                                                                                                                                                         | <p>Only one (1) emergency power supply feeder at the 11 kV voltage level shall be provided by the Owner from the Main Receiving Substation (MRSS). No redundancy is envisaged for the emergency power supply. Accordingly, the downstream emergency electrical power distribution system shall be designed and provided by the Bidder.</p> <p>The remaining details shall be furnished during the detail engineering stage upon receipt/finalization of the relevant engineering data, drawings, and documents from the Electrical Distribution System (EDS) Package Contractor, as the EDS package shall be executed separately by another EPC contractor.</p>                                                                |
| 12     | Electrical | DESIGN PHILOSOPHY –ELECTRICAL                                 | 8 of 84 (763 of 1214) | 1.5        | <p>As per clause, "Supply, laying &amp; installation of 33 kV cables, 11 kV cables and associated control cables from above mentioned Main Receiving Sub-Station (MRSS) up to LSTK Contractor's Substation and termination at both the ends are in LSTK Contractor's scope."</p> <p>provide below details for supply cables.</p> <p>a) Route for the Cable in Outside Battery Limit Area.<br/>b) Approx. Length of Cable in OSBL.<br/>c) Type of Cable Route in OSBL whether Above ground or underground.</p>                                                                              | <p>The detailed cable routing in the Outside Battery Limit (OSBL) area, including the exact route, approximate cable lengths, and mode of installation (above ground/underground), is presently under development and shall be finalized during the detail engineering stage. Further, the OSBL pipe rack layout by Piping Department is also under development, and the final cable routing philosophy shall be aligned accordingly. For the purpose of bidding, the Bidder may make reasonable engineering assumptions based on the available plot plan and project layout. However, the final cable routing and installation methodology shall be established during detail engineering in consultation with the Owner.</p> |
| 13     | Electrical | TECHNICAL SPECIFICATION<br><br>33 KV GAS INSULATED SWITCHGEAR | 845 of 1214           | 3.1.1      | <p>Seismic Zone for electrical system is mentioned as Zone IV.</p> <p>Bidder understands that the Seismic Zone for the Project Site in Bardhaman, West Bengal shall be Zone III.</p> <p>OWNER/PMC to confirm Bidder's understanding.</p>                                                                                                                                                                                                                                                                                                                                                   | <p>The Bidder shall consider the seismic design criteria as specified in the tender documents, i.e., Seismic Zone IV, for the purpose of bidding and design of the electrical system.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

| Sr No. | Discipline        | Document Title                                      | Page No.    | Clause No.       | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PMC/Owner reply                                                                                                                                                                                                                                                                                                                               |
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| 14     | Rotary & Packages | PC217/E/003/5.3.3                                   | 14 of 17    | 7.0 VENDORS LIST | For the packages bidder shall follow the vendor list provided as per AVL however, package vendor is free to follow sub-vendors as per their own proven engineering practices.                                                                                                                                                                                                                                                                                                                   | NIT vendor list to be followed                                                                                                                                                                                                                                                                                                                |
| 15     | Rotary & Packages | TechnicalSpecification3 /<br>PC217/E/001/PII/SEC-10 | 12 of 39    | 10               | <p>A discrepancy has been observed in the specification regarding spare parts requirement for Screw Pumps:</p> <p>It is mentioned that spares shall be provided for each working unit<br/>However, the table indicates that spare quantities shall be based on the number of working units</p> <p>Bidder understand that Table needs to followed considering the common spare based on the number of Working pump. Example. for 2 uninstalled Pump, 1 common set of spare will be provided.</p> | <p>Mandatory spares for all rotating equipments as mentioned in Sr. No 2 ( i to xii) ( Document - PC217/E/003/10)</p> <p>Mandatory spare shall be supplied for each working train /unit . Example:<br/>In case , 2 working + 2 standatby pumps in one train / unit, then their spare to be supplied as per column 2 ( 2nos working pumps)</p> |
| 16     | Piping            | DESIGN PHILOSOPHY- PIPING                           | 617 of 1214 | 6.3              | <p>Seismic Zone for piping is mentioned as Zone III.</p> <p>Bidder understands that the Seismic Zone for the Project Site in Bardhaman, West Bengal is Zone III</p> <p>OWNER/PMC to confirm Bidder's understanding.</p>                                                                                                                                                                                                                                                                         | Shall be as per IS: 1893 (latest version). Zone III To be confirmed by Civil Dept                                                                                                                                                                                                                                                             |

| Sr No. | Discipline | Document Title                                                                         | Page No.         | Clause No. | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| 17     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.2)                                      | 66 OF 1214       | 3.32       | <p>All DCS, Control Systems, ESD/PLC system, All Analyser PLC/ Microprocessor based system, Any Analyser system like Mass Spectrometer/GC, CCTV, Fire and Gas System PLC, Any Package PLC shall be connected to Main DCS and <b>Other systems</b> at Control Room with suitable redundant interface using Optical Fiber Cables. If OPC and Firewall is required for any of the interface the same shall be provided by the LSTK Bidder with all the necessary hardware and software support.</p> <p><b>Query:</b><br/>Kindly specify the number of <b>other systems</b> in the control room for which signal interfacing / hookup with DCS, ESD/PLC, Analyzer PLC, etc. is required.</p>                                                                                                                                          | Connectivity shall be to main DCS and other systems(if applicable) only.Number of systems shall be decided by Contractor based on NIT requirements and shall be finalized based on overall system architecture during detail engineering                                                                                                                                                                                                                                |
| 18     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.2)                                      | Sheet 187 OF 134 | -          | <p>Provision of additional 200 IOs for DCS and 100 IOs for ESD wired upto Marshalling Cabinet/System cabinet separate from Spares shall be considered to integrate other Packages/units inside complex. It shall also be considered in Controller loading/UPS sizing.</p> <p>Query: Noted and considered the above I/Os. Kindly clarify whether the above-mentioned I/Os are related to interfaces with LSTK-1 packages.</p> <p>Bidder understand that all above signals will be provided in one intermittent panel / JB (not in LSTK -3 bidder scope) in CCR , by Owner / LSTK-1. Further connection of these signals to LSTK-3 panels will be by bidder.</p> <p>Interconnecting cable / Cable tray and laying efforts from LSTK - 1 / OWNER's control system / panel to intermittent Panel is not in LSTK -3 bidder's scope</p> | <p>1.Mentioned I/O's can be related to LSTK-1,2 and other offsite packages inside complex.It shall be discussed during detail engineering phase.</p> <p>2.Interconnecting cable / Cable tray and laying efforts from LSTK - 1 / OWNER's control system / panel to intermittent Panel is not in LSTK -3 bidder's scope .How ever control room MCT entry and cable trays to be considered by bidder inside control room from MCT entry to panels.</p>                     |
| 19     | C&I        | TechnicalSpecification1<br>CONTRACTOR'S SCOPE OF WORK<br>(PC217/E/001/P-II/SEC-3.0)    | 21 OF 1214       | 1.2        | <p>Control Room, electrical substation &amp; Chemical laboratory building in LSTK-3 Scope.</p> <p><b>Query: Kindly clarify whether the control room and chemical Lab Building is included within the scope of LSTK-3 Contractor or under the scope of any other LSTK Contractor.</b></p> <p><b>Further, please confirm the corresponding battery limits and interface responsibilities, if applicable.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                    | CCR is in LSTK-3 contractor scope.For chemcial laboratory buliding and Process: Chemical Laboratory building shall be under LSTK 's scope.                                                                                                                                                                                                                                                                                                                              |
| 20     | C&I        | TechnicalSpecification1<br>Design Philosophy Instrumentation<br>(PC217/E/003/P-II/5.2) | 110 OF 1214      | 9.1        | <p>Apart from DCS system operator stations and engineering stations, there <b>shall be min. 2 (four) nos.</b> of VIEW Only remote monitoring client software facilities with normal PC via Ethernet LAN connected with DCS network, in the proposed DCS.</p> <p><b>Query: Kindly clarify nos. of PC required for remote monitoring purpose (2 or 4 nos.?)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | minimum 4 no.s as mentioned in page 130 annexure 3 of Design Philosophy Instrumentation (PC217/E/003/P-II/5.2)                                                                                                                                                                                                                                                                                                                                                          |
| 21     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.2)                                      | 170 OF 1214      | 21.14      | <p>No interfacing to be done with DCS system. It shall be independent system.</p> <p>Query: Bidder understands that No interface with DCS\LVS system, Owner to Confirm.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CCTV system shall be independent system with no interface with DCS                                                                                                                                                                                                                                                                                                                                                                                                      |
| 22     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.2)                                      | 172 OF 1214      | 21.18      | <p>The CCTV system shall have the capability for future expansion to add cameras and additional storage in video recorders.</p> <p><b>Query: Bidder will consider actual requirement + spare ( as per spare philosophy)</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Minimum no. of cameras shall be as per NIT clause 21.0 of Design Philosophy Instrumentation (PC217/E/003/P-II/5.2) and CCTV system shall be designed up to 32 camera as per NIT clause 21.1 (c) .Bidder to follow the same.                                                                                                                                                                                                                                             |
| 23     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.2)                                      | 176 OF 1214      | 23.00      | <p>Provision for LAN /telephone sockets in all rooms in all Plant buildings.</p> <p><b>Query: Bidder will consider LAN/ Telephone sockets for rooms which in LSTK-3 scope .</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Bidder query is acceptable.                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 24     | C&I        | TechnicalSpecification1<br>PC217/E/003/P-II/5.4                                        | 765 OF 1214      | 1.4.1 OF t | <p>Fire Alarm &amp; Detection System for Plant and Interface &amp; Integration of same with Centralized Fire Detection &amp; Alarm System.</p> <p>Query: Bidder understands that the separate centralized Fire Alarm &amp; Detection System (FADS), including server, software licenses, and overall system configuration for the entire complex, shall be provided by the Owner.</p> <p>The LSTK-3 Contractor shall provide the package-level FADS and all required interfaces to the centralized system, including but not limited to necessary hardware, FO cables, and FO accessories, for proper integration and communication with the Owner's centralized system.</p> <p>Kindly confirm whether the above understanding is correct.</p>                                                                                    | <p>Bidder's understanding is correct.</p> <p>However, the LSTK-3 Contractor shall ensure compatibility of the package-level Fire Alarm &amp; Detection System (FADS) with the Owner's centralized FADS and shall provide seamless interface and integration with the centralized system. The details and interface requirements of the Owner's centralized FADS shall be furnished by the Owner/PMC to the LSTK-3 Contractor during the detailed engineering stage.</p> |

| Sr No. | Discipline | Document Title                                    | Page No.    | Clause No. | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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| 25     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.4) | 825 OF 1214 | 13.1       | <p>LSTK Contractor shall provide the Fire Detection and Alarm System which shall be an independent system comprising of individual break glass type manual call points, automatic sensors e.g. smoke and heat detectors, main panel, repeater panel, hooter, battery, battery charger and any other hardware.</p> <p><b>Query: As per technical specification, the LSTK-3 Contractor shall provide a complete &amp; independent Fire Alarm &amp; Detection System (FADS) for their respective package. It is also understood that a separate centralized Fire Alarm &amp; Detection System for the entire complex shall be provided by the Owner. To ensure clear demarcation of responsibilities and interface requirements, the clarification is requested.</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <p>Bidder's understanding is correct.</p> <p>However, the LSTK-3 Contractor shall ensure compatibility of the package-level Fire Alarm &amp; Detection System (FADS) with the Owner's centralized FADS and shall provide seamless interface and integration with the centralized system. The details and interface requirements of the Owner's centralized FADS shall be furnished by the Owner/PMC to the LSTK-3 Contractor during the detailed engineering stage.</p> |
| 26     | C&I        | General                                           | -           | -          | <p><b>Query: Please clarify Scope of work and supply for Public addressable &amp; General Alarm (PAGA) and telecommunication system For LSTK -3 contractor. Is there any requirement of interface between centralized systems and LSTK - 3 contractor supplied systems ?</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p>Supply of the Public Address and General Alarm (PAGA) System is not within the scope of the LSTK-3 Contractor.</p> <p>However, the LSTK-3 Contractor shall make adequate space provisions for installation of the PAGA system equipment in the respective control rooms and other designated areas, as specified under Sl. No. 5.24 of the Design Philosophy – Electrical of NIT.</p>                                                                                |
| 27     | C&I        | TechnicalSpecification1<br>(PC217/E/003/P-II/5.2) | 127 OF 1214 | 10         | <p>Central Control room (CCR) shall be completely blast proof building. All entry exit doors of CCR shall also be blast proof. In front of all the doors blast proof walls shall also be provided.</p> <p>The central control room for synthetic natural gas and offsite plant shall be a composite one. Besides housing of control panel/ operator's consoles, rack area for marshalling cabinets, separate cable termination room for field cables, Engineering console room, HVAC/ Air handling room(s), UPS and UPS battery room, toilets (1 ladies + 1 gents toilet in all control rooms.), rest rooms, Plant room, clean agent room, Change room &amp; locker room (Gents and Ladies), Instrumentation maintenance room, Instrument calibration room, meeting room for minimum 15 persons, Shift in charge rooms (for Instrument, Electrical, synthetic natural gas and O&amp;U), Manager rooms (for synthetic natural gas , O&amp;U), Instrument manager rooms (synthetic natural gas, O&amp;U), OTS room etc. shall be accommodated in the control room building in general. The instrumentation cable entry and all other cable entries (UPS room, HVAC etc.) to the control room shall be through MCT (multi-cable transit). For cables coming underground from plant area shall be routed through MCT located below the false floor level of control room. Cable way in control room shall be below access level through cable trays.</p> <p><b>Query :</b>Bidder understands that the DCS/PLC panels for the respective LSTK-3 package shall be installed in the Main CCR.</p> <p>Further, the complete cable scope from field instruments to the Main CCR for the respective LSTK-3 package, including supply, laying &amp; termination of cables, shall be considered under the LSTK-3 Contractor's scope.</p> <p>Kindly confirm the above understanding.</p> | <p>Bidder to note that Main CCR is in bidder scope of supply as per point 3.10 of Design Philosophy Instrumentation (PC217/E/003/P-II/5.2) .All systems and panels in LSTK-3 scope shall be in placed in Main CCR as per NIT.</p>                                                                                                                                                                                                                                       |

| Sr No. | Discipline | Document Title                                                                                                                                                                                                                  | Page No.                                    | Clause No.                                                                | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| 28     | Civil      | NIT-003<br>PART I: COMMERCIAL<br>SECTION – V.0<br>SPECIAL CONDITIONS OF CONTRACT                                                                                                                                                | Pdf Pg 333 of 371                           | 1.2.15.4.1                                                                | Civil Work Warranty-<br>CONTRACTOR shall certify that all the Civil Works, reinforced Concrete, Structures, permanent buildings and foundations has been designed in accordance with stipulations of relevant BIS Codes.<br><br><b>Query</b> Bidder understands that the OWNER/PMC "Approval " of all the Engineering documents in "Approval" Category for the Civil Works, reinforced Concrete, Structures, permanent buildings and foundations designed in accordance with stipulations of relevant BIS Codes by the Bidder, itself implies the fulfilment of the Civil Work Warranty Certificate to be issued by the Bidder.<br><br>OWNER/PMC to confirm Bidder understanding.                                               | Bidder understanding is correct                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 29     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>TechnicalSpecification3<br>SECTION – 6.0,<br>PROJECT EXECUTION PLAN<br>Drg No.-PC217-0000-001-Rev P3 | Pdf Pg 5 of 377<br><br>Pdf Pg 390 of 390    | Broad Plant<br>Description<br>(f)<br><br>Table of Facility<br>Units - 25) | Central Common Control room for Off-sites & Utility Plants.<br><br><b>Query</b><br>1) Bidder understands that the Central Control Room indicated in Technical Specification2 as part of the "Broad Plant Description" is the same as indicated in Sl. No 25) of the Drg No.-PC217-0000-001-Rev P3.<br>2) This implies that Common Central Control Room is out of LSTK3 Scope of work.<br><br>OWNER/PMC to confirm Bidder Understanding.                                                                                                                                                                                                                                                                                         | Control room in LSTK PACKAGE 3 will act as Central control room                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 30     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>TechnicalSpecification3<br>SECTION – 6.0,<br>PROJECT EXECUTION PLAN<br>Drg No.-PC217-0000-001-Rev P3 | Pdf Pg 10 of 377<br><br>Pdf Pg 390 of 390   | Cl. No. 1.11<br><br>Table of Facility<br>Units - 25)                      | Control room shall be blast proof single storied building as per OISD 163.<br><br><b>Query</b><br>1) Bidder understands that the Central Control Room (Blast Proof) indicated in Technical Specification2 - Cl. No. 1.11 is the same as indicated in Sl. No 25) of the Drg No.-PC217-0000-001-Rev P3.<br>2) This implies that Blast Proof design refers to the <b>Common Central Control Room, which is out of LSTK3 Scope of work.</b><br><br>OWNER/PMC to confirm Bidder Understanding.                                                                                                                                                                                                                                       | Control room in LSTK PACKAGE 3 will act as Central control room                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 31     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                                                             | Pdf Pg 5 of 377                             | Broad Plant<br>Description -<br>Scope of LSTK<br>Contractor d)            | Underground Scanning<br><br><b>Query</b> 1) Bidder requests OWNER/PMC to <b>provide the available data of Existing Underground facilities</b> and also to indicate which facilities need to be either "Not disturbed" or "to be removed and relocated".<br>This will enable the Bidder to estimate the BOQs for UG related existing facilities.                                                                                                                                                                                                                                                                                                                                                                                 | This is the green field project , However, the Contractor shall independently verify the existing underground utilities by carrying out the necessary underground utility survey/scanning before commencement of excavation works. Any existing facilities identified during execution shall be protected, and any removal, rerouting, or relocation shall be carried out only with prior approval of the Owner/PMC and in accordance with the Contract provisions. The Bidder shall consider the above while preparing the bid.                                                                                                                                                                                                    |
| 32     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                                                             | Pdf Pg 7 of 377                             | Cl. No. 1.2                                                               | Detailed Scope of Work -Topographical/Contour Survey<br><br><b>Query</b> The Clause mentions "Topographical report conducted earlier of the actual plot is enclosed for reference purpose."<br>Bidder requests OWNER to <b>provide the same</b> for reference.                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | "the same shall be given".PM to attach TOPO / Contour survey report.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 33     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - I<br>CIVIL ENGINEERING DESIGN BASIS<br>(ARCHITECTURAL)                                    | Pdf Pg 9 &10 of 377<br><br>Pdf Pg 46 of 377 | Cl. No. 1.10<br><br>Cl. No. 2.3.1                                         | Detailed Scope of Work - Paving & CONCRETE PAVING (WITHIN PLANT AREAS)<br><br>The Cl. No. 1.10 mentions " For the purpose of paving the LSTK CONTRACTOR's scope is not limited only up to Battery Limit, but shall extend up to the adjacent roads around the unit."<br>The Cl. No. 2.3.1 mentions " RCC paving shall be carried out across the entire battery limit and shall be extended by a minimum of 3 meters beyond the unit boundary on all sides."<br><br><b>Query</b> Bidder understands that RCC Paving shall be extended for 3m beyond the Plant Unit boundary (we understand is 150 m x 100m as mentioned in Preliminary Layout Drg No PC217-0000-0001) only.<br><u>OWNER/PMC to confirm Bidder understanding.</u> | Bidder's understanding is not correct. The scope of RCC paving shall be as specified in the Tender Documents, Design Basis, Approved Plot Plan, and other Contract Documents. The requirement of extending RCC paving by a minimum of 3.0 m beyond the unit boundary is a minimum requirement and shall not be construed as limiting the Contractor's scope. Wherever paving up to the adjacent roads, facilities, or tie-in locations is required to ensure operational continuity, accessibility, drainage, safety, and completion of the works, the same shall be included within the Contractor's scope without any additional cost implication                                                                                 |
| 34     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                                                             | Pdf Pg 10 of 377                            | Cl. No. 1.11                                                              | Detailed Scope of Work - Structures Buildings etc.<br><br>The Clause mentions "All new buildings under bidder's scope (except Control Room) shall be designed for vertical extension for one more storey (over and above bidder's plan / requirement) in future"<br><br><b>Query</b> a) Bidder understands that in addition to the Control Room, <b>the Substation Building &amp; Lab Building also need not</b> be provided with additional one more storey.<br>OWNER/PMC to confirm Bidder Understanding.<br>b) Bidder understands that <b>all Non Plant Buildings shall be designed</b> with additional one more storey.<br>OWNER/PMC to confirm Bidder Understanding.                                                       | a) Bidder's understanding is not correct. The exemption from designing for future vertical expansion is applicable only to the Control Room, unless otherwise specifically stated in the Tender Documents. All other buildings, including the Substation Building and Laboratory Building, shall be designed for future vertical expansion of one additional storey, wherever included in the Contractor's scope.<br>b) Bidder's understanding is correct. All non-process buildings under the Contractor's scope shall be designed for future vertical expansion of one additional storey over and above the present requirement, except where specifically exempted in the Tender Documents or otherwise instructed by Owner/PMC. |

| Sr No. | Discipline | Document Title                                                                                                                                                                               | Page No.                                 | Clause No.                    | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
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| 35     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                          | Pdf Pg 10 of 377<br><br>Pdf Pg 56 of 377 | Cl. No. 1.17<br><br>Cl. No. 3 | Removal of Underground and Above Ground Structures<br><br>REMOVAL / REROUTING OF OBSTRUCTIONS<br><br>The Clause mentions "All above ground structures will be demolished by Owner"<br><br>The Clause mentions "All underground or above ground structures / foundations which will cause obstruction to new structures / foundations, and which can be removed without disturbing any functions of the existing plant, shall be removed by the LSTK CONTRACTOR."<br><br><b>Query</b> OWNER/PMC to confirm the <b>scope of Above ground demolition</b> either by OWNER or by LSTK Contractor.                                                                                                                                                                                                                                                                                 | The scope is as per the Tender Documents. Above-ground structures identified by the Owner for pre-demolition shall be demolished by the Owner. Any underground or above-ground structures/foundations causing obstruction to the Contractor's works, and which can be removed without affecting existing plant operations, shall be removed/rerouted by the LSTK Contractor as specified in the Contract and with prior approval of Owner/PM                                                                                                                                                                                                                             |
| 36     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                          | Pdf Pg 12 of 377                         | Cl. No. 2.2                   | Detailed Scope of Work - STAADPro<br><br>The Clause mentions " For structures, analysis and design shall be done on latest version of STAADPRO SOFTWARE."<br><br><b>Query</b> Bidder proposes the following <b>additional Softwares</b> as required -<br>a) STAAD Foundation Advanced & Mat 3D/Foundation 3D - For Foundation Design<br>b) AutoCAD Civil 3D - For Site Grading<br>c) RAM/Idea Statica /Excel Spread Sheets - For Connection Design<br>d) Excel Spread Sheets for Various Design requirements.<br>OWNER/PMC to confirm Bidder proposal.                                                                                                                                                                                                                                                                                                                       | Agreed. The latest version of STAAD.Pro shall be used for structural analysis in accordance with the Tender Specification. In addition, the Contractor may use other industry-standard and validated software/tools such as STAAD Foundation Advanced, Excel spreadsheets, autocad , as appropriate, for foundation design, grading, connection design, and other design calculations. However, the Contractor shall be solely responsible for the accuracy, adequacy, and compliance of all designs with the applicable codes, standards, and Contract requirements. All software outputs and design calculations shall be subject to review and approval by Owner/PMC. |
| 37     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                          | Pdf Pg 14 of 377                         | Cl. No. 3.1.1                 | Construction - Rain Water Harvesting<br><br>The Clause mentions " Rain water harvesting is mandatory for control room, technical lab building Satellite rack room, Substation building, etc."<br><br><b>Query</b> Bidder requests OWNER/PMC to provide <b>Scope and Concept Note</b> for the same.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | The Bidder shall include the Rainwater Harvesting System in the bid as per the Tender requirements. The detailed scope and project-specific concept, if required, shall be finalized during the detailed engineering stage in consultation with Owner/PMC.                                                                                                                                                                                                                                                                                                                                                                                                               |
| 38     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS                                                                          | Pdf Pg 14 of 377                         | Cl. No. 3.1.2                 | Construction - Roof Top Solar<br>The Clause mentions " Provision of Roof top solar shall be considered in all buildings as per RCO norms."<br><br><b>Query</b> Bidder requests OWNER/PMC to provide <b>Concept Note</b> for the same.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | The Bidder shall include provision for Rooftop Solar PV System in the bid as per the Tender requirements and applicable RCO norms. The detailed scheme, capacity, and interface requirements shall be finalized during detailed engineering and submitted for Owner/PMC review and approval                                                                                                                                                                                                                                                                                                                                                                              |
| 39     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - I<br>CIVIL ENGINEERING DESIGN BASIS<br>(ARCHITECTURAL) | Pdf Pg 25 & 26<br>of 377                 | Cl. No. 2.5.2                 | Building Elements - Finished Floor Level (Plinth FFL)<br><br>The Clause mentions "In general, Plinth FFL of the buildings, sheds shall be determined with respect to top of approach road or pavement."<br><br><b>Query</b> Bidder proposes that Finished Floor levels of the Buildings, Sheds shall be determined with respect to the Highest Point of Paving (HPP). Also the Top of Approach Road shall be related to the HPP.<br><br>Bidder proposes the below Elevation Philosophy.<br>a) HPP = Top of Approach Road + 300mm<br>b) Top of Grout (TOG) for Pedestals below all Steel Column Bases of Structures/Sheds/Skids = HPP+300mm<br>c) Top of Grout (TOG) for Pedestals below all Steel Staircase & Ladders = HPP+200 mm.<br>d) Finished Floor level (FFL) inside Buildings and Sheds = HPP+450mm.<br><br>Bidder requests OWNER/PMC to confirm the above proposal. | Not agreed. The elevation philosophy shall be developed by the Contractor during detailed engineering in accordance with the Tender Specifications, approved grading philosophy, drainage requirements, and project-specific design criteria. The proposed HPP, TOG, and FFL values are indicative only and shall be subject to Owner/PMC review and approval                                                                                                                                                                                                                                                                                                            |
| 40     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - I<br>CIVIL ENGINEERING DESIGN BASIS<br>(ARCHITECTURAL) | Pdf Pg 25 & 26<br>of 377                 | Cl. No. 2.5.2<br>Note b)      | Building Elements - Finished Floor Level (Plinth FFL)<br><br>The Note mentions "FFL shall be same throughout in a building / shed. Split levels any be considered in exceptional cases due to ground terrain etc. "<br><br><b>Query</b> Bidder understands that FFL cannot be same throughout the relevant floor of the Building since minor slope will need to be provided for any spillages, wherever applicable.<br><br>OWNER/PMC to confirm Bidder's understanding.                                                                                                                                                                                                                                                                                                                                                                                                      | The FFL shall generally remain uniform throughout the building. However, localized floor slopes required for drainage, spillages, or operational requirements may be provided wherever applicable. Any split levels or major deviations shall be subject to Owner/PMC approval.                                                                                                                                                                                                                                                                                                                                                                                          |

| Sr No. | Discipline | Document Title                                                                                                                                                                                | Page No.         | Clause No.     | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | PMC/Owner Reply                                                                                                                                                                                                                                                                                                                                                                              |
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| 41     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - I<br>CIVIL ENGINEERING DESIGN BASIS                     | Pdf Pg 32 of 377 | Cl. No. 2.5.20 | False Ceiling<br><br><b>Query</b> Bidder requests OWNER/PMC to confirm the type of False Ceiling to be provided.                                                                                                                                                                                                                                                                                                                                                                                                          | The Bidder shall propose the type of false ceiling based on the intended use of the respective building/room and in accordance with the Tender Specifications, applicable codes, and fire safety requirements. The final selection shall be subject to Owner/PMC review and approval during detailed engineering                                                                             |
| 42     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - I<br>CIVIL ENGINEERING DESIGN BASIS<br>(ARCHITECTURAL)  | Pdf Pg 33 of 377 | Cl. No. 2.5.23 | Waterproofing on Roof<br><br><b>Query</b> Bidder requests OWNER/PMC to provide <b>Standard Cross section</b> details of Waterproofing on Building Roof to be provided.                                                                                                                                                                                                                                                                                                                                                    | The Bidder shall propose the roof waterproofing system and associated construction details in accordance with the Tender Specifications, applicable BIS codes, and project requirements. The detailed cross-sections and material specifications shall be submitted during detailed engineering for Owner/PMC review and approval. No separate standard detail shall be issued by Owner/PMC. |
| 43     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - I<br>CIVIL ENGINEERING DESIGN BASIS<br>(ARCHITECTURAL)  | Pdf Pg 39 of 377 | Cl. No. 5.3.13 | E&I Trenches<br><br>The Clause mentions "All Instrument / Electrical cables at the junction of the building (outside) shall be covered with pre-cast RCC slab. Sleeve pipes should be provided for the cable in the masonry wall including its sealing. "<br><br><b>Query Bidder understands that E&amp;I Cable Trenches in the complete plant shall be Directly Buried and shall be covered with removable RCC Pre-cast cover slab in concrete Paved areas only.</b><br><br>OWNER/PMC to confirm Bidder's understanding. | Bidder's understanding is not correct. E&I cable routing shall be as specified in the Tender Documents. Cable trenches, direct buried cables, and trench covers shall be provided as per the approved engineering design and project requirements.                                                                                                                                           |
| 44     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - II<br>CIVIL ENGINEERING DESIGN BASIS<br>(GENERAL CIVIL) | Pdf Pg 47 of 377 | Cl. No. 2.3.1  | 50thk Concrete Screed requirement<br>The Clause mentions "Finish of 50 thick concrete screeds, with non metallic (Quartz based) hardener topping shall be provided on paving after erection and commissioning of equipment is over."<br><br><b>Query</b> Bidder requests OWNER/PMC to <b>clarify the types of structures where 50mm screed for maintenance purpose is expected.</b>                                                                                                                                       | The 50 mm concrete screed with non-metallic (quartz-based) hardener shall be provided wherever specified in the Tender Documents and wherever required for equipment maintenance, operational, and maintenance access areas. The detailed locations shall be finalized during detailed engineering and shall be subject to Owner/PMC review and approval.                                    |
| 45     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - II<br>CIVIL ENGINEERING DESIGN BASIS<br>(GENERAL CIVIL) | Pdf Pg 49 of 377 | Cl. No. 2.5    | Storm Water Drainage<br><br><b>Query</b> Bidder requests OWNER/PMC to confirm the <b>Rainfall Intensity</b> in mm/hr for Storm Water Drainage Design.                                                                                                                                                                                                                                                                                                                                                                     | Storm Water Drainage shall be designed based on the applicable rainfall intensity for the project location as per relevant statutory data/standards, subject to Owner/PMC approval during detailed engineering.                                                                                                                                                                              |
| 46     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - II<br>CIVIL ENGINEERING DESIGN BASIS<br>(GENERAL CIVIL) | Pdf Pg 49 of 377 | Cl. No. 2.5.4  | Storm Water Drain Cover<br>The clause mentions "Rain water falling on such portion of paved areas of process unit where it is not likely to get contaminated, shall be collected in open rectangular RCC drains. These drains shall be covered by gratings"<br><br><b>Query</b> Bidder proposes OWNER/PMC <b>Precast Concrete Cover with perforations in lieu of MS gratings.</b><br><br>OWNER/PMC to confirm Bidder's proposal.                                                                                          | Bidder's proposal is not correct. Drain covers shall be provided as specified in the Tender Documents.                                                                                                                                                                                                                                                                                       |
| 47     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - II<br>CIVIL ENGINEERING DESIGN BASIS<br>(GENERAL CIVIL) | Pdf Pg 52 of 377 | Cl. No. 2.8.1  | Contaminated Rain Water System<br><br><b>Query</b> Bidder proposes Concrete Catchment Area per Catch basin as 400 sqm.<br>OWNER/PMC to confirm Bidder's proposal.                                                                                                                                                                                                                                                                                                                                                         | Bidder's proposal is not correct. Catch basin spacing and catchment area shall be designed by the Bidder based on hydraulic calculations and project requirements, subject to Owner/PMC review and approval                                                                                                                                                                                  |
| 48     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - II<br>CIVIL ENGINEERING DESIGN BASIS<br>(GENERAL CIVIL) | Pdf Pg 68 of 377 | Cl. No. 3.3.ii | Live Loads (LL) - Compressor House/House<br><b>Query</b> Bidder understands that LL for Operating Area in Compressor House/House shall be 5kN/m2 and not 10kN/m2.<br><br>OWNER/PMC to confirm Bidder's understanding.                                                                                                                                                                                                                                                                                                     | Bidder's understanding is not correct. Live loads shall be considered strictly as specified in the Tender Documents.                                                                                                                                                                                                                                                                         |

| Sr No.                      | Discipline | Document Title                                                                                                                                                                              | Page No.                 | Clause No.    | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PMC/Owner Reply                                                                                                                                                                                                                                                                                                               |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
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| 49                          | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 70 of 377         | Cl. No. 3.4   | Wind Load<br><br><b>Query</b> Bidder proposes Basic Wind Speed (Vb) for Bardhaman, West Bengal as 47m/s.<br><br>Bidder understands that Cyclonic <b>Importance Factor k4</b> in Wind Load Calculation is <b>not applicable</b> since the site is more than 60kms away from Coast.<br><br>OWNER/PMC to confirm Bidder's proposal and understanding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Basic Wind Speed and applicable wind load parameters, including the cyclonic importance factor (k <sub>4</sub> ), shall be considered in accordance with the Tender Specifications and the latest applicable IS 875 (Part 3). The Bidder shall submit the wind load calculations for Owner/PMC review and approval.           |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| 50                          | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 71 of 377         | Cl. No. 3.5   | Seismic Load<br><br><b>Query</b> Bidder understands that the Seismic Zone for the Project Site in Bardhaman, West Bengal is Zone III with Zone factor as Z=0.16<br><br>OWNER/PMC to confirm Bidder's understanding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Seismic design parameters shall be considered in accordance with the latest applicable IS 1893 and the Tender Specifications. The Bidder shall submit the seismic design basis and calculations for Owner/PMC review and approval.                                                                                            |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| 51                          | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS                 | Pdf Pg 74 of 377         | Cl. No. 3.8.2 | Structural Steel Design<br><br>The Clause mentions "For process plants, the following contingency additional loading shall be applied to individual beam elements, these shall be applied as point loads to produce worst shear and bending stresses"<br><br><b>Query</b> Bidder understands that the Loads are for Local Beam Check and shall not be considered for Global Check.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Bidder's understanding is correct. The specified contingency loads shall be considered for the design/check of the individual supporting beam members to produce the worst shear force and bending moment. The overall structural analysis shall be carried out as per the Tender Specifications and applicable design codes. |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| 52                          | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 75/76 of 377      | Cl. No. 3.8.2 | Load Combination<br>LIMIT STATE OF SERVICEABILITY OR DEFLECTION CHECK<br><br><table><tr><th rowspan="2">LOAD COMBINATIONS</th><th colspan="2">DEAD LOAD</th><th colspan="6">TEMPORARY/VARIABLE LOADS</th></tr><tr><th>DL</th><th>EEL</th><th>EOL</th><th>LL</th><th>ETL</th><th>MEL</th><th>HOL</th><th>WL/SL</th></tr><tr><td>Plant Shut Down Condition</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DL + EEL + LL + MEL</td><td>1</td><td>1</td><td>-</td><td>1</td><td>-</td><td>1</td><td>-</td><td>-</td></tr><tr><td>DL + EEL ± WL*</td><td>0.9</td><td>0.9</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>Plant Operating Condition</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>DL + LL + EOL ± HOL</td><td>1</td><td>-</td><td>1</td><td>1</td><td>-</td><td>-</td><td>1</td><td>-</td></tr><tr><td>DL + EOL ± WL/SL***</td><td>1</td><td>-</td><td>1</td><td>-</td><td>-</td><td>-</td><td>-</td><td>1</td></tr><tr><td>DL + LL + EOL ± HOL ± WL/SL</td><td>1</td><td>-</td><td>1</td><td>0.8</td><td>-</td><td>-</td><td>0.8</td><td>0.8</td></tr></table><br><table><tr><td>DL + LL + EOL ± HOL ± WL/SL</td><td>1.2</td><td>-</td><td>1.2</td><td>1.2</td><td>-</td><td>-</td><td>1.2</td><td>1.2</td></tr></table><br><b>Query</b> Bidder proposes that Friction Forces in HOL not to be combined with Wind/Seismic Load Combination for Serviceability, Deflection & Design.<br><br>OWNER/PMC to confirm Bidder's proposal. | LOAD COMBINATIONS                                                                                                                                                                                                                                                                                                             | DEAD LOAD |       | TEMPORARY/VARIABLE LOADS |  |  |  |  |  | DL | EEL | EOL | LL | ETL | MEL | HOL | WL/SL | Plant Shut Down Condition |  |  |  |  |  |  |  |  | DL + EEL + LL + MEL | 1 | 1 | - | 1 | - | 1 | - | - | DL + EEL ± WL* | 0.9 | 0.9 | - | - | - | - | - | 1 | Plant Operating Condition |  |  |  |  |  |  |  |  | DL + LL + EOL ± HOL | 1 | - | 1 | 1 | - | - | 1 | - | DL + EOL ± WL/SL*** | 1 | - | 1 | - | - | - | - | 1 | DL + LL + EOL ± HOL ± WL/SL | 1 | - | 1 | 0.8 | - | - | 0.8 | 0.8 | DL + LL + EOL ± HOL ± WL/SL | 1.2 | - | 1.2 | 1.2 | - | - | 1.2 | 1.2 | Friction load shall be considered with operating condition.there shall not be any combonation of wind /seismic with testing load condition. |
| LOAD COMBINATIONS           | DEAD LOAD  |                                                                                                                                                                                             | TEMPORARY/VARIABLE LOADS |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                               |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
|                             | DL         | EEL                                                                                                                                                                                         | EOL                      | LL            | ETL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MEL                                                                                                                                                                                                                                                                                                                           | HOL       | WL/SL |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| Plant Shut Down Condition   |            |                                                                                                                                                                                             |                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                               |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| DL + EEL + LL + MEL         | 1          | 1                                                                                                                                                                                           | -                        | 1             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1                                                                                                                                                                                                                                                                                                                             | -         | -     |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| DL + EEL ± WL*              | 0.9        | 0.9                                                                                                                                                                                         | -                        | -             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                             | -         | 1     |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| Plant Operating Condition   |            |                                                                                                                                                                                             |                          |               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                               |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| DL + LL + EOL ± HOL         | 1          | -                                                                                                                                                                                           | 1                        | 1             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                             | 1         | -     |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| DL + EOL ± WL/SL***         | 1          | -                                                                                                                                                                                           | 1                        | -             | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                             | -         | 1     |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| DL + LL + EOL ± HOL ± WL/SL | 1          | -                                                                                                                                                                                           | 1                        | 0.8           | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                             | 0.8       | 0.8   |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| DL + LL + EOL ± HOL ± WL/SL | 1.2        | -                                                                                                                                                                                           | 1.2                      | 1.2           | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | -                                                                                                                                                                                                                                                                                                                             | 1.2       | 1.2   |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| 53                          | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 78 of 377         | Cl. No. 3.10  | Stability of Foundations<br>The Table Mentions "% Weight of Overburden over projected plan area of footing varying from 50% to 100%"<br>"In case area is paved, overburden shall be based on NGL (for area under filling) or 600 mm below HPP, whichever is lower. In case of unpaved area, it shall be w.r.t. FGL"<br><br><b>Query</b> Bidder understand that full <b>100% Weight of Overburden Soil</b> shall be considered for Stability & Design Checks irrespective of type of Structure/Paved/Unpaved/ISBL/OSBL area.<br><br>OWNER/PMC to confirm Bidder's understanding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Bidder's understanding is not correct. The percentage of overburden to be considered for stability and design shall be as specified in the Tender Documents and applicable design criteria.                                                                                                                                   |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |
| 54                          | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 80 of 377         | Cl. No. 4.5   | MACHINE/EQUIPMENT FOUNDATIONS<br><br><b>Query</b> Bidder proposes the following design condition :<br>Dynamic Analysis shall be performed for Machine Foundations in the following cases -<br>a) Rotating Equipment = 500 HP rating or Machine Weight > 45kN<br>b) Reciprocating Equipment = 200 HP rating or Machine Weight > 45kN.<br><br>OWNER/PMC to confirm Bidder's proposal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Bidder's proposal is not correct. Dynamic analysis requirements for machine foundations shall be as specified in the Tender Documents, equipment vendor data, and applicable design codes/standards.                                                                                                                          |           |       |                          |  |  |  |  |  |    |     |     |    |     |     |     |       |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                |     |     |   |   |   |   |   |   |                           |  |  |  |  |  |  |  |  |                     |   |   |   |   |   |   |   |   |                     |   |   |   |   |   |   |   |   |                             |   |   |   |     |   |   |     |     |                             |     |   |     |     |   |   |     |     |                                                                                                                                             |

| Sr No. | Discipline | Document Title                                                                                                                                                                              | Page No.         | Clause No.    | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | PMC/Owner Reply                                                                                                                                                                                                                                                                                          |
|--------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 55     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 81 of 377 | Cl. No. 4.6   | Foundation Bolts<br><b>Query</b> Bidder understands that All Holding Down Anchor Bolts are be in accordance with IS:2062 and shall be <b>BLACK BOLTS</b> with 3mm corrosion allowance and need not be Hot Dip Galvanized..<br><br>OWNER/PMC to confirm Bidder's proposal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Bidder's understanding is not correct. Foundation/holding-down anchor bolts shall be provided as specified in the Tender Documents and applicable project specifications                                                                                                                                 |
| 56     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 81 of 377 | Cl. No. 4.7.3 | Embedded Items - Hot Dip Galvanisation<br><br><b>Query</b> Bidder requests OWNER/PMC to provide <b>Galvanizing thickness</b> in micron DFT for the Embedded Items..                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Hot-dip galvanizing of embedded items shall be as specified in the Tender Documents and the applicable project specifications/standards.                                                                                                                                                                 |
| 57     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 82 of 377 | Cl. No. 4.8   | Staircase and Ladder Pedestal Height<br>The Clause mentions the pedestal Height as Min 300mm for both Staircase and ladder.<br><br><b>Query</b> Bidder proposes the below Elevation Philosophy.<br>a) Top of Grout (TOG) for Pedestals below all Steel Staircase & Ladders = <b>HPP+200 mm</b> .<br><br>Bidder requests OWNER/PMC to confirm the above proposal.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Bidder's proposal is not correct. Pedestal height for staircases and ladders shall be as specified in the Tender Documents. Any deviation shall require prior Owner/PMC approval.                                                                                                                        |
| 58     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 86 of 377 | Cl. No. 5.5   | Reinforcement Bar Grade<br><br>The Clause mentions "High yield strength deformed TMT steel bars of grade Fe500D / Fe550D corrosion resistant bars (CRS) conforming to IS: 1786 shall be used.."<br><br><b>Query</b> Bidder proposes that Fe 500D shall be considered in Design and Fe 550D shall be considered in Execution.<br><br><u>Bidder requests OWNER/PMC to confirm the above proposal.</u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Bidder's proposal is not correct. Reinforcement grade shall be considered for design and execution as specified in the Tender Documents.                                                                                                                                                                 |
| 59     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 86 of 377 | Cl. No. 5.8   | Expansion Joints<br>The Clause mentions "Expansion points in concrete structures shall be provided at 30-35 m centres."<br><br>As per IS 456-2000 cl.27.2, Expansion joint is to be provided in concrete structures exceeding 45m.<br><br><b>Query</b> OWNER/PMC to confirm Bidder's understanding of following IS 456 Code provision.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Bidder's understanding is not correct. Expansion joints shall be provided as specified in the Tender Documents. The Bidder shall develop the detailed joint layout during detailed engineering, subject to Owner/PMC review and approval.                                                                |
| 60     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 92 of 377 | Cl. No. 6.2   | Expansion Joints<br>The Clause mentions "Expansion joints shall be provided at 80 – 100 m centres, where possible, column bracing shall be provided at the centre of a longitudinal frame...."<br><br><b>Query</b> Bidder proposes to adopt Expansion Joint can be provided at <b>180m for covered buildings and 120m for open structures</b> in accordance with IS:800-2007 Cl. No. 3.10.3.1.<br><br>Bidder requests OWNER/PMC to confirm the above proposal of following IS 800 Code provision.                                                                                                                                                                                                                                                                                                                                                                                                                                              | Bidder's proposal is not correct. Expansion joints in steel structures shall be provided as specified in the Tender Documents. The detailed arrangement shall be finalized during detailed engineering, subject to Owner/PMC review and approval.                                                        |
| 61     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL) | Pdf Pg 92 of 377 | Cl. No. 6.3   | Structural Steel Grade<br>The Clause mentions "Structural steel shall be of yield stress of 250 Mpa conforming to grade A of IS: 2062. Tubular steel shall conform to Yst 310 of IS: 1161 & IS: 4923. "<br><br><b>Query Bidder proposes following Structural Steel specifications -</b><br>1) Structural Steel shall be of Yield Stress of 250 MPa conforming to Grade A of IS: 2062. Bidder requests additional Grade BR/BO<br>2) For ISMB, ISMC, ISA (Angles) : IS 2062 Grade E250B<br>3) For Flats : IS 2062 Grade E250B<br>4) For Plates : IS 2062 Grade E250BR / E350BR<br>5) For Universal Columns/Beams (UB/UC) : BS EN 10025 S275JR / S275J0 / S355J0<br>6) TATA STRUCTURA from TATA STEEL - High Strength Steel Hollow Sections (Circular, Square, Rectangular) shall confirm to Yst 310/355 in accordance with IS:1161, IS: 4923, ASTM A500/EN 10219 S355JOH.<br><br><u>Bidder requests OWNER/PMC to confirm the above proposal.</u> | Bidder's proposal is not correct. Structural steel grades and material specifications shall be as specified in the Tender Documents. Any equivalent or higher-grade material, if proposed, shall require prior Owner/PMC approval and shall comply with the applicable codes and project specifications. |

| Sr No. | Discipline | Document Title                                                                                                                                                                                | Page No.                                  | Clause No.                          | Technical Query                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | PMC/Owner Reply                                                                                                                                                                                                          |
|--------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 62     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL)   | Pdf Pg 93 of 377                          | Cl. No. 6.7.1                       | Minimum Thickness<br>The Clause Mentions Minimum Thickness<br>Columns, Beams : 7mm<br><br><b>Query</b> Bidder understands that minimum thickness of 7mm is for flange and not Web.<br><br>OWNER/PMC to confirm Bidder's understanding                                                                                                                                                                                                                                                                                                                                                                        | Bidder's understanding is not correct. Minimum thickness requirements for structural members shall be as specified in the Tender Documents unless otherwise approved by Owner/PMC.                                       |
| 63     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL)   | Pdf Pg 93 of 377                          | Cl. No. 6.7.1                       | Minimum Thickness<br>The clause mentions "The minimum thickness of structural components (except gratings & chequered plates) which are directly exposed to weather and inaccessible for repainting shall be 8 mm"<br><br><b>Query</b> Bidder understands that minimum thickness of 8mm for structural component refers to flange and not web for Column/Beam sections<br><br>OWNER/PMC to confirm Bidder's understanding                                                                                                                                                                                    | Bidder's understanding is not correct. The minimum thickness requirement of 8 mm shall apply as specified in the Tender Documents for structural components directly exposed to weather and inaccessible for repainting. |
| 64     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS                   | Pdf Pg 96 of 377                          | Cl. No. 8.1.2                       | Friction Force (Longitudinal & Transverse)<br><br><b>Query</b> Bidder understand that Friction Forces are not to be considered for foundation analysis/design.<br><br>OWNER/PMC to confirm Bidder's understanding & proposal                                                                                                                                                                                                                                                                                                                                                                                 | Bidder's understanding is not correct. Friction forces, wherever applicable, shall be considered in the foundation analysis and design as per the Tender Documents and applicable design codes.                          |
| 65     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL)   | Pdf Pg 93 of 377<br><br>Pdf Pg 98 of 377  | Cl. No. 6.6.b<br><br>Cl. No. 8.1.11 | Limiting permissible horizontal deflection<br><br>The clause mentions " The limiting permissible horizontal deflection for multistoried steel structure/ building including flare stack shall be Height/325".<br><br>The clause mentions "Limiting permissible horizontal deflection for piperack shall be height / 325".<br><br><b>Query</b> Bidder understands that "Height/325" is extremely stringent.<br><br>Bidder proposes to have Limiting permissible horizontal deflection for piperack as height / 200.<br>This is in line with IS 800 Table 6<br><br>OWNER/PMC to confirm Bidder's understanding | Specification/contract provisions shall prevail. Bidder may proceed accordingly.                                                                                                                                         |
| 66     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - III<br>CIVIL ENGINEERING DESIGN BASIS<br>(STRUCTURAL)   | Pdf Pg 99 of 377                          | Cl. No. 8.4 Table-1<br>(2b)         | Grade Slab Reinforcement<br>The Clause mentions "Stable in Grade M20 concrete (Reinforced with 8 mm dia bars @ 200 c/c both ways) over lean concrete "<br><br><b>Query</b> Bidder proposes to provide the reinforcement for RCC Paving and Grade Slab in the form of <b>equivalent Welded Wire Mesh</b> from TATA STEEL or any reputed manufacturer.<br><br>Bidder requests OWNER/PMC to confirm the above proposal.                                                                                                                                                                                         | Specification/contract provisions shall prevail. Bidder may proceed accordingly.                                                                                                                                         |
| 67     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - IV<br>GENERAL DESCRIPTION OF STRUCTURES /<br>FACILITIES | Pdf Pg 104 of 377<br><br>Pdf Pg 56 of 377 | f) Piperack<br><br>Cl. No. 2.13     | Paving below piperack<br><br>Hard Surface<br><br>The clause mentions "RC paving below pipe-rack for entire width"<br><br>The clause mentions "Hard surface of PCC 1:3:6, (100 mm thick) over suitable bedding (brick / stone soling) Shall be provided below all new pipe tracks and / or extended potion of existing pipe Tracks."<br><br><b>Query</b> Bidder understands that RC Paving is to be provided for Process area & 100mm thk PCC 1:3:6 is to be provided in offsite area.<br><br>Bidder requests OWNER/PMC to confirm Bidder's understanding                                                     | Bidder's understanding is not correct. RC paving below the entire width of pipe rack shall be provided unless otherwise specified in the project documents. Bidder shall quote accordingly.                              |
| 68     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - IV<br>GENERAL DESCRIPTION OF STRUCTURES /<br>FACILITIES | Pdf Pg 105 of 377                         | i) Miscellaneous                    | iii) Stainless Steel Insert Plates<br>The clause mentions "Stainless steel insert plates are to be provided for structural work related to tower or advised by the Owner/Consultant. "<br><br><b>Query</b> Bidder requests OWNER/PMC to elaborate on type of tower considered where Stainless steel plates will be used.                                                                                                                                                                                                                                                                                     | The requirement shall be applicable only where specifically indicated in the approved drawings or as instructed by Owner/Consultant during detailed engineering. Bidder shall consider the provision accordingly.        |

| Sr No. | Discipline | Document Title                                                                                                                                                                                | Page No.             | Clause No.       | Technical Query                                                                                                                                                                                                                                                                                  | PMC/Owner Reply                                                                                                                                    |
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| 69     | Civil      | TechnicalSpecification2<br>PART II: TECHNICAL -<br>SECTION – 5.5<br>DESIGN PHILOSOPHY – CIVIL &<br>STRUCTURAL WORKS<br><br>ANNEXURE - IV<br>GENERAL DESCRIPTION OF STRUCTURES /<br>FACILITIES | Pdf Pg 105 of<br>377 | I) Miscellaneous | The clause mentions "Stainless steel hand rails should be provided in steel staircases at technological structure & cooling towers or as advised by the Owner/Consultant."<br><br>Bidder proposes Mild steel instead of Stainless Steel for Handrail.<br>OWNER/PMC to confirm Bidder's proposal. | Bidder's proposal is not correct. Stainless steel handrails shall be provided as specified in the tender documents.tender condition shall prevail. |