

AMMONIA UREA FERTILIZER PLANT AT AVFCCL, NAMRUP, ASSAM (NIT NO : PNMM/PC230/E/001 - REPLIES TO PRE-BID QUERIES - LOT - 11 dated 13.05.2026)						
पी डी आई एल PDIL				TECHNICAL QUERIES (MACHINERY)		
AVFCCL Ammonia Urea Fertilizer Plant at Namrup, Assam						
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
MACHINERY						
1	Spare list	9/44	VI	Gas turbine Generator package The mandatory spares to be supplied for each working train/unit shall be as under.	Bidder understand that only one set of GT rotor is to be supplied as mandatory spare in case of 2 x GTG configuration also as both GT will be of same model. The supplied rotor assembly will be a common spare for both the GTGs. PI confirm.	NIT to be followed.
2	DESIGN PHILOSOPHY- ROTATING EQUIPMENT	Sheet 9 of 25	Section 3.2 Centrifugal compressors, Clause 3.2.16	Compressor Capacity Control Method for Barrel type (API 617, Chept.1 & 2) for Natural Gas Compressor (NG Compressor)	1) As per the referred clause 3.2.16, "Ammonia Refrigeration Compressor , Syn gas Compressor , Process air Compressor, NG Compressor and CO2 compressor shall be as per API 617 chapter/ part 1 & 2. LSTK / OEM shall have proven references in their past executed project for abovesaid equipment". As per REPLIES TO PRE-BID QUERIES - LOT - 8 dated 21.04.2026 (ROTARY-11), PMC/Owner informed "NIT to be followed" Hence, as Barrel type (API 617, Chept.1 & 2) is to be considered for NG Compressor, PMC/Owner is requested to inform type of capacity control to be considered from following options: a) Suction Throttling b) Electric Motor with single VFD without redundancy (Variable Frequency Drive) c) above both a) and b)	Capacity control / step of compressor to be designed for all plant operational needs. However, selection of method shall be discussed during detailed engg. stage subject to owner's review / approval.

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TECHNICAL QUERIES (PIPING)						
पी डी आई एल PDIL		AVFCCL AMMONIA UREA FERTILIZER PLANT AT NAMRUP, ASSAM				
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
Piping						
1	TQ Response Lot-7	1 of 27	-	Clarification on proposed back-to-back arrangement for Ammonia Cooling Tower Cells	Bidder's proposal of a back-to-back arrangement of the ammonia cooling tower was not accepted by Owner vide TQ response lot-8. The Bidder requests Owner to note that the plot plan can not accommodate a single-row arrangement of the cooling tower due to space and layout constraints. Under the given plot limitations, a back-to-back configuration is the only feasible arrangement. Bidder confirms that the proposed back-to-back arrangement fully complies with ITB requirements related to cooling tower performance. There are multiple examples of Back to Back arrangements being employed for Cooling Tower. Also Bidder has successful past project experience with similar back-to-back cooling tower arrangements. Accordingly, the Bidder requests the Owner to again review and consider acceptance of the proposed arrangement.	Not acceptable.
1.	5.2.3 DESIGN PHILOSOPHY-PIPING	11 OF 184 &13 of 184	5.1.3.1	Cooling water lines	The section indicates that cooling water lines 18" and above need to be routed underground. Bidder prefers to route cooling water lines upto 30" on piperack, as a general practice.	As per the NIT.
2.	ANNEXURE- 7 - 2G INSULATION WORK	74 of 135 & 75 of 135	1.5	THICKNESS DESIGN BASIS	As per ITB Clause 1.5, for the design of insulation thickness for hot insulation, the surface temperature is specified as 45°C. However, Clause 1.4 (Temperature Limits) defines the minimum operating temperature for hot insulation as starting from 60°C. Furthermore, Clause 7.0 (Guarantee), Pointer 9, stipulates that the Contractor shall guarantee a maximum surface temperature of 60°C for equipment and piping under hot insulation. In view of the above, the Bidder proposes to consider 60°C as the maximum surface temperature for the design of optimum insulation thickness for hot insulation. The permissible heat loss specified in Clause 1.5, i.e., 100 kcal/m²-hr, shall be maintained for the insulation thickness calculations. Kindly confirm whether the Bidder's proposal is acceptable.	Design temperature shall be as per ITB clause 1.5

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TECHNICAL QUERIES (ELECTRICAL)						
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
Electrical						
1	1. SD-1201: Schematic Diagram of 11kV/3.3kV Switchgear 2. PC230/E-001/P-II/5.4 Rev 0: DESIGN PHILOSOPHY – INSTRUMENTATION 3.NIT NO : PNMM/PC230/E/001 - REPLIES TO PRE-BID QUERIES - LOT - 8 dated 21.04.2026 (Sr. No. 5 of Instrumentation) 4.NIT NO : PNMM/PC230/E/001 - REPLIES TO PRE-BID QUERIES - LOT - 8 dated 21.04.2026 (Sr No. 27 of Instrumentation)	1. Page 16/19 2. Page 82/127 3. Page 19/48 4. Page 21/48	1. - 2. Clause 14.0 3. Sr. No. 5 (Instrumentation) REPLIES TO PRE-BID QUERIES - LOT - 8 4. Sr. No. 27 (Instrumentation) REPLIES TO PRE-BID QUERIES - LOT - 8	Connectivity of Winding Temperature RTDs	1. Referred schematic (Doc No: SD-1201: Schematic Diagram of 11kV/3.3kV Switchgear) indicates that Winding RTDs shall be connected to DCS. 2. As per referred Clause 14.0 of PC230/E-001/P-II/5.4 Rev 0: DESIGN PHILOSOPHY – INSTRUMENTATION indicates, "Winding RTDs shall interface to Switchgear." 3. As per COMPANY response to Sr. No. 5 (Instrumentation) REPLIES TO PRE-BID QUERIES - LOT - 8, "Bidder to note that clause 14 is applicable for motors where MMS is not applicable. Detail of MMS requirement is clearly mentioned in clause 11.2.10/11.2.11/11.2.12" 4. As per COMPANY response to Sr. No. 27 (Instrumentation) REPLIES TO PRE-BID QUERIES - LOT - 8, "Bidder to note that clause 14 is applicable for motors where MMS is not applicable. Detail of MMS requirement is clearly mentioned in clause 11.2.10/11.2.11/11.2.12. Bidder to follow NIT to connect winding temperature RTD." In view of above, Bidder understands that HV motors Winding RTDs shall be connected to DCS for motors where MMS is not applicable inline with Sr.No.1. and shall not be connected to switch gears. Request OWNER/PMC to kindly confirm Bidder's understanding.	HV motors winding, hot air and bearing RTDs shall be connected to DCS. Winding, hot air and bearing temperature shall also be monitored at LMS, hence the winding, hot air and bearing temperature signal shall come to LMS from DCS through soft signal for monitoring.
2	a. REPLIES TO PRE-BID QUERIES - LOT - 8 dated 21.04.2026 b.Replies to Pre-bid Queries-LOT1-Part 3 dated 08.01.2026	a. Page 30/48 b. Page 12/25	a. Sr. No. 33 b. Sr. No. 180	Rooftop Solar Photovoltaic System	a. With reference to Owner/PMC's referred response to TQ regarding Rooftop Solar Photovoltaic System, Owner/PMC informed that 1. Plant availability / performance expectations (if any) and required design life shall be as per plant design life. 2. Owner/PMC also informed that Power shall not be exported and Solar roof top on grid installation complete study in scope of LSTK contactor. 3. Building roofs (1 MW), Non LSTK buildings (Approx 0.5 KW), Bagging Shed (Approx. 2 MW), workshop shed (Approx. 0.5 MW) in scope of LSTK contactor. b. With reference to Owner/PMC's referred response to TQ regarding Rooftop Solar Photovoltaic System, Owner/PMC informed that Roof top solar shall be considered in all RCC framed structure building. In view of above, request Owner/PMC to kindly provide response on below queries:- 1. Bidder understands that required design life for the solar PV system shall be 20 years. Please confirm. 2. Since Solar power is not intended to be exported, request Owner/PMC to clarify the objective of the "Solar Rooftop on Grid Installation Complete Study". Further, request Owner/PMC to specify the scope and details to be considered as part of this study. 3. SOLAR Rooftop System shall be provided on the all substations/control room/other building rooftop which are under LSTK contractor's scope only and NOT on the NON-LSTK buildings/roofs/shed. Please confirm. In case if this understanding is not correct then request Owner/PMC to please provide below details for Non-LSTK buildings for which rooftop solar PV system is required :- i) List of Non-LSTK buildings/shed/roofs requiring Rooftop solar PV system ii) Rooftop layout / dimensions for these Non-LSTK buildings/sheds/roofs	1. Bidder's understanding is correct. 2. As the generated power shall be synchronized with the plant power, hence Solar roof top on grid installation complete study is required. In solar system study LSTK contactor should also consider solar power impact on plant steam balance during peak hour and no generation hours. Required details of OSBL will be shared with the successful bidder during detailed engineering for Solar roof top on grid installation complete study. 3. Bidder's understanding is correct.
3	Corrigendum 10	Page 2 of 9	6	Power requirement for Pre-commissioning / Commissioning	As per Corrigendum 10, 25MW back up power will be available from Grid. Bidder's understanding is that, for pre-commissioning / commissioning activities including dark start-up of CPP package, the initial power required will be available from Grid supply. Owner to confirm the Bidders understanding.	Bidder's understanding is not correct. NIT shall be complied.

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TECHNICAL QUERIES (HSED)						
पी डी आई एल PDIL		AVFCCL AVF Fertilizer Plant at Namrup, Assam				
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
HSED						
1	REPLIES TO PRE-BID QUERIES - LOT - 7 dated 13.04.2026	Page 12/26	Sr N.-12 (HSED)	Ambulance requirement IN AVFCCL proposal	The referred clause N.-1 states that: As per the response provided by the Company, it is mentioned that the ambulance is within the scope of the LTSK bidder. Bidder Query Bidder understands that the Ambulance scope referred is for deployment by Contractor during Construction phase only.	Ambulance will be in the scope of LSTK bidder. However, deployment of ambulance during Construction phase is also in the scope of LSTK bidder.
2	Part II, Technical. Technical Specification – Clean Agent Fire Extinguishing System (Doc. No.: PC230/E/001/5.2.5-TS, Rev. 0)	Pg (4/15)	Cl. 2(v)	UL/FM Approval for Cylinder Manifold	Referred Clause: All major components excluding Piping, Fittings, Bracket Supports, Cylinder Rack & Hangers should be UL Listed/FM approved. Cylinder Manifold should be UL Listed/FM approved. Bidder Query: The manifold is a site-specific fabricated assembly whose configuration depends on the number of cylinders and their spatial arrangement. OEM manufacturers do not manufacture manifolds at their facilities and, accordingly, do not hold or issue UL / FM approvals for them. In view of the above, we request your acceptance of the manifold as supplied and certified by the system integrator, since requiring OEM-sourced manifolds with third-party approvals does not add technical value and is not commercially viable	All major component and cylinder Manifold shall be UL Listed only.
3	Part II, Technical. Technical Specification – Clean Agent Fire Extinguishing System (Doc. No.: PC230/E/001/5.2.5-TS, Rev. 0)		Cl. 1(iii), 2 (v) , 3(iii) & 8	Acceptable Third-Party Approval Standards	Referred Clause: 1 (iii) - The complete system along with all major components, Design Software including Filling stations should be UL approved. Cylinders and Valves should be UL & PESO approved. 2 (v) - All major components excluding Piping, Fittings, Bracket Supports, Cylinder Rack & Hangers should be UL Listed/FM approved. Cylinder Manifold should be UL Listed/FM approved. 3 (iii) - The system components shall be listed / approved by FM/ UL/Vds/LPCB and cylinders shall be seamless & shall be PESO approved. 8 - The complete system shall be tested to meet the requirement of NFPA 2001 norms. All equipment / Devices shall be approved and listed by UL/FM/Vds/LPCB except pipes, fittings & structural support Bidder Query: The above mentioned clauses are contradicting. Bidder understands that all system components shall be UL listed or equivalent third-party certifications (i.e) FM Approval, VdS, or LPCB — are also acceptable. Kindly confirm	The complete system shall be UL listed only.
4	Part II, Technical. Technical Specification – Clean Agent Fire Extinguishing System (Doc. No.: PC230/E/001/5.2.5-TS, Rev. 0)	Pg 10/15	Cl 4 (ii)	Clean Agent Storage cylinders Approval	Referred Clause: Cylinders shall also have approval from CCE, Nagpur and UL listed/FM approved. Bidder Query: Bidder understands that cylinders shall be UL Listed or FM approved or LPCB approved. Kindly confirm	Cylinder shall also bear test certificate issued by authority having jurisdiction and shall be duly listed/approved by UL only. In addition to approval by PESO Nagpur (India). Cylinders without the listing/approval will not be accepted. PESO approval of the cylinders is a must.
5	Part II, Technical. Technical Specification – Clean Agent Fire Extinguishing System (Doc. No.: PC230/E/001/5.2.5-TS, Rev. 0)	Pg 12/15	Cl. 7 (ii)	Battery Type – SMF / VRLA in lieu of Ni-Cd	Referred Clause: The local control panel shall be equipped with adequate capacity of battery charger and Ni-Cd. Battery with 48 hour back up, for efficient operation of the system during mains power failure. Bidder Query: NFPA 2001 permits the use of Sealed Maintenance-Free (SMF) or Valve-Regulated Lead-Acid (VRLA) batteries. The Gas Release Panels and Fire Alarm Panels offered are equipped with battery chargers compatible with SMF / VRLA batteries as standard. We request approval to supply SMF / VRLA batteries in lieu of Ni-Cd batteries, in accordance with NFPA 2001.	Bidder may use SLA/SMF/VRLA batteries subject to compliance with NFPA 2001 and its latest revision.
6	Part II, Technical. Technical Specification – Clean Agent Fire Extinguishing System (Doc. No.: PC230/E/001/5.2.5-TS, Rev. 0)	General		Painting Specification for Clean Agent System	Bidder Query: Painting specification is not given in the Technical Specification. Shade 536 of IS - 5 is assumed with regards to past experience. Kindly confirm the same.	Painting requirement shall comply with the approved painting specification applicable to this project.

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TECHNICAL QUERIES (STATIC)						
पो डी आई एल PDIL AVFCCL						
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
Static						
1	PC230/E/001/P-II /6.0 - PART – II, TECHNICALSECTION – 6.0 CONSTRUCTION/ ERECTION, PRECOMMISSIONING, COMMISSIONING AND START-UP	Page no. 84 of 135	ANNEXURE- 7 - 2H PAINTING SPECIFICATION (TS- 2001	Painting Requirement for Ammonia Double wall tank	Bidder understands that the painting specification (PC230/E/001/P-II /6.0 - Annexure-7-2H) does not cover the painting system for cryogenic equipment such as the Ammonia Double Wall Cryogenic Storage Tank and the associated Balance of Plant (BOP). For the current proposal - AVFCCL, based on the ammonia tank vendor's recommendation, the painting system for the Ammonia Double Wall Cryogenic Storage Tank shall be in accordance with the HURL project, where the painting specification was amended with the document 077625-C00-JSD-2310-0001_G by the ammonia tank vendor and subsequently approved by the Owner/PMC. The Bidder understands that a similar exercise is required to define the painting specification for the Ammonia Double Wall Cryogenic Storage Tank for the AVFCCL as well. The Owner is requested to confirm whether the Bidder's above understanding is correct. Additionally, the Owner is requested to provide the painting specification requirements for the associated Balance of Plant (BOP) of the Ammonia storage unit for the AVFCCL proposal.	NIT to be followed. To be discussed during detailed engineering.

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TECHNICAL QUERIES (CIVIL)						
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
	PART/VOL.	PAGE NO.	CLAUSE NO.	SUBJECT		
Civil						
1	Corrigendum-11 dtd 15th April 2026	Page 2, 28, 244 of 244	-	FGL for the area covered in BH-04	Based on the Corrigendum-11, page no 244 of 244, the existing ground level is shown as 125.34 M, whereas based on the bore log data in page no. 28 of 244, the ground level is shown as 122.34 M Based on page 2 of Corrigendum-11, FGL of 125.200 M +/- 150 MM will be provided by Owner/PMC. Bidder understands that: a. The ground level mentioned in the bore log data(122.34 M) is correct. b. To reach FGL of 125.200 M +/- 150 MM for BH-04 location, proper compaction will be done in layers to achieve 98% Proctor density, and the foundation can be rested on backfilled strata. The Bidder requests the Owner/PMC to confirm the Bidder's understanding.	Backfilling is under the Client's scope. However, placing the foundation on backfilled strata will depend on load data and ground conditions, which will be assessed during detailed engineering.
2	TQ response Lot-07 dtd 13th April 2026	18 of 27	-	Canopy	Based on Lot-07 TQ response, Serial no. 2 in the Civil section, for vehicle parking, the Owner's response is to follow NIT. However, based on recent interaction with PMC for TQ resolutions, parking sheds are not in the LSTK Contractor's scope, and only the extended canopy shall be provided at the building's entrance. Accordingly, the provision of a canopy will be considered in the CCR & LAB building. The Bidder requests the Owner/PMC to confirm the Bidder's understanding.	The scope shall be as per NIT, further details shall be discussed and finalized during detailed engineering.
3	REPLIES TO PRE-BID QUERIES - LOT - 8 dated 21.04.2026	17 of 48	-	Heaviest rainfall intensity in 1 hour	Based on Lot-08 TQ response, Serial no. 29 in the Civil section, for hourly rainfall intensity, the Owner's response is to follow " Rainfall data of the site has been provided. Please follow it. " However, based on recent interaction with PMC for TQ resolutions, bidder to calculate hourly rainfall value using empirical equations to convert from daily rainfall data provided by PMC. Accordingly, the bidder uses empirical equations to calculate the hourly rainfall value from the PMC provided Daily rainfall data with 50 years return period. The Bidder requests the Owner/PMC to confirm the Bidder's understanding.	Available data has been provided, details shall be discussed and finalized during detailed engineering.

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पी डी आई एल PDIL		AVFCCL AMMONIA UREA FERTILIZER PLANT AT NAMRUP, ASSAM				
SL. NO.	REFERENCE OF ENQUIRY DOCUMENT				BIDDER'S QUERY	OWNER / PMC Response
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INSTRUMENTATION						
1	Corrigendum 13	10	Process Sl.No. 2)	Guarantee Test Results: Parallel startup of ammonia and urea plant	BIDDER understands that the CPP unit shall be designed with adequate steam generation capacity to ensure that, during cold and hot startups of the Ammonia Plant, Urea production (minimum at turndown capacity with on-spec urea quality) shall be achieved after CO ₂ generation in ammonia plant, using ammonia from storage and steam from the CPP plant, ensuring no hindrance to ammonia back-end startup due to steam shortage. Based on the above start-up philosophy, BIDDER understands that ammonia plant front-end load (untill CO2 removal section) shall be fixed based on CO2 generation capacity equivalent to production of on-spec urea quality at minimum turndown of urea plant. Operating Ammonia front end at higher capacity (more than required for CO2 generation capacity equivalent to production of on-spec urea quality at minimum turndown of urea plant) for generating higher steam in ammonia plant is NOT acceptable. OWNER / PMC to confirm BIDDER understanding.	As per the NIT.
2	Part-II / Section-4.0 Part-II / Section-4.0	17 of 47 45 of 47	2.5.1 3.7.2.1	Inlet air chillers / VAM	The BIDDER understands that inlet air chilling or VAM shall NOT be considered for the design of Power generation GTG, Process Air Compressor, or PAC Gas Turbine. However, provision shall be made at the suction for potential future installation of such systems. OWNER/PMC to confirm.	As per the NIT.
3	Part-II / Section 2.0 Part-II / Section 5.1	4 of 9 6 of 11	2.1 & 2.2 3.0	Design temperature of HP Steam	BIDDER would like to clarify that the compressor/steam turbine OEM is unable to provide steam turbine design for HP steam design temperature of 545 °C, and the maximum design temperature that can be accommodated is 540 °C. As per Clause 3.0 of Section 5.1, the design temperature is defined as follows: Design temprature = Maximum operating temperature + 15°C. Accordingly, the design temperature based on this requirement is 535 °C (considering a maximum operating temperature of HP steam of 520 °C), which is within the OEM's allowable limit of 540 °C In view of the above, BIDDER request OWNER / PMC to confirm acceptance of 540 °C as the design temperature for the HP steam headers and associated system.	As per the NIT.
4	Section-5.4 Lot-7 TQ Response INSTRUMENTATION	100 OF 127 Sr.No-26	18.3 18.3	OTS Hardware OTS Hardware	The referred clause states that: Hardware architecture will be composed of the followings: 1 (one) simulation computer and instructor workstation including 27" LED monitor and A3 colour printer - Terminals will be "emulated consoles", imitating aspect and functionality of real DCS consoles and using actual or look-alike operator keyboard 1 Licensor Model PC 2 (Two) Field Operator Station with 27" DUAL LED monitor for operation of the field equipment and for displaying Emulated ESD Panels (switches, lights, etc.) in graphical form. 1 No. Engg. With 27" LED monitor Station 2 Nos. Terminals that will be emulated consoles/console with functionality of selected DCS consoles and using actual or look-alike operator keyboard. For Trainee Operator Station, mouse along with QWERTY Keyboard and OEP keyboard shall be provided. Bidder's query: Bidder clarifies that in emulated OTS, separate Licensor Model PC and Engg. Stations are not applicable. Contractor shall supply one (1) no's of Simulation computer / Instructor workstation, two (2) no's of Field Operation stations and three (3) no's of emulated Trainee Operator Stations. Bidder also clarifies that in OTS with "emulated consoles", OEP keyboard is not supported for the trainee operator stations, instead QWERTY keyboard and optical mouse shall be provided. Bidder requests Owner/PMC to confirm Bidder's understanding.	As terminology of these listed items are based on OEM to OEM, therefore we will discuss this point during detailed engineering after selection of Control System Vendor.
5	[A] PC230/E-001/P-II/5.4 [B] PC230/ E/ 001/P-II / 5.2.3	[A] SHEET 40 of 127 [B] SHEET 67 OF 184	[A] 8.7.2 sub-3 [B] 6.6.7	[A] Ball valves [B] Ball / Plug / Butterfly Valves	According to document [A], it is stated that "Ball valves shall be trunnion-type suitable for bi-directional shut-off, unless otherwise specified." However, document [B] provides guideline, mentioning, "Ball valves shall be floating ball type / trunnion mounted type as per following:" Given the guideline specified in document [B], the contractor has interpreted that the design guideline from document [B] can be followed for pneumatically operated ball valves.	Bidder to follow [A] Section 5.4 for Instrumentation Ball Valves.