

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A Bidder:</b>							
<b>A PROCESS:</b>							
1	32687-11-PS-001-SW, Scope of Work (Process) :  32686-01-PS-001-SPL) Special Requirements for RCC Cooling Tower	16 of 25  4 of 8	5.12  3.3	Cooling Tower : Cell Capacity As per Scope of work (Doc No : 32687-11-PS-001-SW), Clause : 5.12 : Cooling Tower : Two (2) cells of induced draft type with RCC sump, EACH CELL capable of handling the MAXIMUM DUTY with provision for individual isolation for maintenance job. <b>Whereas</b> , as per Special Requirements for RCC Cooling Tower (Doc No : 32686-01-PS-001-SPL), Clause : 3.1.4 / Table-1 / S.No-4 : Induced draft counter flow closed loop RCC cooling tower in 2 cells with PVC fills. EACH CELL designed for independent handling of 60% of the rated flow required for the complete unit.	Owner / PMC to confirm the rated capacity (100 % Vs 60% of the rated flow required for complete unit) of EACH Cell.	The Tender document Special Requirements for RCC Cooling Tower (Doc No : 32687-01-PS-001-SPL) stands withdrawn. New document, Special Requirements for FRP Cooling Tower ( For OSBL) (Doc No : 32687-01-PS-001-SPL2) & Special Requirements for FRP Cooling Tower ( For ISBL) (Doc No : 32687-01-PS-001-SPL3) is issued along with corrigendum. Refer corrigendum point C1 in this regard.	
2	32687-11-PS-001-SW Scope of Work (Process) :  32686-01-PS-001-SPL) Special Requirements for RCC Cooling Tower	17 of 25  4 of 9	5.7.4  3.1.4 / Table-1 / S.No-4	As per Scope of work (Doc No : 32687-11-PS-001-SW), Page - 17 of 25, Clause : 5.7.4 : For detailed scope of work refer to special requirements for <b>FRP</b> cooling tower vide Doc. No. . <b>32687-01-PS-001-SPL</b> of this tender document.  In tender, the above document was not found. Instead one another document, Special Requirements for <b>RCC</b> Cooling Tower, (Doc No. : <b>32687-01-PS-001 SPL</b> on page no-1 of 9) and (Doc No. : <b>32686-01-PS-001 SPL</b> on page no- 2 of 9) was found.	(a) : Owner / PMC to confirm if RCC Cooling tower to be used OR FRP cooling tower to be used. (b) : Owner / PMC to provide the right document for special requirements for Cooling Tower (32687-01-PS-001 SPL Vs : 32686-01-PS-001 SPL)	The Tender document Special Requirements for RCC Cooling Tower (Doc No : 32687-01-PS-001-SPL) stands withdrawn. New document, Special Requirements for FRP Cooling Tower ( For OSBL) (Doc No : 32687-01-PS-001-SPL2) & Special Requirements for FRP Cooling Tower ( For ISBL) (Doc No : 32687-01-PS-001-SPL3) is issued along with corrigendum. Refer corrigendum point C1 in this regard.	
3	32687-11-PS-001-SW Scope of Work (Process) :  32687-11-PS-001-PH) Design Philosophy (Process)	16 of 25  10 of 13	5.12 5.12.2)  13.0	As per Scope of work (Doc No : 32687-11-PS-001-SW), Clause : 5.12 (5.7.2) : Cooling Water Circulation Pumps : <b>Three (3) no.</b> of horizontal centrifugal pumps, each capable of handling <b>50% of</b> maximum circulation rate shall be provided. <b>Whereas</b> , as per Design Philosophy (Process) (Doc No : 32687-11-PS-001-PH), Clause : 13.0 : Cooling water circulation pumps - <b>TWO (2) No. (1 Working + 1 standby)</b> on "Auto mode" shall be provided.	QUERY : a.Owner / PMC to confirm the Number of pumps and rated capacity for each pump (as % of total required capacity). b. Owner / PMC to confirm if standby pump to be designed for "Auto mode" or not ?	a) The Tender document Special Requirements for RCC Cooling Tower (Doc No : 32687-01-PS-001-SPL) stands withdrawn. New document, Special Requirements for FRP Cooling Tower ( For OSBL) (Doc No : 32687-01-PS-001-SPL2) & Special Requirements for FRP Cooling Tower ( For ISBL) (Doc No : 32687-01-PS-001-SPL3) is issued along with corrigendum.  b) For Cooling water pump in OSBL, automode need not be considered. For ISBL, the requirement of automode for Cooling water pumps shall be as per Process Licensor recommendation	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A</b>	<b>Bidder:</b>						
4	32687-11-PS-001-VDR Vendor Data Requirements (Process)	2 of 4	S.No - 16	Piping Material Classification	As per Vendor Data Requirements (VDR)(Doc No : 32687-11-PS-001-VDR), Piping Material Classification has to be submitted along with bid.	Piping Material Classification shall be submitted containing minimum details of fluid of service, MOC , Design Temperature & Pressure,	
	32687-03-PS-001-VDR Vendor Data Requirements (Piping)	1 of 1	S.No - 5.2		As per Vendor Data Requirements (VDR)(Doc No : 32687-03-PS-001-VDR), Piping Material Specification is NOT to be submitted along with bid.  QUERY (a) : Piping material classification is already part of bid (Refer Doc No. : 32687-11-PD-001-PC in Process Documents). Does Bidder have to provide compliance on this or anything else ?		
5	32687-11-PS-001-DB Design Basis	9 of 39	S.No : 3.3	LP Steam Conditions at Battery Limit. As per Design Basis Doc No : 32687-11-PS-001-DB), Clause.No-3.3, Steam conditions is mentioned as 8/5 ATA and 175 / 155 deg C.	Owner / PMC to confirm if the steam will be supplied at 8 ATA OR 5 ATA OR BOTH. Owner / PMC to confirm the Minimum / Normal / Maximum Supply conditions (Operating Pressure / Operating Temperature) of Steam at Battery Limit. Owner / PMC to confirm the Mechanical Design Pressure / Mechanical Design Temperature of supplied steam.	Bidder to confirm the required quality and quantity of steam required at the battery limit inclusive of both ISBL and OSBL. MP ateam at 8 kg/cm2g can be provided through PRDS system at the Battery limit	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A</b>	<b>Bidder:</b>						
6	32687-11-PS-001-DB Design Basis	12 of 39	S.No : 5.10	MP Steam @ Battery Limit	Owner / PMC to confirm if MP Steam will be provided at Battery limit or not. If yes, Owner / PMC to mention the supply conditions (pressure/temperature) also.	Bidder to confirm the required quality and quantity of steam required at the battery limit. MP steam at 8 kg/cm <sup>2</sup> g can be provided through PRDS system at the Battery limit	
7	32687-11-PS-001-DB Design Basis	12 of 39	S.No : 5.0 / 5.9	Plant Air @ Battery Limit	Owner / PMC to confirm if Plant Air will be provided at Battery limit or not. If yes, Owner / PMC to mention the supply pressure also.	Plant Air supply shall be under Bidder's Scope.	
8	32687-11-PS-001-DB Design Basis	12 of 39	S.No : 5.0	Coating Oil @ Battery Limit	Owner / PMC to confirm if Coating Oil will be provided at Battery limit or not. If yes, Owner / PMC to mention the supply conditions also.	Bidder to consider the requirement of these items till the commissioning of the plant. On giving technical specification & required quantity, owner will supply the same for SLTs & PGTR.	
9	32687-11-PS-001-DB Design Basis	12 of 39	S.No : 5.0	Defoamer @ Battery Limit	Owner / PMC to confirm if Defoamer will be provided at Battery limit or not. If yes, Owner / PMC to mention the supply conditions also.	Bidder to consider the requirement of these items till the commissioning of the plant. On giving technical specification & required quantity, owner will supply the same for SLTs & PGTR.	
10	32687-11-PS-001-DB Design Basis	12 of 39	S.No : 5.0	50% EG (Ethylene Glycol) solution @ Battery Limit	Owner / PMC to confirm if 50% EG (Ethylene Glycol) solution will be provided at Battery limit or not. If yes, Owner / PMC to mention the supply conditions also.	Bidder to consider the requirement of these items till the commissioning of the plant. On giving technical specification & required quantity, owner will supply the same for SLTs & PGTR.	
11	32687-11-PS-001-DB Design Basis	12 of 39	S.No : 5.1	Ammonia Mechanical Design Conditions at Battery Limit	Owner / PMC to provide Mechanical design conditions of liquid ammonia at battery limit.	Ammonia pressure envisaged at the battery limit is at 13 to 13.5 kg/cm <sup>2</sup> g and at the supply temperature of -33 to -30°C. Based on the process licensor requirement it may vary and the bidder has to do the detail engineering accordingly.	
12	32687-11-PS-001-DB Design Basis	14 of 39	S.No : 5.18	NPK Empty Bag specifications	Owner / PMC to provide Final NPK Product (DAP, NPK) Empty bag specifications (Size, bag material, etc).	Refer Annexure A-3 to the Corrigendum 1.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A Bidder:</b>							
<b>B ELECTRICAL:</b>							
1	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	12 OF 17	11	Earthing system	Please confirm that can we use GI plate earth electrode instead of Cast iron plate earth electrode? Please provide the soil resistivity report.	Tender condition shall prevail. Measuring soil resistivity is in the scope of the bidder.	
2	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	14 OF 17	16	Telephone System	Please provide the complete details of telephone system and existing Junction box.	Number of telephone connections required for establishing proper communication in the proposed plant shall be informed by the bidder. FACT shall provide sufficient lines through JFC Telephone cable at a junction box available in the existing plant area. Termination of cable in junction box, laying of telephone lines throughout the plant area for establishing telephone network, providing junction boxes for branching etc. are in the scope of bidder.	
3	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	9 OF 17	7 7.1	Controls and Monitoring	"Ready to start signal in LPBS for HV motor" from where this signal will come means whether this signal will come from DCS or Numerical relay of outgoing feeder.	Ready for start indication to LPBS of HV Motors shall be provided from 3.3KV Switch board of corresponding motors. That signal shall be provided in communication with DCS on satisfying process/ instrumentation/ electrical interlocks.	
4	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	9 OF 17	8 8.1	HV Switchboards	<b>Earth Switch:</b> Whether earthing switch is required at the incomer of 11 kV Switch board or not. If yes then client has to confirm that there is provision available at the outgoing feeders of their substation. This is required because if the Earth switch of new 11 kV panel is closed then somebody not close outgoing breakers located at client substation.	One number Earthing truck shall be provided for HT switch board.	

PRE-BID QUERIES - TECHNICAL (Lot 1)					Date :	14 & 15.01.2021
					Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply
A	Bidder:					
5	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	10 OF 17	8	MV Switchboards/MCC	For Emergency Switch Board (ESB), 1 no. of Bus coupler is asked. But the requirement of Bus coupler is not forseen because as the switch board is completely designed on emergency load. So, during healthy condition it will receive the power supply from Grid and in case of grid supply failure DG set will fed the power to switch board. Both incomers are electrically interlocked.	Tender condition shall prevail.
6			8.2		We propose the motor starter selection criteria at each voltage ratings with our selection criterias as listed below: please confirm our slection is acceptable or not. Motor rating up to 30 kW : DOL Motor rating from 37 kW to 150 kW : Star-Delta Motor rating above 150 kW : Soft starter	Tender condition shall prevail for motors rated below 150kW .



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A Bidder:</b>							
<b>C INSTRUMENTATION:</b>							
1	32687-01-PS-001 SPL (INST)_R0	3 OF 47	5.2.1. (a)	New control room shall be constructed within the battery limits for the proposed plant.	As mentioned about new control room, in that case is there any integration also required with new and old DCS system? Or this new system totally independent, Kindly Clarify	Integration is not required with existing control room.	
2	32687-01-PS-001 SPL (INST)_R0	4 OF 47	5.2.1. (c)-V	A hardwired console also shall be provided near the control desk to manually activate trips if any on emergency situations and for important indications.	This point is only applicable when critical trip / alarm will required and shall be decided during detail engineering.	Hard wired console is mandatory. The IO in this console shall be decided during detailed engineering.	
3	32687-01-PS-001 SPL (INST)_R0	6 OF 47	5.2.1.3	The documentation racks shall be suitable for storage of one complete set of all documents and drawings of the project in control room (As built documents and drawings, Equipment catalogs, maintenance manuals, operation manuals, system design documents and philosophies, loop drawings, P&IDs, PFDs etc) and for storage of log reports for min 2 years.	Client to note that we will provide 1 No. steel almirah for documentation rack.	Bidder to confirm the same is sufficient for storage of all documents and drawings envisaged for storage in control room. It is advised to consider one separate Racks/ Almirah for log reports, one separate for Maintenance manuals and catalogs and one separate for project related documents and drawings (Other than OEM drawings and documents).	
4	32687-01-PS-001 SPL (INST)_R0	6 OF 47	5.2.1.3	All the furniture shall be of heavy duty Type	Kindly explain the meaning of heavy duty type or provide the specs for reference.	The furniture shall withstand rough handling normally expected in control room and shall be of reputed make	
5	32687-01-PS-001 SPL (INST)_R0	7 OF 47	5.2.2	Console for OWS / EWS for bagging machine control room	Can we consider same close top console as like as main control room?, Kindly Clarify	Bidder's understanding is correct	
6	32687-01-PS-001 SPL (INST)_R0	9 OF 47	5.3.6	Stack Monitoring Requirement	We assume that necessary approvals for data transfer to CPCB / KSPCB will be taken care by Owner.	Bidder's understanding is correct	
7	32687-01-PS-001 SPL (INST)_R0	26 OF 47	10.11	Level gauges- Reflex/ Magnetic- Flanged Process Connection- 20NB (3/4")	Can we go with 25 NB process connection in case of Flanged Level Gauge?, Kindly confirm.	OK, noted	
8	32687-01-PS-001 SPL (INST)_R0	28 OF 47	10.13	Separate instrument relay cabinet is envisaged and the same shall be located in MCC	As per our understanding you want remote IO panel in case of MCC IO's which will located in MCC room. Kindly Explain.	Remote IO is not required. The relays used for MCC commands or feedbacks shall be housed in one panel (Interposing relay cabinet) which shall be located in MCC.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A Bidder:</b>							
<b>D CIVIL</b>							
1	32687-12-PS-001-DP_R0	7 OF21	1.1	Detailed Scope Soil investigation	Please provide Priliminary Report for bid quantity estimation	Soil report as a guideline, will be Uploaded along with Prebid query replies	
2	32687-12-PS-001-DP_R0	8 OF21	1.2	Detailed Scope Grading & Levelling	Scope for Topographic Survey is not clear please provide the complete details.	The grade levels at the proposed facilities are indicated in Drg No 32687-03-AP-00001. The land is pretty even which will not be needing any major cutting and filling. The micro garding part may have to be done during detailed engineering. Topography survey detail will be shared during detailed engineering stage.	
3	32687-12-PS-001-DP_R0	3 of 21		General Demolition	Please provide any Existing Drg. vs Site Conditions for our better understanding.	Please refer 32687-03-AP-00001 R1. There is no Dismantling in Bidder's scope.	
4	32687-12-PS-001-DP_R0	3 of 21		General Approval of Design Basis Concept Note, Drawings, material sample test report etc.	Documents will be classified in three categories: 1. Approval 2. Review 3. Information. Please clarify the category for document to be submitted after award of contract.	All engineering Design document and drawings shall be submitted for PMC's approval. Please check Deliverable list mentioned along with Tender	
5	32687-12-PS-001-DP_R0	4 of 21		General Statutory Approvals.	Bidder to provide assistance shall be given to client for apporval. Please clarify this understanding is correct.	Bidder's Understanding is correct.	
6	32687-12-PS-001-DP_R0	10 of 21	1.7	Contaminated Rain water & Oily Water sewer. Data centre Drains.	Please clarify the Tie- in point for followings drain points 1)OWS. 2)CRWS 3)CBD Cooling water lines 4)Storm water drain. 5)Sanitary Drain.	OWS, CRWS philosophy is mentioned in Process Design basis. Storm water drain shall be connected to existing plant drain as indicated in Drg no 32687-03-AP-00001 R1. Sanitary drains shall be in to the soak pit as mentioned in Tender.	
7	32687-12-PS-001-DP_R0	4 of 21		General.4. New Conveyor Gantry from NPK Plant to Existing Urea Bulk Silo.	Please provide the Ligible copy of drawings will be required for our better understanding	Available copies have been shared already.	

						Date :	14 & 15.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference Hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>A</b>	<b>Bidder:</b>						
8	32687-12-PS-001-DP_R0	5 of 21		TENTIVE LIST OF BUILDINGS 5. New Conveyor Gantry from NPK Plant to Existing NP Gantry.	Please provide the Ligible copy of drawings will be required for our better understanding.	Available copies have been shared already.	
9	32687-12-PS-001-DP_R0	4 of 21		General Bagging Plant and associated conveyor Gantry, loading facilities.	Please clarify this facility is Existing or New. If existing facility is there Remodelling, Strengthening if repaired, then as is status report is required from client.	Remodelling, Strengthening is in Clinet's scope. Health study report will be shared during detailed Engineering time.	
10	32687-12-PS-001-DP_R0			General Pipe Rack/Pipe Support.	.Space for Routing of pipe rack & pipe corridor to be define.	Shall be as indicated in Drg No. 32687-03-AP-00001	
11	32687-12-PS-001-DP_R0	8 of 21	1.2	SITE GRADING Contour Survey	Please provide the details of Contour Survey report.	Will be shared during Detailed Engineering.	
12	32687-12-PS-001-DP_R0	10 of 21	1.6	SURFACE DRAINAGE STORM WATER Storm water drain upto tie-up with existing drain. M.O.C- R.C.C. Rectangle draign with G.I Grating sizing of drain-peak discharge corrsponding to rain/firewater	Tie-up point for drain to be marked on plot plan. Can we use FRP moulded grating in place of Galvnized MS grating. Client to confirm.	Please refer 32687-03-AP-00001 R1. Bidder can utilise FRP/GRP moulded gratings in in non fire hazardous area and non vehicular movement area. The FRP or GRP gratings shall be as per specs for UV resistant and heat resistant.	
13	32687-12-PS-001-DP_R0	11 of 21	1.9	SEWAGE DISPOSAL SYSTEM.Lateral Sewer- Design for 3 lines arrange floor running 1/2 tall. Main sewer- 2/3 full flow Vmin/new = 0.75 m/sq. Material - Salt Glazed Stone ware pipe (100mm dia meter) Man hole- R.C.C. M30	Can we replace Material sustliated by HDPE Pipe. Please confirm	UPVC pipe Type B as per IS 13592 shall be used. Please refer Corrigendum-1 in this regard.	
14	32687-12-PS-001-DP_R0	14 of 21	1.14	SURFACE FINISHING 02 Years guarantee for painting.	Manufactures certificate shall be furnished for client review.	Painting shall be as per Specs and manufacturer's certificate shall be furnished for review. The remaining shelf life at the time of application shall be approved by Engineer in Charge. Please refer corrigendum-1 in this regard.	
15	32687-12-PS-001-DP_R0		3	Construction Statutory Approval	Statutory approval should be takes up by owner, bidder will assist in getting approval through necessary drgs & dves.	Tender condition shall Prevail. Please refer Corrigendum-1 in this regard.	



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
A	Bidder:						
16	32687-12-PS-001-DB_R0		4.1	CONCRETE Concrete- P.C.C.- 1:5:10 P.C.C - 1:3:6 for footing. M35 for foundation. M30 for super structure. U/G Concrete painted with Bitumen 20/30 Grade. Holding down Bolt-fy-250M/m2 (4.6 Grade) Holding down Bolt-fy-250M/m2 (4.6 Grade) Holding down Bolt-fy-250M/m2 (4.6 Grade) Inserts & Embeded item galvanised.	Galvanisation will be dmaged on attaching elements to inserts	Galvanisation is not applicable for inserts. Galvanisation Shall be provided only for embedded items exposed to atmosphere like rungs for access in Pits and Manhole.	
17	32687-12-PS-001-DB_R0		4.2	STRUCTURAL STEEL Structural Steel Roofing sheet Reiforced cement Corrugated sheet.	IS 432 Compliance Non-Asbestos fibre	Precoated GI Sheet Should be adopted as per pesent trend.	Tender Condition prevails

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	14 & 15.01.2021
						Venue :	FEDO Conference Hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
A	Bidder:						
<b>PIPING</b>							
1	General			Plot Plan	Client to provide Plot plan in AutoCAD format with marking of Area of proposed plant and Battery Limit.	Refer Annexure D1 in corrigendum in this regard.	
2	General			Plot Plan	Client to specify process drain, Sanitary sewers, Chemical Sewer and oil water sewer philosophy.	For Process drain refer 32687-11-PS-001-DB. For other drain refer 32687-12-PS-001-DP	
3	General				Client to provide Tie-in points philosophy for connection with existing lines.	Tie-in valve location marked in the revised plot plan 32687-03-AP-0001 Rev-1 uploaded as Annexure D1 to corrigendum.	
4	32687-03-PS-001 SPL	2		Software for 3D modelling	Bidder currently using latest version of 3D software PDMS's E3D by AVEVA. Client to confirm.	Tender condition prevails	
5	03ES010 / 10	18	1.2.1-i	Scope of Supply of Piping BOQ	Can we carry out Prefabrication in LSTK's fabrication yard near / at site. Client to confirm However 10% excess pipe shall be supplied for all sizes and materials.	Room for carry out Fabrication to be provided by owner. Tentative Location identified is opposite side of loko shed.(Low lying area)	
6	03ES001 / 10	7	2.12.4	Scope of Supply of Piping BOQ	The minimum radius for pipe bends shall be 5 times the nominal pipe size for up to 350 NB inclusive and 6 times the nominal pipe size for pipe over 350 NB size. Client to confirm that this requirement is applicable for all services or any particular service.	Minmum elbow radius in general shall be 1.5D. Use of pipe bends are only for large radius( greater than 1.5D) if required due to fluid characteristics or plant performance.	
7	32687-03-AP-00001	-		Existing Facilities	Client to provide -Drawing of existing Defunct Urea conveyor drawing	Available drawings provided with tender.	
8	32687-03-AP-00001	-		Existing Facilities	Compound wall around new NPK plant. This compound wall need to be demolished. Client to confirm.	Demolition is in Client's scope . Clarify the required area of compund wall i.e area to be demolished.	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub :</b>	<b>NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
<b>A</b>	<b>PROCESS:</b>						
1	32687-11-PS-001-DP Project Description	5 OF 7 & 6 OF 7	3.3	The NPK Plant shall be:	(i) FFIL would like to know reason for 20-20-0-13 grade being engineered with PR+PN system & DAP with PN system.  (ii) FFIL would like to know reason for the plant not being designed for potash handling equipments etc.  (iii) Production of 28:28:0 & 14:35:14 will require special plant design (Drying System, etc.) as these grades of fertilizers are high in urea.	Client Requirement. Tender conditions shall prevail.  Client Requirement. Tender conditions shall prevail.  For all NP grades other than 20:20:0:13 & DAP, equivalent capacities achievable considering plant designed for 1650 TPD NP 20:20:0:13. For all NPK grades other than 10:26:26 equivalent capacities achievable considering plant designed for 10:26:26	
2	32687-11-PS-001-SW Scope of work	4 OF 25	ix)	BIDDER shall provide and be responsible for the task summarised below but not limited to the following....	The following scope shall be under OWNER's scope of work: 4. Soil survey & geo-technical studies  5. Site clearing & cleaning.  6. Environment Related Approvals  12. Construction of Temporary Facilities, if required  35. Strengthening and/or Renovation of existing facilities i.e. Existing Urea Silo, Urea Bagging plant & Urea Gantry if required  44. FFIL shall inform OWNER the names of HAZOP Consultant (during detailed engineering) for reference. However, It will be sole discretion of FFIL to select any one or more . FFIL request OWNER to oblige us by sharing the HAZOP status/report of existing plant.  46. The Insurance of existing property will be taken by the OWNER. Kindly confirm the same.	Refer Clause 1.6 of 32687-11-PS-001 DB, Geo technical investigation report shall be shared to the bidder reference. However, soil investigation is to be carried out afresh by the BIDDER for further detail information and design purpose.  Site will be cleared by Owner. Bidder have to clear of any bushes or grass.  Bidder scope comprising of liasoning, Co-ordination & assistance for all the Satutory/Enviromental related approvals .  Construction of temporary facilities Will be in Bidder Scope  Refer civil corrigendum in this regard  Bidder can propose Hazop Consultant & appoinment of Hazop consultant shall be based on sole approval from the owner.  Insurance of the existing property will be taken as per FACT rules. Insurance will be taken by owner for Urea Bagging Plant & Urea Silo.	

						Date :	19.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	Video Conferencing
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
3	32687-11-PS-001-SW Scope of work	6 OF 25	2	PROCESS TECHNOLOGY, BASIC ENGINEERING & SUPPORT SERVICES FROM PROCESS LICENSOR.	(i) FFIL would like to know reason for 20-20-0-13 grade being engineered with PR+PN system & DAP with PN system. (ii) FFIL would like to know reason for the plant not being designed for potash handling equipments etc. (iii) Production of 28:28:0 & 14:35:14 will require special plant design (Drying System, etc.) as these grades of fertilizers are high in urea.	Refer to Pt No.1	
4	32687-11-PS-001-SW Scope of work	13 OF 25	5.3	1. Common storage shed shall be covered and have capacity of 5000 MT (Urea/Filler/Off spec.) Design and Engineering, supply of equipment's erection etc. for the Muriate of Potash storage & handling etc. are EXCLUDED from the scope of Bidder.	As per clause no. 4.1.15 of specification 32687-01-PS-001 PH2 page no. 5 of 18 in MECHANICAL section , total storage of raw material shall be considered 5000MT (2000MT for urea and 3000MT for filler material). However, no provision shall be kept for Muriate of Potash for receiving, unloading, storage and transfer to process plant. -FEDO is requested to confirm.	Bidders understanding is correct. Refer Doc. 32687-11-PS-001 DB in line with document 32687-11-PS-001 PH2 regarding the scope for MOP in the plant.	
5	32687-11-PS-001-SW Scope of work	14 & 15 OF 25	5.5	iv) All the bagging machines shall be duplex bagging machines with single sprout.	Duplex Bagging Machines with single sprout seems to be not possible to accommodate within available (existing) height. i.e. from existing bunkers outlet to Bagging floor level..However, FFIL shall check and confirm during detailed engineering. If not, then two nos. simplex machines with common slat conveyor <b>per bagging bunker</b> shall be provided. -FEDO to is requested to review & confirm acceptance.	Tender condition prevails. Above clause 5.5 iv of doc 3268732687-11-PS-001-SW refers to outlet of Bagging Machine. Spout as per table 7.1 point No. 6 of tender document 32687-01-PS-001 PH2 refers to single spout of the bagging machine. GA Drawing with details of existing bunker outlet and height details are furnished with the corrigendum. Minor modification to the bunker outlet may be carried out to accommodate the duplex bagging machine. Refer corrigendum point C10 in this regard.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	19.01.2021
						Venue :	Video Conferencing
Sub :	NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
6	32687-11-PS-001-SW Scope of work	16 OF 25	5.11	The DG set capacity selection should be based on meeting of the emergency requirement in case of power failure.	Additional equipment from NPK Plant, Cooling Tower System (Cooling Tower Fan, Pump) & Effluent Pump of NPK Plant will also be connected to DG Set.	Any equipments in addition to the clause 5.11 from the process plant to the DG Set shall be as per process licensor recommendation for the safe shutdown of the plant. Refer corrigendum in this regard OSBL Cooling Tower Pump and Fan need not be connected to the DG Set.	
7	32687-11-PS-001-SW Scope of work	17 OF 25	5.14	Central Control Laboratory as recommended by the process licensor shall be provided.	Kindly confirm whether the glassware required for analysis is to be included as well. Location of central laboratory shall be decided during detailed engineering and finalised. It may be at control room or any suitable location.-FEDO to note and confirm.	Laboratory equipment provided as Annexure 2.0 of 32687-11-PS-DB is minimum. Further to this, any additional laboratay equipments required as per Process licensor shall be provided.	
8	32687-11-PS-001-SW Scope of work	18 OF 25	5.21	For new system and it shall be integrated to the existing system.	Kindly clarify the scope of integration within existing system for the same.	Interconnection of the fire alarm panel with the existing main fire alarm panel located at Fire station Phase 1 shall be done by the Contractor(Refer clause 11.3.1 of tender doc 32687-01-PS-001 PH3.	
9	32687-11-PS-001-SW Scope of work	18 & 19 OF 25	5.23	In the Proposed NPK Plant, dehumidification systems for the offsite facilities are envisaged as follows I. Existing Urea Godown (Bulk Product Storage) (DH-1) II. Raw Material storage (DH-2) & III. Bagging plant (DH-3)	1. FFIL will prepare the additional vendor list for various equipments & items.	Refer corrigendum regarding SV list and conditions for the inclusion of additional vendors.	
					2. FEDO to furnish the vendor list for the following equipments/items: A. VAM System B. Dehumidification System C. Cooling Tower D. Combustion Chamber with Burner	Refer corrigendum regarding SV list and conditions for the inclusion of additional vendors.	
					Kindly share the basis & calculations for arriving at the capacity & TR of dehumidification system as specified in the revised tender.	Specified TR is the minimum requirement.	
10	32687-11-PS-001-DB Design Basis	7 OF 39	2.6 (B)	Specification of Raw Material-Sulphur Muck	As we understand from the properties given in tender for sulphur muck, it will have solid lumps. FFIL would like to know min. and max lump size and % with sieve analysis of Sulphur Muck. Our process licensor shall review and confirm. After confirmation from licensor the scheme for unloading, storage, and crushing and transferring to Process plant shall be mutually discussed with licensor, FFIL and Owner. FEDO is further requested to note that FFIL have not considered any lump crusher in raw material handling system. -FEDO is requested to furnish required details and note above point.	Noted.	



						Date :	19.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	Video Conferencing
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
11	32687-11-PS-001-DB Design Basis	8 OF 39	2.6 ( C )	Specification of Raw Material-Gypsum	Owner is requested to note that in the present plant design FFIL is not envisaging use of gypsum as a filler in NPK Plant production due to high % moisture & low pH of gypsum.	Noted.	
12	32687-11-PS-001-DB Design Basis	12 OF 39	5.4	-	Kindly define the scope of work for Muriate of Potash system.	Refer Doc. 32687-11-PS-001 DB in line with document 32687-11-PS-001 PH2 regarding the scope for MOP in the plant.	
13	32687-11-PS-001-DB Design Basis	16 OF 39	6.1	-	Kindly provide the details of supplier & scheme of existing dehumidification system.	Details not available	
14	32687-11-PS-001-DB Design Basis	22 OF 39	7.15	-	Kindly confirm that the DESIGN MARGIN is to be minimum 10% over the rated capacity for MAIN PLANT as well as UTILITY units.	Design margin shall be considered as minimum unless specified	
15	32687-11-PS-001-DB Design Basis	23 OF 39	8.1.8	The scrubbing system shall be designed considering the maximum limit for the Fluorine in phosphoric acid as 1.8 weight per cent % (max).	Kindly confirm the value of % F in Phosphoric Acid as the value of % F in Pg. No. 5 OF 39 (2.2 PHOSPHORIC ACID) is 1.1 %	Above clause stands deletd. Flourine content in the Phosphoric acid to be considered as 1.1%.	
16	32687-11-PS-001-DB Design Basis	23 OF 39	8.1.9	Available fillers Sulphur muck/ gypsum shall be primarily considered as fillers for all NP/NPK grades. For Sulphur muck addition from the common shed to plant suitable crushers shall be considered. Typical sample will be provided to bidders for analysis if required.	As we understand from the properties given in tender for sulphur muck, it will have solid lumps. FFIL would like to know min. and max lump size and % with sieve analysis of Sulphur Muck. Our process licensor shall review and confirm. After confirmation from licensor the scheme for unloading, storage, and crushing and transferring to Process plant shall be mutually discussed with licensor, FFIL and Owner. FEDO is further requested to note that FFIL have not considered any lump crusher in raw material handling system. -FEDO is requested to furnish required details and note above point.  Owner is requested to note that in the present plant design FFIL is not envisaging use of gypsum as a filler in NPK Plant production due to high % moisture & low pH of gypsum.	Noted	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
17	32687-11-PS-001-DB Design Basis	25 OF 39	8.1.30	The Bidder shall provide equipment's for the control laboratory as specified in Annexure 1. Additional lab equipment's required or proposed, if any based on Process Licensor requirement, the BIDDER shall propose the same with make, model & cost in their technical/price bid separately and shall be finalised during price bid evaluation. The cost of these equipment's shall include in the price bid evaluation.	Kindly confirm whether the glassware required for analysis is to be included as well. Location of central laboratory shall be decided during detailed engineering and finalised. It may be at control room or any suitable location.-FEDO to note and confirm.	Laboratory equipment provided as Annexure 2.0 of 32687-11-PS-DB is minimum. Further to this, any additional laboratay equipments required as per Process licensor shall be provided.	
18	32687-11-PS-001-DB Design Basis	32 OF 39	8.2.6	-	1. FFIL will prepare the additional vendor list for various equipments & items. 2. FEDO to furnish the vendor list for the following equipments/items: A. VAM System B. Dehumidification System C. Cooling Tower D. Combustion Chamber with Burner Kindly share the basis & calculations for arriving at the capacity & TR of dehumidification system as specified in the revised tender.	Refer reply for pt no.9	
19	32687-11-PS-001-DB Design Basis	33 of 39	9	-	As per Licensor recommendation, the MOC is as follows: <b>Liquid Ammonia Spargers MOC:</b> SS 316L/Six Special Rubber Hoses. <b>Pipe Reactor MOC:</b> SS 904L, SS 904L+ PTFE/SS316L <b>Granulator Pre-Scrubber MOC:</b> SS 904L/FRP <b>Tail Gas Scrubber MOC:</b> RLCS/FRP with SS316L/PP Internals  Kindly confirm the same.	Liquid Ammonia Spargers MOC: SS 316L / Six Special Rubber Hoses. Pipe Reactor : Kindly confirm with Process Licensor. Granulator Pre-Scrubber MOC: SS 904L Tail Gas Scrubber MOC: RLCS with SS316L/PP Internals MOC of Spray nozzles for TGS is Duplex 2205.	
20	32687-11-PS-001-DB Design Basis	37 of 39	11.4	-	Kindly specify the scope of work in relation to connecting the emissions with CPCB system for online monitoring.	Refer to 32687-01-PS-001 SPL (INST) Cluse 5.3.6	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	19.01.2021
						Venue :	Video Conferencing
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
21	32687-11-PS-001-PH Design Philosophy	9 OF 13	11	Wagon loading is the key way of product movement in FACT-CD. Two types of wagons are used for loading: • Wagon BCNA – has a capacity of 63.8 Tones / 1276 bags. • Wagon BCN – has a capacity of 60.8 Tones / 1216 bags. For loading 21 wagons time considered is 5 hrs. and for both 32 & 42 wagons time allotted is 7 hrs. Thus to avoid demurrages the bagging plant shall have design capacity of 225 TPH	The contractor's scope of work does not include wagon loading system.	Bidder understanding is correct. Details given for reference only.	
22	32687-11-PS-001-PH Design Philosophy	11 OF 13	14	Diesel Generator (DG) set along with load bank for DG set testing shall be provided. DG set capacity selection should be based on meeting of the emergency requirement in case of power failure. The equipment connected on DG set shall be as below: 1. Emergency Lighting 2. Lift -1 (No.) 3. Control System 4. Battery Charger 5. UPS	Additional equipment from NPK Plant, Cooling Tower System (Cooling Tower Fan, Pump) & Effluent Pump of NPK Plant will also be connected to DG Set.	Refer reply to Point no.6	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
23	32687-11-PS-001-PH Design Philosophy	12 OF 13	15.3	MANUAL CALL POINTS in control room, compressor house, MCC and DG set room and any other strategic locations and it shall be integrated to the existing system.	Kindly clarify the scope of integration within existing system for the same.	Refer reply to point no.8	
24	32687-11-PS-001-PGT Performance Guarantee Test Run	5 OF 15	1.3.3	a) Product Bulk Storage (Existing Urea Godown) shall guarantee minimum quantity of 82000 Nm3/hr of dehumidified air at the battery limit of the storage building and the dehumidified air shall be maintained below 45% Relative Humidity at 26 °C.	1. FFIL will prepare the additional vendor list for various equipments & items. 2. FEDO to furnish the vendor list for the following equipments/items: A. VAM System B. Dehumidification System C. Cooling Tower D. Combustion Chamber with Burner Kindly share the basis & calculations for arriving at the capacity & TR of dehumidification system as specified in the revised tender. We will discuss the PGT section separately.	Refer reply to point no.9	
				b) Proposed Raw Material Storage (Urea portion) shall be provided with dehumidified air for the urea storing area (capacity 2000 MT). Bidder shall guarantee minimum quantity of 9000 Nm3/hr of dehumidified air at the battery limit of the storage building and the dehumidified air shall be maintained below 45% Relative Humidity at 26 °C.			

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
				c) For the bagging plant, Bidder shall guarantee minimum quantity of 9000 Nm <sup>3</sup> /hr of dehumidified air at the battery limit of the bagging floor and the dehumidified air shall be maintained below 60% Relative Humidity at 26 °C.			
25	32687-11-PS-001-SW Scope of work	10 OF 25	3.3	Online vibration measurement system for critical equipment (Furnace fans and Dryer Fans).	Kindly specify for which Furnace Fan this is required.	Online vibration measuremnt for critical equipments shall be as per process licensors recommendations.	



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	19.01.2021
						Venue :	Video Conferencing
Sub :	NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
26	32687-11-PS-001-PH Design Philosophy	10 OF 13	13	Cooling tower having TWO (2) cells	Kindly confirm whether the Cooling Tower will be with 2 Cells, both operating or 2 Cells. 1 Working & 1 Standby. Further reference can be found in 32687-11-PS-001-SW (Pg. No. 16 OF 25) & 32686-01-PS-001 SPL (Pg. No. 4 OF 9)	The Tender document Special Requirements for RCC Cooling Tower (Doc No : 32687-01-PS-001-SPL) stands withdrawn. New document, Special Requirements for FRP Cooling Tower ( For OSBL) (Doc No : 32687-01-PS-001-SPL2) & Special Requirements for FRP Cooling Tower ( For ISBL) (Doc No : 32687-01-PS-001-SPL3) is issued along with corrigendum. Refer corrigendum point No. C1 in this regard	
27	32686-01-PS-001 SPL	3 OF 9	3		The proposed system shall supply the maximum cooling water requirements envisaged for the complete system and includes but not limited to the Ammonia Tank holding, refrigeration and unloading system inclusive of condenser, gas cooler, compressor, pump seal system etc, instrument air system, side stream filter, backwash/ blowdownetc. The circulation pump flow (CW pump flow) (2 Working +1 Standby) is to be considered accordingly. The CW flow through the standby equipments (Compressor, condenser, pump sealsetc) are also to be considered while fixing the requirements. The proposed system is of closed loop type where the return hot water is directly fed back to cooling tower. The Cooling Tower will supply Cooling Water to NPK Plant & not to Ammonia Storage & Handling System. Kindly confirm the same.	Refer Reply Point no.26	
28	32687-01-PS-001 SPL1	1 OF 7		-	Kindly note that FFIL scope will not include the AMC for VAM & HVAC.	Regarding requirements of AMC for VAM and HVAC, Tender conditions as per doc 32687-01-PS-001 SPL1 (SPECIAL REQUIREMENTS FOR POST WARRANTY COMPREHENSIVE ANNUAL MAINTENANCE CONTRACT (PWCAMC) FOR VAM & HVAC)shall prevail. Also refer commercial conditions of the tender.	
29	32687-02-PS-001 VL	-	-	-	1. FFIL will prepare the additional vendor list for various equipments & items. 2. FEDO to furnish the vendor list for the following equipments/items: A. VAM System B. Dehumidification System C. Cooling Tower D. Combustion Chamber with Burner	Refer annexure to corrigendum regarding SV list and conditions for the inclusion of additional vendors.	

						Date :	19.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	Video Conferencing
Sub :	NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
B	Bidder:						
30	01ES057/94	2 OF 4	2.10.0	1. A separate cooling tower shall be provided for dehumidification system	1. FFIL is proposing a common cooling tower for complete Dehumidification system & NPK Plant VAM system instead of opting for individual cooling tower for each Dehumidification System.	If cooling tower required in the ISBL saperate Package cooling tower package shall be considered. Refer corrigendum point No. C1 in this regard	
					2. Kindly confirm whether the MOC & specification of cooling tower shall be as per 32687-01-PS-001 SPL or 01ES057/94 i.e. RCC or Timber.	The Tender document Special Requirements for RCC Cooling Tower (Doc No : 32687-01-PS-001-SPL) stands withdrawn. New document, Special Requirements for FRP Cooling Tower ( For OSBL) (Doc No : 32687-01-PS-001-SPL2) & Special Requirements for FRP Cooling Tower ( For ISBL) (Doc No : 32687-01-PS-001-SPL3) is issued along with corrigendum.Refer corrigendum point No. C1 in this regard	
31	32687-11-PS-001-DB	5 OF 39	1.6	Geotechnical Investigation Report shall be shared to the bidder during pre-bid meeting for reference.	FFIL requests FEDO to provide the Soil Investigation Report (of land/site where the proposed NPK Plant, RMH system etc. will be installed) before the Pre-Bid meeting.	Geo technical investigation report shall be shared to the bidder reference. However, soil investigation is to be carried out afresh by the BIDDER for further detail information and design purpose.	
32	FEDO spec. no. 32687-01-PS-001-PH2	8 of 18 (PDF page no. 59 of 275)	5.7	Off- spec oversize material coming from the screens shall be transferred to the lump crushers. Bidder to provide crusher of adequate capacity as per licenser's specification	Lump crusher is <b>not required</b> for reclaimed product stored in Urea silo as oversize and fines (both) shall be recycled to Process plant. Please refer to FEDO Flow Diagram Drg. No. 32687-11-SF-001 -FEDO to is requested to confirm acceptance.	Clause 5.7 of document 32687-01-PS-001-PH2 (Page 8 of 18) is subclause of clause 5.0, titled "NPK process plant". Sub clauses applicable only for items under the main clause purview.	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
33	FEDO spec. no. 32687-01-PS-001-PH2	12 of 18 (PDF page no. 63 of 275)	6.2.13 and 6.3.2	Material of construction of all the items required for the system and in contact with complex fertiliser shall be of min. SS 304.	FFIL presume that these clauses are applicable only for the screen(s). However, FFIL wish to clarify that <b>all bucket elevators</b> and its components like buckets,casing,etc. shall be made from Carbon Steel as per clause no. 5.5.7 on page no. 8 of 18 (PDF page no. 59 of 275) -FEDO to is requested to confirm acceptance.	clause 6.2.14 of document 32687-01-PS-001-PH2 (Page 11 of 18) is subclause of clause 6.2, titled "TRIPPER UNIT/ SHUTTLE CONVEYOR" . clause 6.3.2 of document 32687-01-PS-001-PH2 (Page 12 of 18) is subclause of clause 6.3, titled "COMPLEX FERTILISER SCREEN HOUSE". clause 5.5.7 of document 32687-01-PS-001-PH2 (Page 8 of 18) is sub-subclause of clause 5.0, titled "NPK process plant". Sub clauses applicable only for items under the main clause purview. Refer corrigendum pont C7 regarding MOC of bucket elevator for the cases where MOC not specifically mentioned.	
34	FEDO spec. no. 32687-01-PS-001-PH2	12 of 18 (PDF page no. 63 of 275)	6.3.3	No. of screen shall be decided on the basis of type of product handling and reclamation method selected (Here Pay loader feed type through grizzly bar). Screen shall of linear motion polishing screen type. Total screen capacity shall be of min. 300 TPH rated capacity.	Max. capacity of screen available in the market is 250TPH (Design).To meet the tender requirement of rated capacity of 300TPH (min.).Then two screens shall be required, each screen shall be of 150TPH and working simultaneously. -FEDO is requested to review or shall be discussed.	Tender condition is explicit.	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
35	32687-11-PS-001-SW Scope of Work	25 of 25 (PDF page no. 34 of 117)	5.7	Inside Silo and at discharge of BC-03 i.e. earlier Conveyor no. U4	It will be difficult to accommodate screens inside silo due to height restrictions. FFIL suggest to locate the screen (s) outside the silo and at the end conveyor BC-03.i.e. earlier urea conveyor no. U4. A Bucket elevator is required to feed screen(s) so as to get proper chute angles and accommodate belt conveyors to recycle the reject to process plant. -FEDO is requested to confirm acceptance.	Accepted	
36	FEDO spec. no. 32687-01-PS-001-PH2	14 of 18 (PDF page no. 65 of 275)	7.3.3	Bunkers/Hoppers shall be provided with vibrators (for metallic hoppers/bunkers), ultrasonic level indicator etc. The angle of conical portion of bunkers / hoppers shall be kept as 55° with the horizontal.	FFIL suggest no vibrators, level indicators are required for reclaiming (underground) hoppers for payload feed. -FEDO to is requested to confirm acceptance.	Bidders understanding is correct. Refer Flow diagram for Raw material storage and reclamation facility, attached with the corrigendum. Referer corrigendum point C11 in this regard.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	19.01.2021
						Venue :	Video Conferencing
Sub :	NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
37	FEDO spec. no. 32687-01-PS-001-PH2	6 of 18 (PDF page no. 57 of 275)	5.1.3	Hoppers shall be provided with vibrators, ultrasonic level indicator etc. The angle of bottom portion of hoppers shall be kept as 55° with the horizontal. with the horizontal.	<p>1) In the raw material handling system and product handling &amp; bagging plant all hoppers (i.e. receiving hoppers from payloader feed) shall be underground and of capacity 3 m<sup>3</sup> (approx) . Therefore, FFIL are of opinion that vibrators are not required . Furthermore, ultrasonic level indicators for these hoppers are also not required &amp; will not work because of payloader feed operation. In addition, no feeder is provided at the bottom. Instead , all hoppers shall be provided with manual slide gates.</p> <p>2) As far as exisitng bagging bunkers are concern, we understand that these bunkers are in civil construction and therefore, it will not possible to install vibrators. Further, bunkers are having open top with grizzly fixed . Therefore, ultrasonic level indicators not possible to install.</p> <p>-FEDO is requested to review &amp; confirm acceptance.</p>	<p>Clause 5.1.3 of document 32687-01-PS-001-PH2 (Page 6 of 18) is sub-subclause of clause 5.0, titled "NPK process plant". Sub clauses applicable only for items under the main clause purview.</p> <p>1) Refer Flow diagram for Raw material storage and reclamation facility, attached with the corrigendum. Referer corrigendum point C11 in this regard. Tender conditions shall prevail for hoppers in NPK process plant and bagging plant.</p> <p>2) Refer clause 7.3.3, vibrators requirement specified only for metallic hoppers/bunkers. Regarding level measurement-If ultrasonic level measurement is not feasible, depending on the type of bunker, the following level measurement methods shall be considered in the order of precedance- 1. Non Contact Radar, 2. Guided wave radar, 3. Capacitance type level switch. However, the requirement of Level measurement for each bunker/ hopper shall be decided on case to case basis during detailed engineering as per process requirement and technical feasibility, so as to avoid excessive dependence on visual level assessment and consequent process/ product quality variation.</p>	
38	FEDO spec. no. 32687-01-PS-001-PH2	6 of 18 (PDF page no. 57 of 275)	5.2	Bidder to provide feeder at all required/necessary points for control feeding of materials. Dedicated feeder for each raw material shall have to be provided by bidder.	<p>1) In the raw material handling system and product handling &amp; bagging plant all hoppers (i.e. receiving hoppers from payloader feed) shall be underground and of capacity 3 m<sup>3</sup> (approx) . Therefore, FFIL are of opinion that vibrators are not required . Further, Ultrasonic level indicators for these hopper sare also not required &amp; will not work because of payloader feed operation. In addition, no feeder is provided at the bottom. Instead , all hoppers shall be provided with manual slide gates.</p> <p>2) As far as exisitng bagging bunkers are concern, we understand that these bunkers are in civil construction and therefore, it will not be possible to install vibrators. Further, bunkers are having open top with grizzly fixed . Therefore, ultrasonic level indicators will not be possible to install.</p> <p>-FEDO is requested to review &amp; confirm acceptance.</p>	<p>Clause 5.2 of document 32687-01-PS-001-PH2 (Page 6 of 18) is subclause of clause 5.0, titled "NPK process plant". Sub clauses applicable only for items under the main clause purview. .</p> <p>1) Refer Flow diagram for Raw material storage and reclamation facility, attached with the corrigendum. Referer corrigendum point C11 in this regard. Tender conditions shall prevail for hoppers in NPK process plant and bagging plant.</p> <p>2) Refer clause 7.3.3 of document 32687-01-PS-001-PH2, vibrators requirement specified only for metallic hoppers/bunkers.</p>	



						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
39	FEDO spec. no. 32687-01-PS-001-PH2	13 of 18 (PDF page no. 64 of 275)	7.1	Duplex( 2 weigher& single bagging spout )	It seems that it will be difficult to accommodate duplex machines (2 weighers with single bagging spout) due to height constraints. FFIL shall check and confirm during detailed engineering. If not , then two nos. simplex machines with common slat conveyor per bagging bunker shall be provided. -FEDO to is requested to confirm acceptance.	See reply for point No. 5 of A, Process	
40	FEDO spec. no. 32687-01-PS-001-PH2	9 of 18 (PDF page no. 60 of 275)	5.8.24	All toughing/carrying rollers shall be rubber lined. Return idler shall be with rubber rings or rubber lined. Vertical guide rollers shall also be rubber lagged type.	Existing drawings of NPK plant conveyors provided by FEDO earlier shows <b>no</b> rubber lining for carrying and self aligning (S.A.) carrying idlers.However, rubber disc type return idlers are provided. -FEDO is requested to review and confirm requirement of rubber lining for carrying & S.A. Carrying idlers idlers.	Tender condition shall prevail	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub :</b>	<b>NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>B</b>	<b>Bidder:</b>						
<b>B</b>	<b>ELECTRICAL</b>						
1	ELECTRICAL DEPARTMENT 32647-13-PS-001	3 OF 16	3.2, b	DESIGN PHILOSOPHY-ELECTRICAL	MV motors of rating upto and including 150 kW : 415V, 50 Hz, 3 phase, AC We would like to propose allowing LT Motors upto and including 200KW DOL under 415V. This is acceptable under present Engineering practice.	Accepted. Suitable starters shall be provided for drive motors to limit starting current.	
2	TECHNICAL PROCUREMENT SPECIFICATION	9 OF 15	6.29	ELECTRICS FOR TURNKEY INSTALLATION DATA SHEET	Maximum rating of 11kV/433V transformers shall be limited to 2000kVA.Dry Type 11/0.433kV transformers are available above 2MVA as well. We would like to consider 2.5MVA transformers as well. This will allow us to limit the number of PMCC Panels.	Providing 2.5MVA transformer is not acceptable as the same will increase system fault level.	
3	ELECTRICAL DEPARTMENT 32647-13-PS-001	3 OF 16	9	DESIGN PHILOSOPHY-ELECTRICAL	Margin on transformer for future 25%Usual margins considered for transformer sizing is 20%.	Tender condition shall prevail	
4	ELECTRICAL DEPARTMENT 32687-13-PS-001 DP	7 of 17	6	DESIGN PHILOSOPHY-ELECTRICAL	The cable gallery shall have a minimum clear height of 2.0 M (i.e. lowest cable tray should run at a height of 2.0 mtr. from finished floor level of cable cellar)Cable cellar height will be maximum 3.2m clear. We are considering only 1.6m height between bottom tray and finished floor	Tender condition shall prevail	
5	ELECTRICAL DEPARTMENT 32687-13-PS-001 DP	8 of 17	c)	DESIGN PHILOSOPHY-ELECTRICAL	A clear space of 2.0M between the two boards facing each other.2.0m clear space between switchboards facing each other can be limited to 1.5m. This will help optimise the substation size. Double front panels require 1.5m clearance for maintenance.	Tender condition shall prevail	
6	ELECTRICAL DEPARTMENT 32687-13-PS-001 DP	8 of 17	e)	DESIGN PHILOSOPHY-ELECTRICAL	A clear space of 2.0M between two boards in same line after future panel space of switchboard.2.0m clear space between two boards in same line is more than required. We recommend restricting the length to 1m between switchboards and 0.5m between VFD Panels. VFD Panels can also be place right next to each other.	Two panel extension space on each side (for each bus section) shall be provided for all HV Switchboards, PCCs. One panel extension space on each side (for each bus section) or two panel extension space on one side (in exceptional cases) shall be provided for all PMCCs, MCCs and ASPBs. e) A clear space of 2.0M between two boards in same line after future panel space of switchboard.	
7	ELECTRICAL DEPARTMENT 32687-13-PS-001 DP	12 of 17	11	DESIGN PHILOSOPHY-ELECTRICAL	Earthing system: Type of earth electrode : Cast iron plate earth electrodeWe will be considering GI Pipes for Earth Electrodes for better Earthing parameters	Tender condition shall prevail	

						Date :	19.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conferencing
<b>Sub :</b>	<b>NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>						
<b>Sl. No.</b>	<b>Section No. of Bid Doc.</b>	<b>Page No.</b>	<b>Clause No.</b>	<b>Article, Paragraph No.</b>	<b>Pre-bid Queries</b>	<b>FACT/FEDO Reply</b>	
<b>B</b>	<b>Bidder:</b>						
8	ELECTRICAL DEPARTMENT 32687-13-PS-001 DP	15 of 17	21	DESIGN PHILOSOPHY-ELECTRICAL	CB controlled HT Capacitor Banks shall be provided for compensation of power factor against 11 KV&3.3KV motors.We are not considering capacitor on the 3.3KV Level. We are considering LV Capacitors on 415V Level and APFC at 11KV to provide overall correction for full system	Tender condition shall prevail	

						Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
<b>A</b>	<b>PROCESS:</b>						
1	General			Overall layout drawing	Please provide the overall layout drawing with clear demaraction area for the propsoed expansion & existing units	Revised plot plan 32687-03-AP-0001 Rev-1 uploaded as Annexure D-1 to this corrigendum	
2	32687-11-PS-001-DB Design Basis	51 OF 117	3.2	Raw water from existing filter bed supply line will be made available at the plant battery limit.Raw Water specification attached as Annexure-1.	Please provide the Annexure I Raw water analysis	Refer page 38 of 39 document no. 32687-11-PS-001 DB	
3	32687-11-PS-001-DB Design Basis	54 OF 117	5	Battery Limits :	Please provide the Terminal point interface drawing in overall layout drawing	Tie-in valve location marked in the revised plot plan 32687-03-AP-0001 Rev-1 uploaded as Annexure D-1 to this corrigendum	
4	32687-11-PS-001-PGT Performance Guarantee Test	103 OF 117		Pollution Level CONTRACTOR shall guarantee the limits of liquid effluents at the BATTERY LIMIT, gaseous emission to the atmosphere as specified in Doc.No.32687-11-PS-001-DB.	Please provide the existing acceptable ETP Inlet quality & Please provide the existing location of ETP	For the proposed plant Zero liquid discharge ( ZLD) is envisaged. No effluent treatment is envisaged in the plant battery limit unless process licensor specified.	
5	32687-11-PS-001-DB Design Basis	78 OF 117	11.1	Liquid Effluent There should be No Liquid Effluent (Zero Liquid Effluent) from the NPK plants during normal operation excluding leakages, cleaning etc. Necessary sumps are to be provided in where spillages can be collected and subsequently re-used in respective process units. ffluent generated in NPK plant like washing, drains shall be collected andsubsequently re-used in Process units without affecting product quality.In any abnormal condition there shall be provision to pump (1 working + 1 standby) the effluent to the existing ETP		Revised plot plan 32687-03-AP-0001 Rev-1 uploaded as Annexure D-1 to this corrigendum	
6	32687-11-PS-001-DB Design Basis	54 OF 117	5.4	Muriate of potash (MOP) shall be made available at the Raw Material Conveyor.Subsequent handling system shall be covered as provision in the design, layout &detailed engineering scope of BIDDER	EPC scope is limited to provide space provision for handling system in the layout	Refer clause 7.6 & 7.7 of document 32687-11-PS-001 DB.	
7	32687-11-PS-001-DB Design Basis	55 OF 117	5.7,5.8	Battery Limits: Fillers shall be made available by tilting trucks/dumpers in Common storage area(common shed for filers/urea/off spec products etc). Necessary handling system in the ISBL shall be in scope of BIDDER Urea shall be made available by tilting trucks/dumpers for unloading inside common storage shed.	Is common storage area means "New Common shed " (5000MT capacity) as shown in Tender Fig1.0 Location map of existing facilities at FACT -cochin division	Bidder understanding is correct	

						Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
8	32687-11-PS-001-DB Design Basis	60 OF 117	6.3	An old Urea Godown is situated near the proposed site for new NP plant. It has an area of 7848 m <sup>2</sup> (215m X 36.5m). It can account for a maximum of 30,000 MT of NP bulk. The Existing Godown and the proposed site are shown in the figure given below.	The existing drawing are provided in scanned copy not readable. Please provide the in CAD format .	All available drawings are scanned copy. The same have been shared.	
9	32687-11-PS-001-DB Design Basis	61 of 117	6.4	Existing NP Bulk storage capacity	what is the height of this shed?	Not applicable as there is no interconnection/ linking is required between the existing NP Bulk storage and proposed plant	
10	32687-11-PS-001-DB Design Basis	56 of 117	6	<b>EXISTING FACILITY DESCRIPTION</b> FACT Cochin Division comprises of two sections namely Phase-1 and Phase-2. The Phase-1 consists of Ammonia, Urea and Thermal plants. Phase 1 has not been in Bagging plant with railway siding facility operation since 2003. The Phase-2 comprises of a 1000 TPD Sulphuric acid plant, 360 TPD Phosphoric acid plant and two streams of 1000 TPD NP Plan	We presume existing bagging facility shall be utilised . Hence the same is not in EPC SCOPE	Refer Clause 7.3.1 & 7.3.2 of document 32687-01-PS-001 PH2. Existing machinery items such as conveyors, bucket elevators, diverters, bagging machines, stitching machines etc of the defunct urea silo, defunct urea conveyor gantry and defunct urea bagging plant are in dilapidated condition and cannot be utilised.	
11	32687-11-PS-001-DB Design Basis	90 of 117	9	Civil & Structural of Existing Urea silo shall be used for bulk storage for both Products. Necessary dehumidifying system shall be provided	Is existing Urea silo is located inside Urea Godown? What is the overall dimension and capacity of Urea silo?	Bidder to understand the existing urea silo/ defunct urea godown is the same.	
12	32687-11-PS-001-SW Scope of Work	22 of 117	5.4 i),ii)	Product from the NPK Plant shall be conveyed to the existing NP bulk godown & Urea godown. Existing Urea Godown facility near the proposed plant site shall be suitably modified as bulk material storage	Please confirm the size of existing existing NP bulk godown and urea godown	Refer Clause 5.4(i) & (ii). Bidder has wrongly stated the clauses. Available drawings already provided with the tender	
13	32687-11-PS-001-SW Scope of Work	22 of 117	5.4 v)	Product from NPK plant shall be conveyed directly to the existing Urea bagging facility area via screen house utilizing existing Urea Gantry	Please provide the details of existing urea gantry	Refer Clause 5.4(v). Bidder has wrongly stated the clauses. Available drawings already provided with the tender	
14	32687-11-PS-001-SW Scope of Work	64 OF 97	SFD OF PRODUCT HANDLING FACILITY	Existing NP plant product conveyor	Please provide the details of existing NP plant product like height of conveyor, speed, General arrangement drawing etc	Not applicable as there is no interconnection/ linking is required between the existing NP plant product conveyor and proposed plant. Existing NP Plant product conveyor not mentioned in the SFD.	

						Date :	12.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
15	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works	5& 6 of 21	-	Broad plant description	The list of buildings Plant buildings and non plant buildings mentioned seems not for this package scope of work. We request to mention only the buildings which are applicable in this package scope.	The list of buildings mentioned is tentative. The requirement of Buildings shall be as per the Design Basis of Process, MPCE, Piping, Electrical & Instrumentation requirements. The non plant Buildings to be provided as per the tentative list.	
16	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works	7 of 21 & 8 of 44	1.1 & 2.1	soil investigation	Soil investigation report was not provided in the tender and only a note on soil type was mentioned ,Which will not suffice our requirement. Since it is tender stage we request client to provide the detailed soil investigation report for the proposed plant area.	Soil Report as a guideline is uploaded as Annexure B-1 to this corrigendum	
17	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works	8 of 21	1.2	Site grading - Topography levels refer drawing 32647-11-OP-001	Contour survey drawings was not available in the tender. The ground level mentioned in the referred drawing cannot be used to judge the cutting & filling requirement. So please provide the contour survey drawing for the proposed plant.	The grade levels at the proposed facilities are indicated in Drg No 32687-03-AP-00001 Rev1 uploaded as annexure D-1 to this corrigendum. The land is pretty even which will not be needing any major cutting and filling. The micro garding part may have to be done during detailed engineering. Topography survey detail will be shared during detailed engineering stage. Bidder may visit the Site for better understanding	
18	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works				High flood level of plant is also needed to decide the plant FGL & FFL . Also please provide the FFL & FGL of the surrounding buildings (or) suggested FGL of the proposed plant.	The HFL of the plant is +0.76m which is well below the FGL of the lowest point of Existing Plant Barge Jetty area. FGL of NPK plant area shall be around +20.0m lvl	
19	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works	9 of 21	1.5	Roads	We request client to indicate the battery limit in the plot plan drawing , so that the new road requirement inside the battery limit can be decided. Please mention the width of road required inside the battery limit.	Please refer the revised layout drawing in uploaded as annexure D-1 to corrigendum. The width requirement of road have been mentioned in Tender document.	
20	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works	10 of 21	1.6	Drainage	Please provide the existing drain routing or drain let off points to decide the drainage inside the battery limit . Also please mention the intensity of rainfall for drainage design.	The tie in points for Storm water drainage have been indicated in Drg no 32687-03-AP-00001_R1 in uploaded as annexure D-1 to corrigendum. The intensity of Rainfall shall be 100mm/hr	



					Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>					Venue :	FEDO Conference hall
<b>Sub :</b>	<b>NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>					
<b>Sl. No.</b>	<b>Section No. of Bid Doc.</b>	<b>Page No.</b>	<b>Clause No.</b>	<b>Article, Paragraph No.</b>	<b>Pre-bid Queries</b>	<b>FACT/FEDO Reply</b>
<b>C</b>	<b>Bidder:</b>					
21	32687-12-PS-001-DP_R0 Design Philosophy- Civil & Structural Works	13 of 21	1.11	Paving	We request to indicate the paving area requirement in the layout/plot plan	The requirement of Paving area have been mentioned in Tender document.

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
22	32687-12-PS-001-DB_R0 Design Basis-Civil & Structural Works	11 of 44	4.1.3	Hot bitumen paint	Please clarify why this painting is required?. Whether any harmful chemicals present in the soil ?	No harmful chemicals present. Please refer Soil report. Please refer Corrigendum-1 in this regard.	
23	General			Boundary wall or fencing	Whether boundary wall or fencing required for our battery limit. If so please specify the same in the layout	Not required.	
24	General			Demolition of above ground & below gorund works	We request client to specify any demolition works is in our scope of work. If yes please provide the details for the same.	Refer Clause 7.3.2 of document 32687-01-PS-001 PH2 for dismantling and shifting of discarded mechanical equipments. Civil RCC structure demolition is in Owner's scope. Any cutting / demolition for tie in to existing Conveyor gantry and any additional modification requirement during detailed engineering shall be in Bidder's scope.	

						Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
<b>B</b>	<b>ELECTRICAL</b>						
25	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	3 of 270	5.0	Battery Limit for Power Supply 2 numbers 11KV 50 Hz ,3 phase, 500MVA AC Power Supply shall be made available by the owner at the incoming side of 11kV switch board provided by LSTK contractor . Termination of incoming cables 11kV switch board shall be done by the LSTK contractor. Further distribution of power supply is in the scope of LSTK contractor.	We understand, our scope limit is start from incomer of proposed 11KV switchboard (Including panel side termination kit of purchaser supplied cables). Required power supply shall be provided by purchaser at the incomer feeders. Kindly confirm.	Bidders understanding is correct.	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	9 of 270	5.0	Battery Limit for Power Supply Two numbers of 11kV feeders will be provided at the incoming terminals of new substation. 11kV switch board shall have 2 number of incomer one bus coupler and required number of outgoing feeders.			
26	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	4 of 270	1.0	Minimum P.F. shall be maintained as 0.95 at every voltage level.	We have considered Automatic Power factor Correction Panel (APFC) with required capacitor bank (up to 0.95P.f). Same shall be connected to proposed power plant 415V LV PCC. Apart from that, we have not considered any capacitor bank for individual MCC / motors / panel (including 11KV & 3.3KV panel / Motors).	Capacitor banks as recommended by the motor manufacturers shall be connected to the individual HT motor feeders with necessary ON delay timers and contactors.	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	18 of 270	21.0	Capacitor banks Capacitor banks shall be provided for improving the operating power factor of the system. CB controlled HT Capacitor Banks shall be provided for compensation of power factor against 11 KV&3.3KV motors.. LT capacitor banks shall be provided to keep the system PF at 0.95 minimum. APFC relays shall be provided for capacitor panels.			
27	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	4 of 270	1.0	Electrical System shall be designed for continuous Peak Load operation. Peak Load = (100% of sum of all continuous load) + (40% of sum of all intermittent loads or largest intermittent load, whichever is higher) + (20% of sum of all standby loads or largest standby load, whichever is higher). Maximum Normal Running Load = (100% of sum of all continuous load) + (40% of sum of all intermittent loads or largest intermittent load, whichever is higher).	Requirement is not clear. kindly elaborate.  Kindly clarify electrical system is sized for "Peak load" or "Maximum Normal running load"	Electrical system shall be designed for Peak load.	

						Date :	12.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
28	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	5 of 270	1.0	The scope of work shall also include providing Electrical work shop with 5Ton EOT crane with facility for repair of electrical equipment shall be provided.	We have not considered any electrical work shop (Including workshop equipment) in our scope.	Tender condition shall prevail	
29	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	5 of 270	1.0	It shall be the responsibility of the LSTK contractor to ensure that the complete installation supplied and / or erected by him fully meets with relevant standards / Acts / rules / Regulations applicable and duly got approved by statutory authorities like Central Electrical Inspectorate.	We have considered CEIG approval for electrical equipment supplied by us / within our battery limit. The required fee shall be paid by customer. Apart from that, we have not considered any other statutory approvals in our scope.	Approval from CEA shall be included in the scope of the bidder. Required fee shall also be paid by the bidder.All Electrical equipments and installation shall be conforming to relevant codes and standards	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	6 of 270	2.0	CODE AND STANDARDS. Indian Factories Act. Fire Insurance Regulations. National Electrical Safety Code Guidelines, instructions, directions issued by Pollution control Boards of state as well as central government. Guidelines, instructions, directions issued by Chief Controller of Explosives (CCoE), CPCB, CMRI, DGMS, CEA etc.			
30	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	5 of 270	1.0	....supporting steel structures...  These items shall include all accessories for cable-jointing, cable terminations/ cable tray/ racks, supporting steel structures, pipes, clamps, bricks, sand, cement, rubble, compression type cable glands, insulating materials etc. Necessary grouting, fixing etc. also shall be arranged by the LSTK contractor.	Cable tray shall be prefabricated design and cable tray support shall be welded design same shall be fabricated at site.  Cable tray supporting structure material shall be MS.	Bidders understanding is correct.	
31	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	6 of 270	3.1	11 kV $\pm 10\%$ , 50 Hz $\pm 5\%$ , 3 phase solidly earthed neutral.	Earthing of 11KV system shall be taken care by purchaser from their existing system/arrangement. We have not considered any NGR in proposed 11KV system because, required 11KV supply shall be provided by purchaser for proposed system.	NGR is not required for 11kV system. 11kV panel and transformer earthing shall be in the scope of the bidder.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
32	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	7 of 270	3.4	The switchboard current ratings shall be selected with due consideration to the actual load and the maximum design ambient temperature and future requirement also.	We have considered 20% design margin for each panel. Apart from that, we have not considered any future requirement.	20% design margin shall be considered for each LV switch boards. Spare modules of all sizes shall be provided in each MCCs/ PCCs/ PMCCs for meeting future requirements.	
33	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	8 of 270	3.5.1	All control cables shall have spare cores as per data sheet attached.	Spare core details not available. Kindly furnish the same.	Details of Spare core are given in clause No:10.3 of Doc No:32687-13-DA-92401	
34	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	8 of 270	3.5.2	Minimum cross section of cables. MV power cable : Upto and including 4 sq mm- copper, above 4Sq.mm Aluminium	Minimum cross section of LT copper power cable shall be 2.5Sq.mm (i.e. 2.5Sq.mm and 4.0 Sq.mm is copper and 6sq.mm & above shall be aluminium).	Bidders understanding is correct.	
35	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	8 of 270	3.6	Type of cabling a) Switchgear room/MCC room pump house/Compressor house : Built in cable trenches/over head cable trays	a) As per tender clause 6.0, Page 10 of 270, cable gallery is considered for main substation building. Cable trench shall be considered for local MCC room (If any).	Bidders understanding is correct.	
36	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	9 of 270	3.6	g)Overhead cabling : In GRP trays	We have considered GI trays for cable with in our battery limit.	Tender condition shall prevail	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
37	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	9 of 270	4.0	AREA CLASSIFICATION. All electrics shall be suitable for the hazardous / non-hazardous area involved and /or specified. Electrics suitable for the hazardous area involved shall be selected as per the relevant Indian Standards and shall be of proven design approved by CIMFR / relevant statutory bodies. In such cases copies of relevant certificates shall be furnished for Purchaser's approval. Area classification drawing shall be furnished by the LSTK contractor.	There is no hazardous area in proposed plant area (Where electrical equipments / panels are located and switchgear building). The requirement of same is not applicable for us (Except process Area).  Suitable light fittings / LPBS / motor shall be considered in process Area (If hazardous).	Bidders understanding is correct.	
38	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	10 of 270	6.0	The buildings shall have adequate space for installation of the following main equipment: Power transformers 11/3.3kV Power transformers 11/0.433V Neutral earthing resistors .	Offered Power transformer are dry type. Same shall be located in switchgear room. Separate room is not required and not offered.	Tender condition shall prevail (Separate rooms shall be provided for Power Transformers, Switchgears, Capacitor Bank, Battery Bank, DG Set etc. considering the safety of equipment and highly corrosive environment)	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	10 of 270	6.0	... Substation ( transformer rooms, switchgear room, cable gallery, .....			
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	4 of 270	1.0	HV switch boards, transformers, capacitor panels, MV switch boards,, Battery and charger system etc. shall be housed in a substation building.			
39	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	10 of 270	6.0	The buildings shall have adequate space for installation of the following main equipment: Control and relay panel of D.G.Sets	Offered DG set it outdoor type with acoustic enclosure. Specified C&R panel is part of DG set.	Control Panel as per clause 7.21 of Doc No:32687-13-DA-92401 shall be provided.	



						Date :	12.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
40	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	10 of 270	6.0	Furthermore, substation building shall contain the following facilities:- Toilet rooms Rest room Office rooms Store room	Kindly specify the size of specified rooms. Specified repair room is not required and not offered.	Minimum Area Required Rest Room (1No) -- 6M X 4M Office Room (3 Nos) -- 3M X 3M Store Room (1 No) -- 6M X 4M Wash area with Toilet (1 No.), Bath Room (1 No.) wash basin (2 Nos) and urinals (3 Nos) – 3M X 3M	
41	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	10 of 270	6.0	The design of the substation building shall allow space for the equipment to be installed, including space for future extension of switchboards, and it shall also include a free area for maintenance of heavy equipment, like HV circuit breakers.	Please clarify the requirement of space for future extension of switchboards. Please quantify	Two panel extension space ( <i>Two vertical module sections</i> ) on each side (for each bus section) shall be provided for all HV Switchboards, PCCs. One panel extension space ( <i>One vertical module section</i> ) on each side (for each bus section) or two panel extension space on one side (in exceptional cases) shall be provided for all PMCCs, MCCs and ASPBs.	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	11 of 270	6.0	The design of the switchgear room shall allow space for the equipment to be installed, including space for future extension of switchboards, and it shall also include a free area for maintenance of heavy equipment, like HV circuit breakers. Two panel extension space on each side (for each bus section) shall be provided for all HV Switchboards, PCCs. One panel extension space on each side (for each bus section) or two panel extension space on one side (in exceptional cases) shall be provided for all PMCCs, MCCs and ASPBs.			
42	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	11 of 270	6.0	Arrangement shall be provided for lifting heavy equipment to be brought into the sub-station.	Requirement is not clear. kindly elaborate.	Loading bay on suitable locations of first floor of the substation building shall be provided in substation building for bringing panels to the switchgear room.	
43	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	11 of 270	6.0	e) A clear space of 2.0M between two boards in same line after future panel space of switchboard.	Requirement is not clear. kindly elaborate.	Two panel extension space on each side (for each bus section) shall be provided for all HV Switchboards, PCCs. One panel extension space on each side (for each bus section) or two panel extension space on one side (in exceptional cases) shall be provided for all PMCCs, MCCs and ASPBs. e) A clear space of 2.0M between two boards in same line after future panel space of switchboard.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
44	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	12 of 270	7.1	The local control station for LV motors shall comprise the following devices:- Local/Remote or Auto/manual selector switch if required by process requirements	Local/Remote selection shall be done from plant main DCS.	Shall be decided by the bidder as per the process requirements.(Local/ Remote or Auto/manual selector switch is not recommended at local control station due to corrosive & dusty nature of plant and complexity in maintenance point of view)	
45	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	12 of 270	7.1	Motor operated valves shall have local operation and shall be operable from control room through control system.	We have considered MOV with integral starter.	Bidders understanding is correct. MOV shall be able to operate from control room.	
46	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	12 of 270	7.3	All circuits shall be properly protected by suitable relays in order to ensure maximum safety of the systems/equipments. All relays and meters in the 11kV switch board ,3.3kV switchboard and MV switch boards shall be numerical type with communication ports compatible with international protocols to communicate with the remote Power Management System/ SCADA.	Numerical relay shall be considered for 11KV and 3.3KV feeders and suitable to communicate to plant DCS. For 415V system, Thermal overload relay for motor rating up to 37KW, CT operated thermal overload relay for motor rating above 37KW and up to 90kW. Microprocessor based overload relay for motor rating above 90KW.	Tender condition shall prevail	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	Motor feeder modules above 22kW shall be provided with composite motor protection relays (numerical)having characteristics in accordance with the actual motor size/duty.	Requirement of remote Power Management System/SCADA is not applicable and not offered.		
47	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	These meters shall also be communicable type with open protocol, suitable to communicate with LMS system	Offered meters are suitable to communicate to plant DCS. Requirement of LMS is not considered in our scope.	LMS is not required but offered meters shall be communicable type with open protocol, suitable to communicate with LMS and DCS system	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	14 of 270	8.2	separate digital meters or comprehensive metering unit shall be provided in incomer feeders .. These meters shall also be communicable type with open protocol, suitable to communicate with LMS system.			

						Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
48	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	ESB shall have two incomer feeders(one from grid supply and other from emergency DG set),one number bus coupler and adequate number of outgoing feeders.	Emergency switchboard has two incomers, first incomer receives the power from PCC panel and second incomer receives power from DG set. Requirement of power from grid is not applicable and not offered.	Bidders understanding is correct.	
49	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	Emergency loads shall be segregated on one side of bus coupler so that during power failure ,DG back up power shall be made available by opening the bus coupler	Emergency loads are loaded on the both bus sections of emergency panel. Required interlock shall be provided between two incomers to meet continuous supply to emergency auxiliaries.	Bidders understanding is correct.	
50	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	The switchboards shall be of the metal clad single/double fronted, free-standing type with withdrawable switch units in multi tier modular cubicles with side cable entry compartments having entry from the bottom.	Cable entry to compartments shall be considered as per OEM.	Bidders understanding is correct.	
51	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	ACB feeder for PCC, PMCC & MCC shall be single front for ease of operation & maintenance.	PCC/PMCC shall be single front, MCC shall be double front.	Wherever ACBs are involved same shall be single front.	
52	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	Air Circuit Breakers shall be provided for feeders above 400A.Feeders rated upto and including 400A shall be MCCB type for incomer and bus coupler feeders. All out going feeders shall be SFU type	We presume Incoming and outgoing feeders of PCC / MCC as below: - Incomer and bus coupler of PCC and MCC : Up to 400A shall be MCCB and above 400A shall be ACB. - For all outgoing motor feeders of PCC / MCC : SFU + Contactor + OLR (Up to 400A) / ACB (Above 400A) - For all outgoing power supply feeders of PCC / MCC : SFU (Up to 400A) / ACB (Above 400A) - VFD feeder : SFU (Up to 400A) / ACB (Above 400A) - Incomer of MLDB: MCCB - Outgoing of MLDB: SFU  Kindly confirm	Bidders understanding is correct.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
53	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	13 of 270	8.2	The draw out facility shall include a "test" position in which all control circuits can be tested without energizing the main circuits.	We have considered Non drawout 415V LT panels (Except ACB feeder). Kindly confirm.	AS per clause 4.5 of Doc No: 32687-13-DA-92401 Draw out for breaker panels and motor feeders below 30kW.	
54	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	14 of 270	8.2	Minimum switch rating shall be 63/32 Amps AC22.	All switchgear components shall be selected based on type 2 co-ordination.	Bidders understanding is correct	
55	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	14 of 270	9.0	The transformers shall be suitably rated for the total switchboard load and anticipated load variation +25% extra for future loads/spare capacity.	As per tender specification clause no 1.0, page 4 of 270, margin shall be considered as follows. b) HV Transformer: 20% shall be added to the Continuous Peak Load. c) LV Transformer: 25% shall be added to the Continuous Peak Load.	Bidders understanding is correct	
56	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	14 of 270	10.0	Lighting system shall cover lighting of the control room,substation building,, plant and non plant building, Pump/compressor house ,area lighting,street lighting etc. LED type lighting shall be provided for all areas.	Lighting shall be considered for packages/building with in our battery limit. Please confirm the Non plant building and their sizes	Details of buildings are given in Doc No:32687-12-PS-001-DP	
57	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	15 of 270	10.0	The following average lighting intensity for various area shall be maintained	Illuminance (lux) shall be considered as per IS/IEC standard.	Tender condition shall prevail	
58	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	15 of 270	10.0	Adequate air warning, red omni, directional light with LED lamps shall be provided for the engine stack/chimney as per relevant standard/ specification to meet the requirement of air port authorities. Supply and erection of all the above lights are also included in turnkey contractors scope.	Same is not applicable for DG set chimney and not offered.	Bidders understanding is correct	

						Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
59	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	15 of 270	11.0	The overall earth resistance (dry) shall be limited to 1 ohm	Kindly furnish the soil report with soil resistivity of proposed area.  To achieve the Earth resistance value less than one ohm, proposed earth mat shall be interconnected with owner's main plant grid.	Measurement of soil resistivity for designing earthing system shall be carried out by the bidder. Earthing system as per clause No: 11 of 32687-13-PS-001 DP NPK plant shall be connected to the existing earthing system at two points.	
60	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	15 of 270	11.0	The time duration shall be taken as 3 seconds as per IS - 3043.	Earthing system designed for 1 Sec with respect to LT system.	Tender condition shall prevail	
61	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	15 of 270	11.0	Metallic non current carrying parts of all electrical apparatus. Steel structures, cable trays Storage tanks, all utility process pipe lines and flanges shall be earthed . In addition steel pipe racks in the process units shall be earthed as per standard.	Earthing shall be considered only for electrical equipments with our battery limit. Earthing shall be considered for Pipe rack cum cable rack. Earthing is not considered for separate piping rack.  Continuous GI earth flat running along with top layer of cable tray (including trench). Other layers of cable tray shall be earthed every 20Mtrs with top layer earth flat. Both ends of top layer earth flat connected with earth ring/grid.	Tender condition shall prevail(GI flat/ wire is not advisable in plant area as it is more prone to corrosion due to presence of acid in the atmosphere. Kindly consider suitable corrosion resistant materials as per TPS)	
62	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	15 of 270	11.0	Earth pit interconnection & : GI strip/Copper Strip/PVC covered Aluminium other equipments Conductor cables.	Earthing material shall be GI flat / wire.	Tender condition shall prevail(GI flat/ wire is not advisable in plant area as it is more prone to corrosion due to presence of acid in the atmosphere. Kindly consider suitable corrosion resistant materials as per TPS)	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	16 of 270	11.0	Main earth bus of existing earthing system in FACT-CD is 40 X6mm copper strip. Earthing system of NPK plant shall be connected to the existing earthing system at two points. Earthing design calculation shall be furnished by the LSTK contractor.			
63	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	16 of 270	11.1	Earth electrode of lightning protection shall be interconnected to earth electrodes of main plant earthing system at minimum two points.	Due to system safety, Earth electrode of lightning protection is not connected with plant earthing system. Kindly confirm.	Tender condition shall prevail	



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
64	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	16 of 270	13.0	The battery rating for 110V DC shall be suitable for minimum 5 hour rating . SMF type battery shall be provided	Battery shall be 1X100%.	Tender condition shall prevail	
65	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	17 of 270	14.0	The starting current i.e. breakaway current of 415 V Motors shall not exceed the values indicated in IS:12615.	Same shall be considered as per IE3.	Confirmed	
66	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	17 of 270	15.0	This DG set shall feed supply to emergency bus of the MV Switch board.	We have considered separate emergency MCC with two incomers. One income from LT PCC (Normal supply) and another incomer connected from emergency DG set with required interlock. Emergency auxiliaries supplied from this emergency MCC. Apart from that, Other MCCs / 415V panel's doesn't have any emergency power supply arrangement.	Bidders understanding is correct.	
67	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	17 of 270	15.0	The emergency power shall be available within 1 minute after a power failure, as automatic mains failure type DG Set with 3 attempt start facility is envisaged.	Same shall be considered as per process requirement and OEM.	Tender condition shall prevail	
68	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	24 of 270	3.10	POWER TRANSFORMERS Type tests Temperature rise test Reqd Reqd	Type test reports for similar or higher rating / type equipments shall be furnished. Separate type tests shall not be carried out for any electrical equipment.	Tender condition shall prevail	
	ELECTRICAL DEPARTMENT / DESIGN PHILOSOPHY-ELECTRICAL (32687-13-PS-001 DP)	25 of 270	4.0	ALTERNATOR AND ACCESSORIES Type Tests: Reqd.			



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C Bidder:</b>							
<b>C INSTRUMENTATION</b>							
69	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	14 OF 163	5.2.1	New control room shall be constructed within the battery limits for the proposed plant (LSTK CIVIL SCOPE)	Please specify the safety distance limitation between DCS Control room and Process Building, if any .	Separate control room building is not envisaged. The plant building design shall incorporate control room space also.	
70	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	14 OF 163	5.2.1 (b)	The control system suggested is DCS based system for control and interlocks. The detailed data sheet for the same is attached. (No separate PLC is envisaged for the shutdown purposes). The DCS shall have redundancy for Controller, IO modules (Critical IO), communication and Power supply. The CPU, communication and power supply cards shall be hotstandby. Non Critical IO includes Annunciator alarms, Pushbuttons in control room etc. All IO modules used shall be supporting HART protocol.	i) We have considered redundancy for Controller, Communication and Power supply Modules. However, the redundancy for I/O modules ( Critical I/O ) will be as per the OEM design and process.  ii) Field instruments shall be provided with HART compatibility for field calibration by Handheld HART communicator. We have not considered I/O modules with HART compatibility.	i. IO module redundancy is mandatory for all closed loop Analog inputs/ Outputs, interlocked DI/ DO as a minimum irrespective of OEM design and Process.  li. Tender condiiton prevails (All IO modules used shall be supporting HART protocol).	
71	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	15 OF 163	5.2.1(d)	The operator stations/ Engineering stations shall be with latest operating system (Windows 10) with original license for Operating system and all other software used. Antivirus software, MS office etc also shall be supplied in all the stations. All the stations shall be of same make and model industrial grade server PCs with Tower mount CPU and historisation of all parameters shall be provided in all PCs through software.	We have considered work-station based DCS configuration and OWS are industrial grade server PCs with Tower mount CPU. We have not offering any client-server DCS architecture.	Tender condiiton prevails.	
72	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	20 OF 163	5.3.6	As per CPCB/ KSPCB norms, the various components of the stack are to be measured and real time data shall be uploaded to state/ central government web sites as per prevailing regulations. .... .....// The data shall be uploaded to internet through LAN using client's internet connection and necessary LAN port shall be made available to LSTK by Client adjacent to the LSTK plant battery limit.//	We have considered only the LAN port connectivity provision for Remote monitoring purpose at Stack Monitoring System. If any other hardware/software required at both the end by Customer scope.	As per the clause, LAN port shall be made available to LSTK contractor by client within plant battery limit at convenient location. All further cabling to the equipment LAN Port shall be LSTK responsibility. Aassistance for integration of the stack monitors to KSPCB/ CPCB websites shall be provided to client by LSTK contractor if required.	
73	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	21 OF 163	5.3.7	The CCTV system shall be IP based system with dedicated monitor at control room. The system shall have provision to connect to client LAN for monitoring from client PCs, anywhere in the plant.	We have considered only the LAN port connectivity provision for Remote monitoring purpose at CCTV System. If any other hardware/software required at both the end by Customer scope.	Bidder's understanding is correct.	

						Date :	12.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	FEDO Conference hall
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
74	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	22 OF 163	5.3.8	Necessary gas detectors shall be provided in the new installation to detect the RLNG and ammonia leakage. Minimum number of gas detectors to be considered is 2Nos near the burner floor (Excluding spares) for RLNG and 4 nos for ammonia at various locations in plant.	Please specify the type of gas leak detector required for RLNG and Ammonia area.	Point type Infra red gas detectors shall be considered for Ammonia and RLNG.	
75	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	34 OF 163	10.3	HAZARDOUS AREA INSTRUMENT SELECTION It is ascertained that flammable atmosphere is expected only where RLNG/ Ammonia is handled. However, all instruments shall be specified Flame proof (Exd). Non-flame proof instruments shall be housed in purged	We have considered that flame proof (Exd) and IP-65 field instruemnts and JB as per hazardous area requirement	Bidder's understanding is inline with tender requirements.	
76	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	34 OF 163	10.4	Process Switches are not preferred, instead transmitters with either inbuilt contact (In addition to the 4-20mA HART signal) or with external trip amplifier or with soft switch in control system is preferred because of advanced diagnostic possibilities.	Process switches requirement shall be as per the OEM recommendation for process interlock and protection.	Tender condiiton prevails.	
77	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	38 OF 163	10.12	Different junction boxes shall be used for the following types of inputs/outputs • AI/AO • DI/DO • Power supply for instruments (110V AC)	We are confirming that three type of Junction boxes ( AJB, DJB and PJB) used for Control and Instrumentation system.	Bidder's understanding is inline with tender requirements.	
78	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	39 OF 163	10.13	Separate instrument relay cabinet is envisaged and the same shall be located in MCC.	Interposing relay cabinet shall be part of DCS Marshalling Cabinet and same shall be located in the DCS Equipment control room.  Please confirm.	Tender condiiton prevails. Interposing relay cabinet shall be located at MCC.	
79	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	40 OF 163	10.16	All instruments shall meet the technical requirements as defined in the following Specifications to be suitable for use in the Radio frequency/ Electromagnetic interference prone areas typically expected in industrial area: EC 61000 Sections 4.1 thru 4.5 - Electromagnetic	The same shall be included in the QAP for Field instruments.	Tender condiiton prevails.	
80	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	42 OF 163	11.12	Fiber optic cables shall be laid through HDPE conduits only.	Unarmored FOC will be laid in HDPE conduit. Please confirm.	Tender condiiton prevails. (All OFC shall be armored type only)	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	12.01.2021
						Venue :	FEDO Conference hall
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>C</b>	<b>Bidder:</b>						
81	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	42 OF 163	11.3.1.1	All instruments shall be calibrated at site using suitable calibration equipments to test and verify its output prior to installation. This includes gauges, transmitters, control valves, on-off valves etc. Any adjustment	All the instrument will be factory calibrated as per the standared procedure, however the field instrument range and configuration setting shall be done at site as per the process/equipment requirement.  Please confirm.	Tender condiiton prevails. For special instruments such site calibration can be relaxed on case to case basis..	
82	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	43 OF 163	11.4	Double Earthing of all field instruments and junction boxes/local panel, trays etc is in the LSTK scope. For this adequate earthing cables shall be considered. Earth cables shall be connected to earth pits.	All the field instruments are loop earthed via multicore cables from DCS panels and electrical earth for JB & LCP.	Tender condiiton prevails.	
83	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)	65 OF 163	16	Vibration Monitoring system and winding/Bearing RTD	Vibration & Beaing/winding temp. monitoring system requirement shall be as per the OEM recommendation. However, if same is provided 1. Vibration probe with 4-20mA output connected to DCS for monitoring and protection. 2.Winding/Bearing RTD will be directly connected to DCS.  Please confirm.	Vibration monitoring as applicable as per 32687-01-PS-001 PH1 shall be provided for all heavy machineries.  1. 4-20mA based Vibration monitors is acceptable.  2. Tender condition prevails. Please refer 32687-01-PS-001 SPL (INST) clause 10.7.	
84	SPECIAL REQUIREMENT OF THE PROJECT (INSTRUMENTATION) 32687-01-PS-001 SPL (INST)			General	The following Plant facility/Environmental quality requirements are not specified in the Tender. The same is not considered in our scope of work. 1.Ambient Air Quality Monitoring System (AAQMS) 2.Meteorological Monitoring Sysyem (MMS) 3.GPS Master -slave clock system for time synchronization (DCS & PLC)	1. Not required. 2. Not required. 3. Please refer to 14ES005/15 clause 3.11.1.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conferencce
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
D	Bidder:						
A	PROCESS:						
1	32687-11- PS-001-DB Design Basis	23 of 29	8.1.9	Available fillers Sulphur Muck & Gypsum	We do not accept the use of specified gypsum (too wet and fine) or Sulphur muck for doing PGTR of 20.20. 13 S and DAP. Specified Clay or Bentonite will be used for doing PGTRs.	For conducting PGTR, the Owner will supply Bentonite / Clay as specified by the Process Licesor. Bidder to submit the specification for bentonite or clay required at the battery limit inline with Clause 2.6(A) of Design Basis of Tender. Also Bidder to confirm the bentonite specified is sodium bentonite	
2	Project Description	6 of 7	3.3 (iii)	Material of Construction (MOC) for equipments in the NPK process plant has to be suitable for the production of NP 20:20:0:13 and DAP only. Muriate of potash storage and handling are Excluded from the scope od BIDDER. However the engineering and documents/deliverables for using MOP & associated required in the ISBL shall be furnished by the BIDDER	There is a contradiction on several points of the tender (i.e point 3.3 of Plant Configuration, pag.6 of 7). Plant should be designed to produce NPKs (like 10.26.26) but MOC of equipment of the Plant has to be suitable only for 20.20.0:13S and DAP. Complying with this requirement some equipments & pipes/CV will experience corrosion problems during production of 10.26.26.	Noted.	
3	Scope of Work	4 of 25	v	For Proprietary Equipment from OEM under the supply scope of Process licensor, the BIDDER shall obtain from Process licensor, contact details of proprietary equipment suppliers along with reference of supply & performance feedback so as to ensure that proven suppliers can be suitably tagged by OWNER/Consultant, if required.	M/s INCRO will supply proprietary equipment and they will keep the control of their tagged suppliers for future control of their related information and patents.	Noted	
4	Scope of Work	6 of 25.	2. ii	(ii) <b>For DAP 18:46:0:</b> Rated capacity of 75 TPH (minimum) for 22 hours of operation in a day shall produce from <b>Pre Neutraliser with Pipe Reactor (PN+PR)</b> . However the bidder shall furnish the design details of using PR alone for the production of NP 20:20:0:13.	Tender should say: " .....of using PRs alone for producing DAP." It will not be possible to produce 20.20.0 with PR alone.	Typographical error. Reas as "The bidder shall also furnish the details of using PR alone for the production of DAP 18:46:0."	
5	Design Basis	9 of 39	3.3	Steam Pressure at battery limit : 8 ATA &175oC	Steam. Pressure required is 8 kg/cm2 g min.at BL, not 8 ATA as indicated on Tender.	Noted. Bidder to specify the total quantity of steam and water required including OSBL as per tender requirement.	
6	Design Basis	12 of 39	4.4	Product shall be granular, free flowing and non-caking in storage. Product temperature shall be 45°C (Max.) at the outlet of Final Product cooler (to be guaranteed).	Temperature of final product at the outlet of the cooler will be 45°C max.or 15°C max. above ambient temperature.	Noted. Refer corrigendum in this regard.	
7	Design Basis	20 of 39	7.5		Contradictions between 7.5 and 7.3 regarding MOC of equipment.	Refer Reply for Pt No.2	



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conferencce
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>D</b>	<b>Bidder:</b>						
8	Design Basis	20 of 39	8.1.4	Plant design shall be based on an energy efficient state of the art commercially proven & economically operating Mixed Process Technology (PN+PR). However, the plant shall be capable of producing NP 20:20:0:13S without the Pipe Reactor	Energy efficient state takes places operating with Mixed Process Technology (PN+PR) not with PN alone as requested for PGTR of 20.20.0 13S.	Noted	
9	Design Basis	20 of 39	8.1.9	:	See our comment no.1.	Refer Reply to Pt No.1	
10	Design Basis	23 of 39	8.1.14	All inputs to granulation should be kept constant, so that the granulation can reach a steady state of high granulation efficiency, giving granulator out solids with a high content of product size particles, thereby giving a high on-stream time. Granulator should be provided with reversible motor. The Granulation loop configuration shall be optimized to permit the manufacture of all NPK grades specified in the tender.	No reverse rotation is required for Granulator.	Noted. Refer corrigendum in this regard.	
11	Design Basis	33 of 39	9.1.ii	Metallurgy of critical Equipment Ammonia Spargers : SS 904L or equivalent	Liquid Granulator Ammoniation System is made of flexible hoses and SS 316L parts. SS 904 L not required.	Noted. Refer corrigendum in this regard.	
12	Design Basis	34 of 39	9.1.viii	Metallurgy of critical Equipment Nozzles : Hastelloy C or equivalent	Spray MOC of Spray nozzles for TGS is Duplex 2205.	Noted. Refer corrigendum in this regard.	
13	Design Basis	34 of 39	9.1.vii & viii	Metallurgy of critical Equipment	We recommend to fabricate the scrubber only in one MOC, metallic or in FRP but since FACT is requesting to use RLCS in the upper part of scrubbers, the change can be made for Scrubbers (not for Prescrubber and TGS) from a flange located 1 m above maximum liquid level of cyclonic tower which means 1.5 m above the upper part on connection to scrubber inlet arm.	All the Scrubber shall be metallic. Bidder to intimate the recommended MOC for the scrubbers other than Prescrubber and TGS.	
					Whole Prescrubber will be made in SS 904 L	Noted. Refer corrigendum in this regard.	
					TGS will be made in CSRL and internals in Duplex 2205/SS 316 L/PP.	Noted. Refer corrigendum in this regard.	
14	Design Basis	36 of 39	11.3	Noise level	The following equipment will not comply with a noise level < 75 dB at 1 m of equipment: - Chain Mill Crushers, - Dryer knockers (feed end side), Main fan (ground floor, scrubbing area)	Bidder to specify the Noise level guaranteed for each equipment and also to confirm the noise level at any location of the plant shall not exceed the maximum permissible level as per applicable noise regulation in the country.	
15	Performance Guarantee Test	5 of 15	1.3.2 (b)		We will not guarantee a temperature of final product cooler less than 45°C anytime.	Noted. Refer corrigendum in this regard.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conferencce
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>D</b>	<b>Bidder:</b>						
16	Performance Guarantee Test	10&13 of 15	1.7.7 and 2.4		The "72 consecutive hours" used for calculating average working cost and product quality can include the allowance of 2 hour of plant shutdown a day for cleaning purpose. "Continuous run of 72 h may include an aggregate maximum of 6 hours of Plant shut down". M/s INCRO do not accept the requirement of uninterrupted run of 72 h" for evaluating the PGTR.	Noted. Refer corrigendum in this regard.	
17	Performance Guarantee Test	12 of 15	2.2		Since the time for doing SLTs and PGTRs for both product is very limited, after completion of SLT for any of the product its PGTR should be accomplished. Then the other SLT and PGTR should be made for the 2nd product. 90 days from Mechanical Complexion could be too shorth time for doing two SLTs and 2 PGTRs for two completely different grades.	Noted. Refer corrigendum in this regard.	
18	Performance Guarantee Test	14 of 15	2.6	If any measurement is inconsistent with the bulk of the data, or is otherwise suspected to be incorrect, then the data will be adjusted to achieve consistency and correctness in accordance with general accepted engineering principles and practice as mutually agreed by OWNER and CONTRACTOR. No other adjustments shall be made on the measurements and data recorded during the guarantee test.	Tolerances of instruments/equipment used for measuring the performances have to be considered in favour of Contractor for evaluating PGTR	Noted.	



						Date :	20.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conference
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>E</b>	<b>Bidder:</b>						
<b>A</b>	<b>ELECTRICAL</b>						
1	32687-13-PS-001, Electrical Document	2 of 2	49	BOQ for CAMC for 05 Years	Document is not available. Client is requested to provided same as per Index.	BOQ Document is available with the bid. In Electrical part CAMC is required for UPS only.	
2	32687-13-PS-001 DP	2 of 17	1	List of Workshop Equipments	Client is requested to provide list of Workshop equipments	A PMCC with following facilities shall be provided. 1. 63A, 3 Phase power outlet for connecting welding set. 2. 63A, 3 Phase power outlet for connecting Air Compressor 3. 32A, 3 Phase power outlet for connecting bench grinder 4. DOL Starter for conducting test run of 3 phase motors from 100HP to 200HP 5. DOL Starter for conducting test run of 3 phase motors from 20HP to100HP 6. DOL Starter for conducting test run of 3 phase motors below 20HP 7. 2 Nos. of 32A, 3 Phase power outlet as spare	
3	13ES924/14	3 of 10	6.0.0	VFD-Requirement	We understand VFD shall be provided as per process requirement, We also do not envisagev DOL bypass for VFD system.	Accepted	
4	01ES013/95	1 OF 2	3.1.0	DG Set - Duty class	As DG set is required only for emergany purpose, we propose to consider STAND BY duty class DG set instead of Continous Duty. Requested client to accept the same.	Tender condition shall prevail.	
5	32687-13-TP-904-01	1 of 3	1.7 & 1.8	Power Transformer - Load & No-Load Loss	Client is requested to provide loss figures for Power Transformers	shall be as per the ECBC- User guide	
6	32687-13-TP-903-01	2 of 5	2.2	Busbar Material - HV Switchboard	As material and grade of busbar not indicated in the datasheet, we will consider Aluminium busbar for HV Switchboard	Tender condition shall prevail (Refer clause No:3.10 of Data sheet : 32687-13-DA-92401)	
7	32687-13-TP-906-01	1 of 4	9.5	Busbar Material - MV Switchgear	As material and grade of busbar not indicated in the datasheet, we will consider Aluminium busbar for MV Switchgear	Tender condition shall prevail (Refer clause No:4.7 of Data sheet : 32687-13-DA-92401)	
8	General			Single Line Diagram	Single Line Diagram is not available in the bid document. Client is requested to provide the same.	SLD is in the scope of bidder	
9	General			Load List	Load list of the plant is not available in the bid document. Client is requested to provide the same.	Load list is in the scope of bidder	

					Date :	20.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>					Venue :	Video Conference
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply
E	<b>Bidder:</b>					
10	General			Earth resistivity test report	Earth resistivity test report is not available in the bid document. Client is requested to provide the same.	Earth Resistivity measurement is in the scope of bidder
11	General			Specification of Bus-duct	Specification of Busduct is not available in the bid document. Client is requested to provide the same.	Attached as Annexure E- 1 to Corrigendum
12	General			Plot Plan and Substation layout	Plant overall plot plan and Substation layout is not available in the bid document. Client is requested to provide the same	Preparation of Layout is in the scope of bidder

						Date :	20.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conference
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>E</b>	<b>Bidder:</b>						
<b>B</b>	<b>INSTRUMENTATION &amp; TELECOMMUNICATION</b>						
1	Section VI 32687-14-PS-001 VDR INST	2 of 4	26 C	Loop folders	Instead of loop drawing of each instrument, bidder will prepare interconnection drawing to depict each signal, cable and termination details in customised excel format. Please note this is more handy and convenient for installation, loop checking, trial run, operational persons and record keeping. Kindly accept.	Tender condition prevails.	
2	Section VI 32687-01-PS-001 SPL (INST)	2 of 47	4.0	FACILITY DESCRIPTION	Unable to locate 32687-11-TD-01. Please share.	Please read the reference as 32687-11-PS-001-DB section 6.0	
3	Section VI 32687-01-PS-001 SPL (INST)	3 of 47	5.2.1 b	ESD and SIL	Since ESD is not applicable in proposed plant, SIL rated instruments are not offered. Please confirm. If required, request customer to provide detailed specification and quantity of ESD system and SIL 3 rated instruments.	SIL certified instruments are not required.	
4	Section VI 32687-01-PS-001 SPL (INST)	3 of 47	5.2.1 b	Redundancy in IO module	Request customer to define "critical IOs" quantity for which redundancy to be considered. If it is bidders perusal, we consider only granulator and dryer as critical signals and redundancy for stop command shall be considered. Kindly accept.	All closed loop Analog inputs/ Outputs, interlocked Process DI/ DO as a minimum shall be considered for redundancy. Quantity of which is to be arrived during detailed engineering.	
5	Section VI 32687-01-PS-001 SPL (INST)	4 of 47	Last par	Hardwired console (HWC)	If hardwired console is provided, its inputs shall be taken from DCS and its commands shall be routed through DCS. In this case, selection of each grade shall be done from DCS only and not from HWC since HWC is used for emergency action only as per clause no. 5.2.1.1. Please confirm.	Tender condition prevails.	
6	Section VI 32687-01-PS-001 SPL (INST); 'Section VI 14ES005/15	5 of 47; 11 of 13	5.2.1.1; 5.1	Hardwired console (HWC)	Since redundancy for critical IOs already considered as per clause no. 5.2.1 b, request customer to revisit the requirement for HWC.	Tender condition prevails. (HWC is mandatory)	
7	Section VI 32687-01-PS-001 SPL (INST)	5 of 47	5.2.1.1	Hardwired console (HWC)	IF HWC is provided, request customer to identify the "major valves, pumps, equipment" to be considered for HWC.	Part of detailed engineering.	

						Date :	20.01.2021	
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conference	
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>								
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply		
<b>E</b>	<b>Bidder:</b>							
8	Section VI 32687-01-PS-001 SPL (INST)	5 of 47	5.2.1.2	Annunciator	We understand that annunciator is part of HWC only. Separate annunciator panel is not envisaged. In case HWC is not provided, annunciator shall be part of DCS HMI. Please confirm.	Annunciator is separate hardware which shall not be combined with HWC lamps. However, Annunciator Front Facia can be mounted on top of HWC if required. (All logics of annunciator in DCS)		
9	Section VI 32687-01-PS-001 SPL (INST)	7 of 47	5.3.1 d	F&G	F&G system shall be implemented in DCS only. No separate PLC/processor/controller for F&G system is envisaged. Please confirm.	Bidder's understanding is correct.		
10	Section VI 32687-01-PS-001 SPL (INST)	7 of 47	5.3.1 last para	All local panels	We understand that customer is referring to PLC/microprocessor panels of package items listed in clause 5.3.1 a to h. The panels for these systems shall be as per OEM design. Kindly accept.	Bidder's understanding is correct, but OEM design shall be compliant to tender specifications of instrumentation.		
11	Section VI 32687-01-PS-001 SPL (INST)	9 of 47	5.3.6	Remote calibration of analysers	Remote calibration of analysers is not recommended from OEMs. Please accept.	As per CPCB/ KSPCB norms, if applicable at the time of awarding the job, remote calibration shall be implemented.		
12	Section VI 32687-01-PS-001 SPL (INST)	10 of 47	5.3.6	Extractive type PM analyser	Request customer to allow duct mounted PM analyser.	Tender condition prevails.		
13	Section VI 32687-01-PS-001 SPL (INST)	12 of 47	5.3.9	Vibration monitoring	As per 32687-01-PS-001 PH1, vibration monitoring is considered for centrifugal compressors only. Vibration monitoring shall be as per OEM recommendation. Please confirm.	Tender condition prevails.		
14	Section VI 32687-01-PS-001 SPL (INST)	12 of 47	5.3.9	Vibration monitoring	Vibration monitoring is considered for centrifugal compressors only. Vibration monitoring for any other equipment is not considered. Please confirm.	As per 32687-01-PS-001 PH1		
15	Section VI 32687-01-PS-001 SPL (INST)	18 of 47	9.7	SPI/Conval sizing sheet	OEM calculation sheet will be submitted. Please accept.	Tender condition prevails.		
16	Section VI 32687-01-PS-001 SPL (INST)	23 of 47	10.3	HAZARDOUS AREA INSTRUMENT SELECTION	Intrinsic safe instruments are considered where RLNG/ammonia is handled. Other areas in plant are considered as non hazardous. Where intrinsic safety is not available, Ex-d enclosure shall be provided. Please confirm.	Flameproof is the primary protection method specified for this plant instruments. Hazardous area drawing is to be furnished by the contractor during detailed engineering stage.		
17	Section VI 14ES005/15	5 of 13	3.2.8 e,f	Redundancy in IO module	Redundancy in IO module is considered as per 32687-01-PS-001 SPL (INST) 5.2.1 b. Please confirm.	Pls refer reply for point no 4.		

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conference
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
E	<b>Bidder:</b>						
18	Section VI 14ES005/15	5 of 13	3.2.8 e,f	Channels in IO module	We propose max. 16 channel for AI/AO/RTD and 32 channels for DI/DO modules for DCS and PLC. Kindly accept.	Accepted.	
19	Section VI 14ES005/15	5 of 13	3.3	DATA ACQUISTION SUB SYSTEM (DAS)	No separate processor/controller is envisaged for DAS function. It is part of DCS controller sub system functionality. Please confirm.	Bidder's understanding is correct.	
20	Section VI 14ES005/15	12 of 13	5.3.1	Interposing relays (IPR) from MCC	IPR for DI (digital inputs to DCS from MCC) shall be contactor/relay as part of MCC panels itself. IPR for DO (digital outputs from DCS to MCC) shall be in separate relay panel located in MCC and supplied by DCS vendor. Please confirm.	Direct wiring from MCC panels to DCS panel is not allowed. ALL DI/ DO to/ from MCC and DCS shall be routed through the IPR located at MCC.	
21	Section VI 14ES006	1 of 6	2.3	ESD	SIL 3 is not applicable as per Section VI 32687-01-PS-001 SPL (INST), 18.3. In general, 14ES006 shall be read only for PLC and not for ESD, hence design criteria as per 32687-01-PS-001 SPL (INST) shall be followed. Please confirm.	Bidder's understanding is correct.	
22	Section VI 14ES006	4 of 6	12.4	Communication between PLC and DCS	As per 32687-01-PS-001 SPL (INST), 5.2.2-"This PLC system shall be totally independent of the Plant DCS system and no communication is envisaged in-between." Hence 14ES006 clause no. 12.4 is not applicable. However an Ethernet provision shall be provided for PLC system for communication with main plant DCS if required in future. Please confirm.	Bidder's understanding is correct.	
23	Section VI 14ES006	5 of 6	13.4	SEQUENCE OF EVENT RECORDING (SOER)	We understand that SOER is not applicable in this project. If applicable, SOER shall be considered in DCS only, it shall be done at scan time as mentioned in 14ES005/15 clause 3.2.7 for signals hardwired to DCS. Please confirm.	SOER is not required	
24	Section VI 14ES006	5 of 6	13.4	SEQUENCE OF EVENT RECORDING (SOER)	If SOER is applicable, customer is requested to provide the quantity of SOER points to be considered in DCS and PLC.	SOER is not required	
25	Section VI 14ES006	5 of 6	15.0	PLC IO list	Unable to locate PLC IO list. Please share.	Contractor to prepare the IO list during detailed engineering stage.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conference
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
E	<b>Bidder:</b>						
26	Section VI 14ES013/18	2 of 4	4.1	IP 44 panels	We propose IP 20 panels in control rooms where panels are located in AC/ventilated rooms as per OEM design. Kindly accept.	Tender condition prevails.	
27	Section V 32687-13-PS-001 DP	14 of 17	16.0	Telephone System	Request customer to share detailed specification and quantity of telephones required in this plant.	FACT-CD is presently using Siemens make Hi-Path 4000 EPABX with 600 lines, expandable up to 800 lines. Jelly filled copper cables are laid and terminated in krone boxes at various locations in plant area for local distribution.	
28	Section V 32687-13-PS-001 DP	14 of 17	16.0	Telephone System	We understand that our scope is limited to telephone set and wired up to JB only. JB and EPABX is not in bidder scope. Request customer to share the details of existing system. Please confirm.	Number of telephone connections required for establishing proper communication in the proposed plant shall be informed by the bidder. FACT shall provide sufficient lines through JFC Telephone cable at a junction box available in the existing plant area. Termination of cable in junction box, laying of telephone lines throughout the plant area for establishing telephone network, providing junction boxes for branching etc. are in the scope of bidder.	
29	Section V 32687-13-PS-001 DP	15 of 17	22.0	Loud Speaking Inter Communication System(PA System)	We understand that PA system in this plant is standalone system and no interface with existing facility is envisaged. Please confirm.	Bidders understanding is correct	
30	Section V 32687-13-PS-001 DP	15 of 17	22.0	UPS for Loud Speaking Inter Communication System(PA System)	We propose that PA system shall be powered from plant UPS. Separate UPS for PA system is not required. Kindly accept.	Tender condition shall prevail.	
31	General			Fire detection and alarm system (FDAS)	We have not found detailed specification for fire/smoke detection and alarm system. Please provide specifications if the same to be considered in bidder scope.	Refer Doc No: 32687-01-PS-001 PH3 Design Philosophy Fire fighting system	
32	General			SYSTEM CONFIGURATION	Request customer to provide conceptual network architecture drawings for DCS, CCTV, PA, FDA etc. to be considered by bidder.	Requirements are clearly speltout in 32687-01-PS-001 SPL (INST) clause 5.2 and 5.3.	
33	General			Drive control philosophy	Request customer to provide typical drive control philosophy (interface between electrical and instrumentation) to be considered by bidder.	Drive control philosophy shall be as per clause no 7.0 of Doc no:32687-13-PS-001 DP	



PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conference
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
E	Bidder:						
34	General			Instrumentation design basis	Unable to locate instrumentation design basis. Please share.	Bidder to follow 32687-01-PS-001 SPL (INST) for design guidelines of instrumentation.	
35	General			DCS IO list, instrument schedule	Request customer to share tentative DCS IO list and instrument schedule.	Contractor to prepare the same during detailed engineering stage.	
36	General			Interface with existing facility	Except telephone system, we did not find any interface between proposed plant and existing facility for instrumentation systems. Please confirm our understanding.	LAN port will be provided within proposed plant battery limits by client for the online data uploading from stack analysers.	
37	General			VHF and LAN	Since no details for VHF and LAN system is found, we understand that same is not in bidder scope. Please confirm.	Bidders understanding is correct	

						Date :	20.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 1)</b>						Venue :	Video Conference
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>E</b>	<b>Bidder:</b>						
<b>C</b>	<b>CIVIL</b>						
1	Design philosophy- Civil & Structural works	8 of 21	1.2	Topography levels	Bidder request Owner/PMC to provide the Drawing no 32647 -11-OP-001for topographical levels as mentioned in the clause 1.2. Witout the detail levels it would be difficult to quantify the site grading quantities and also to finalize the FGL E.L of the proposed plot( HFL level required). Bidder also request the Owner/PMC to provide the details levels of the adjacent plots.	The Drawing no is 32687-03-AP-00001. Please refer Corrigendum-1 in this regard. The grade levels at the proposed facilities are indicated in Drg No 32687-03-AP-00001. Bidder may visit the site to have a better understanding. The land is pretty even which will not be needing any major cutting and filling. The micro garding part may have to be done during detailed engineering. Topography survey detail will be shared during detailed engineering stage.	
2	Design philosophy- Civil & Structural works	8 of 21	1.5	Existing roads	Bidder request Owner/PMC to provide the Drawing for existing road & Drainage drawings for more clarity about the detail levels.This is required to plan & quantify the plant road to be constructed for the proposed plot.	Please refer Annexure D-1 to Corrigendum for Revised layout indicating the existing and proposed road and drainage tie in points.	
3	Plot plan -1650 TPD Complex Fertilizer plant.	Sheet 1 of 1	DRG no.326 87 -03- AP- 00001	Demolition of Additional office building	Bidder request to provide the Detail drawing for the Additional office building for quantification of demolition work as mentioned in Note no 2 of the drawing.	The demolition of Building is in Owner's scope.	
4	Plot plan -1650 TPD Complex Fertilizer plant.	Sheet 1 of 1	DRG no.326 87 -03- AP- 00001	Demolition of Compound wall	Bidder request to provide the Detail drawing for the existing compound wall shown in the proposed plot for NPK for quantification of demolition work.	The demolition is in Owner's scope.	
5	Plot plan -1650 TPD Complex Fertilizer plant.	Sheet 1 of 1	DRG no.326 87 -03- AP- 00001	Demolition of Compound wall	Bidder request to provide the Detail drawing for the existing compound wall shown in the proposed plot for NPK for quantification of demolition work.	The demolition is in Owner's scope.	
6	Design philosophy- Civil & Structural works	8 of 21	Clause 1.5	Plant roads	. Bidder request Owner/PMC to confirm the plant road to be constructed for the proposed plot is of Flexible pavement type as mentioned in clause 1.5.	The requirement of rigid pavement have been mentioned in tender document Clause 1.5.2.	

PRE-BID QUERIES - TECHNICAL (Lot 1)						Date :	20.01.2021
						Venue :	Video Conference
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
<b>E</b>	<b>Bidder:</b>						
7	Design philosophy- Civil & Structural works	8 of 21	Clause 1.5 & Clause 1.11 & 1.13	Plant roads & Pavements	As per Clause 1.5 of design philosophy civil , roads to all the buildings & Units of the plant Flexible pavement is to be provided which is supposed to be connected to the exiting roads. And as per Clause 1.11 RCC pavement all around unit areas are to be provided of width 4.0 m. Bidder request Owner/PMC to clarify the requirement and provision of flexible pavement and RCC pavement in specific for better quantification inside the plot.	The roads in and around buidlings where ever Crane movement and payloader movement is expected and access road for cranes shall be planned in rigid pavements.	
8	Design philosophy- Civil & Structural works	10 of 21	1.6	Surface drainage /Under ground services	As per the subject clause, new UG services are to be connected to the existing underground network. Bidder request Owner/PMC to provide the detail network drawing of the existing under ground services for better understanding and for quantification of under ground services for the proposed plant.	The tie in points for surface drainage have been indicated in revised layout drawing. Bidder may visit the site to have a better understanding. The proposed NPK site is free from underground service network. The underground drain network and cable trench at Existing NPK plant area is enclosed in Annexure-B-2 to corrigendum	
9	Design philosophy- Civil & Structural works & Plot plan	5 of 21/sheet 1 of 1	General /DRG no.326 87 -03- AP- 00001	Tentative list of building	As per the Tentative list of building provided in the subject document around 39 facilities and other utilities are to be provided in the proposed plot. But as per the marked area in the plot plan dwg no: DRG no.32687 -03-AP-00001 the area seems to be insufficient.	The list of buildings mentioned is tentative. The requirement of Buildings shall be as per the Design Basis of Process, MPCE, Piping, Electrical & Instrumentation requirements. The non plant Buildings to be provided as per the tentative list.	
10	Design philosophy- Civil & Structural works & DESIGN BASIS- CIVIL & STRUCTURAL WORKS	5 of 21 & 10 of 44	General /Clause 4.0	Material of construction	As per the Tentative list of building provided in the subject document compressor house is RCC structure. And in clause 4.0 of design basis the compressor house is a steel shed. Bidder request Owner/PMC to clarify.	Compressor house shall be of RCC frames with Steel roof shed.	
11	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	11 of 44/30 of 44	Clause 4.1.1/Clause 7.16	Cement content	As per clause 4.1.1 minimum cement content shall be considered as per the severe exposure conditions. And as per Clause 7.16 the cement content shall be as per the soil report recommendation. Bidder request Owner /PMC to clarify.	The minimum cement content shall be as per severe exposure conditions. The Soil report as a guide line is uploaded along with Pre-bid query replies. Detailed Soil invsetigation is in Bidder's scope. During detailed engineering stage if the Soil report recommends any minimum cement content over and above the extreme exposure condition, the same shall be provided.	

						Date :	20.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	Video Conference
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
E	<b>Bidder:</b>						
12	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	11 of 44/30 of 44	Clause 4.1.2/Clause 7.16	PCC below foundation	As per clause 4.1.2 , 80 mm thickness of Lean concrete mix 1:3:6 (by weight, using 40mm and down size grade crushed stone aggregate) shall be provided under all RCC foundations. And as per Clause 7.16 PCC 1:4:8 ( 80 mm thk) is proposed for levelling course, except for liquid retaining structures. Bidder request Owner /PMC to clarify.	PCC 1:4:8 to be used for foundations except liquid retaining structures. Please refer Corrigendum B-1 in this regard.	
13	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	26 of 44	Clause 5.4	EarthQuake loads	Bidder request Owner /PMC to furnish the requirement to be followed for connection design for steel structure for Moment/Shear connections and bracing connections.	The provision of Capter 12 of IS 800-2007 shall be implemented if the structure design is governed by Seismic forces. For other cases, Moment Connection shall be designed for 100% capacity, shear connection & bracing connection shall be designed for Maximum of 60% of the member capacity or 1.25 times of the force of that particular type of memeber in the whole strcuture.	
14	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	8 of 44	Clause 2.1	Soil investigation report	Bidder request Owner /PMC to furnish the soil investigation report for bidder to understand the soil profile and to decide the type of foundation system to be considered for quantification. As per the soil profile described in the clause 2.1 and clause 7.16 of design basis foundation system shall be on pile foundation.Owner / PMC is requested to confirm bidder's understanding.	The Soil report as a guide line is uploaded as Corrigendum along with pre-bid query replies.	
15	DELIVERABLE LIST- CIVIL & STRUCTURAL WORKS	3 of 8	Clause 1.1	Statutory Approval	As per section 1.1.of Deliverable list , EPCC contractor is responsible for providing assistance in approval from statutory bodies. Bidder understands that the scope is limited to supporting the PMC/Owner by providing the documentation required for these approvals. Owner/PMC to confirm the same.	Liaisoning and Co-ordination shall be done by the Bidder. Please refer Corrigendum-1 in this regard.	
16	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	36 of 44	Clause 12	Under deck insulation	Bidder request Owner /PMC to clarify the requirement of underdeck and above roof insulation in buildings. No specification or requirement has been found for the insulation in the bid document.	No insulation envisaged. Ony Non Asbestos Fibre reinforced Cement Corrugated sheets to be used for sheeting.	

						Date :	20.01.2021
PRE-BID QUERIES - TECHNICAL (Lot 1)						Venue :	Video Conference
Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Pre-bid Queries	FACT/FEDO Reply	
E	<b>Bidder:</b>						
17	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	16 of 44	Clause 4.2 & Clause 7.0	Design by ASD method.	Bidder request Owner /PMC to confirm the design method to be adopted for steel design. As per clause 4.2 of design basis, allowable stress design is to be adopted for steel design and as per Clause 7.0 LSM is to be adopted for RCC design. Bidder request Owner/PMC to please confirm whether LSM or WSM design to be adopted.	Limit State method to be adopted for design. Please refer Corrigendum B-1 in this regard.	
18	Design philosophy- Civil & Structural works & Plot plan	5 of 21	Tentative list of building	General	As per the Bid document 1 no of warehouse, 1 no of workshop & 1 no of warehouse for spare is to be provided. Bidder understands that the philosophy of the warehouse/workshop inside arrangement will be provided by the Owner/PMC to the bidder and it is not part of scope of bidder. Bidder request Owner/PMC to confirm bidder's understanding.	Bidder's understanding is correct.	
19	Design philosophy- Civil & Structural works & Plot plan	10 of 21	Clause 1.6.1	Surface Drainage	As per Clause 1.6.1 Storm Water Drains shall be connected to the existing drainage system by providing suitable tie-in points. Bidder understands that the scope of drainage ( SWD, CRWS and Process Drains) is only to connect to the existing network by providing suitable tie in points. Disposal of the drainage out of the plant area is not in bidder scope. Bidder request Owner/PMC to confirm bidders understanding.	Storm water drainage shall be connected to the existing drainage as indicated in the revised layout drawing. Refer Corrigendum-1 for revised layout. CRWS and process drains tie in point shall be as per Process design basis	
20	Design philosophy- Civil & Structural works & Plot plan	19 of 21	Clause 3.0	Approved vendor list	As per Clause 1.6.1 All materials shall be procured as per the approved vendor list given elsewhere in this document and must be of ISI approved brand. Bidder did not find any approved vendor list in the bid document. Bidder request Owner/PMC to provide the vendor list.	There is vendor list for building materials. Approved brands of materials have been mentioned in tender documents.	
21	DESIGN BASIS- CIVIL & STRUCTURAL WORKS	07 of 44	Clause 1.5.4	Job specifications	Bidder request Owner/PMC to provide detail job specificatio ( Material/Soil investigation/Load/Construction/Design) or Owner standards for better understanding and clarity.	Please refer Design basis -Civil & Structural works.	



						Date :	23.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 2)</b>						Venue :	via email
<b>Sub :</b>	<b>NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>						
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Requirement	Pre-bid Queries	FACT/FEDO Reply
<b>A</b>	<b>Bidder:</b>						
<b>A</b>	<b>Rotary</b>						
1	Design Philosophy Fire Fighting System	7	7.5.1	Fire Fighting		Fixed Water spray system for Belt conveyor is mentioned . For belt conveyors this requirement is not required .Please specify if compulsion.	Refer Corrigendum point C2 issued in this regard.
2	Design Philosophy Fire Fighting System	7	7.5.1	Fire Fighting		Diesel/FO storage tanks and other hydrocarbon oil storage tanks are not coming in our proposed plant area . So, no Fixed Water spray system will be provided.	Tender condition prevails. Shall be provided, if applicable.
3			7.10.2	Fire Fighting		CO2 flooding system for electrical panels at substations and other loacation.Client to clearly specify this other locations.	Other locations applicable, if electrical panels are placed by the LSTK contractor at locations other than the substions.
4	Drg. No. 32536-01-FWN_SL-00001			Fire Fighting		Fire hydrant system drawing is old drawing.Update and forward latest drawing as per final proposed location.Kindly, update the drawing indicating final location.	Refer revised FWN drawing issued with corrigendum. Refer corrigendum point C3 in this regard.
5	Drg. No. 32536-01-FWN_SL-00001			Fire Fighting		Fire hydrant drawing Table 3 note shows HVLR,HYDRANT/Monitors for proposed 10000 MT Ammonia tank shall be in LSTK contractor scope. But this area is not in our contract. So ,firefighting will not be included for this area.	Refer revised FWN drawing issued with corrigendum. Refer corrigendum point C3 in this regard.
6	Drg. No. 32536-01-FWN_SL-00001			Fire Fighting		Client to mention Pressure of water at tie in point and their new location as per finalised proposed area.	Residual pressure of minimum 8 Kg/cm2 at battery limit. Refer corrigendum point C8 in this regard.
7	Drg. No. 32536-01-FWN_SL-00001			Fire Fighting		Sprinkler arrangement at empty bag storage area shall be fixed water spray system type with deluge valve actuation as per NFPA 15 or sprinkler wet type as per NFPA 13. Kindly,specify your requirement.	Wet type sprinkler system shall be provided as per tender clause 7.9.1 of doc no. 32687-01-PS-001 PH3
8	Design Philosophy Fire Fighting System		7.5.1	Fire Fighting		Oil storage tank,compressor area handling flammable gas,ammonia storage tank,large oil consoles flammable gas are not coimg in our proposed area so, Fire fighting will not be done in that area.	Tender condition prevails. Shall be provided, if applicable.



						Date :	23.01.2021
<b>PRE-BID QUERIES - TECHNICAL (Lot 2)</b>						Venue :	via email
<b>Sub : NEW 1,650 TPD NPK PLANT FOR FACT-CD, AMBALAMEDU ON LSTK BASIS</b>							
Sl. No.	Section No. of Bid Doc.	Page No.	Clause No.	Article, Paragraph No.	Requirement	Pre-bid Queries	FACT/FEDO Reply
A	<b>Bidder:</b>						
B	<b>Instrumentation</b>						
1				Vendor List		In case of stake monitoring system, there is no vendor list found in tender document. So kindly provide related vendor list or suggest about existing make and model no (if available).	Shall be as per the sub-vendor approval procedure to be uplaoded as corrigendum. For information, following are the instruments used at present in NP Plant for stack monitoring Purpose. 1. Ammonia Emission from Stack - Make : Siemens, Model: LDS6 2. Fluoride Emission from Stack - Make Boreal Laser INC, Model : Gas Finder MC 3. Particulate Matter Emission from Stack - Make : Sick India Pvt. Ltd, Model : FWE200DH