

Pre Bid Comments on PDIL/TFL

Sr. No.	Document number	Document Title	Clause No./ Line No.	Page No.	Technical Requirement Specified	Deviation / Clarification	PDIL/TFL Reply	Deviation / Clarification	PDIL/TFL Reply
1	PC183/E/4008/ SEC-VI/PART- 1.0	SCOPE OF WORKS	1.1	2 of 13	Knock Out Drum Aftercooler Heater type Air Dryer 1 No. Dried Air After Cooler 2 No. Dry Air Receiver vessel 2 No. Low Pressure Wet Air Receiver 1 No. High pressure compressor @ 40 kg/cm2g discharge pressure for back up receiver.	This will be integral part of cooler. Aftercooler is not required as per suggested scheme. Please advise whether we can use HOC dryer or heater type (No-purge split flow type Dryer) After Cooler is intergral Part of Compressor Please advise the capacity of Dry Air Receiver Vessel Please advise capacity of High Pressure Compressor	Knockout drum after cooler -As per NIT Vendor to consider Hot air from upstream air compressor discharge (Before after cooler) for use in regeneration of dryer beds. Further heating of air to meet the regeneration requirement is to be supplemented by reactivation heater. However electric heater shall be designed by considering only cold air case.under review for type of dryer along with regeneration unit &for capacity of high pressure compressor Amendment if required, shall be issued shortly.	Noted as per amendment 1 dated 5th July, 2021 .Electric Heater will be designed considering Hot Air & Cold Air for Regeneration Purpose. Also the Guranteed heater power will be committed considering Hot Air Only	The Guranteed heater power will be committed considering 100 % cold Air passing through the regeneration heater. Point closed
			2	4 of 13	Temporary Construction Facilities Civil Work	Please advise what to be considered for Construction Power Supply & Water Supply All Civil work shall be owner's scope	Temporary construction for storage of Instrument compressor system and accesories are under the scope of bidderConstruction power and construction water shall be provided to the bidder at one point. Bidder has to arrange both from the given point to point of consumption.Civil, structural and architechtrual works are not in bidder' s scope. However, installation of various equipments with equipments bolts shall be in bidder's scope. Also, const. of earth pits for laying of burried electrical cables is also in bidder's scope.Concrete trench and pits shall be in Owner's scope. It should be noted that Bidder has to timely provide the following information to the Owner/PMC -equipment installation schedule, foundation plan with pocket details, load data etc for design and construction of foundations etc.	We shall supply material required for earth Pit and laying & installation will be done but any construction work like digging also will be in by Owner's scope. We shall provide GAFD(General Arrangement foundation drawing) which will be submitted within 4 months from date of Contract/PO	We shall supply material required for earth Pit and laying & installation will be done but any construction work like digging also will be in by Owner's scope. Noted & Point closed GAFD(General Arrangement foundation drawing) which will be submitted within 4 months from date of Contract/PO: Shall be discussed during Kick of meeting at the time of submission of GAFD. Point closed
			2.3	6 of 13	Bidder scope of supply for Static equipment shall include but shall not be limited to following:- Supply of material & equipment required for blast cleaning, chemical cleaning, pickling Passivation, surface preparation & polishing & coating of internal surface, epoxy coating, rubber lining, and FRP lining e.t.c. for equipment as applicable Supply of all equipments , tool & tackles including torque wrench, bolt tensioned etc. as per specification and all material required for inspection and testing (i.e. NDT, Hydro testing, performance testing e.t.c) Supply of all tools and tackles, template for foundation for heavy lift equipment and for the erection for all equipment. Eye bolts, jack screws, dowel pins and lifting lugs etc. as required	Scope of supply will be limited as mentioned below	NIT condition to be followed.	We shall consider scope which is clarified and in case any extra work/ supply is required not mentioned in NIT will be charged extra with additional cost	No additional cost will be entitled, Amendment-1 Sr. No-28 to be followed. Point closed
			3.1	10 of 13	Two months supervision are in vendor scope of work	Please help with clarification regarding scope of work	All three shifts (One technical operating person per shift plus one supervisor in general shift for two months periods) including sundays/holidaysOperating and maintenance shall be in bidder's scope during two months period	Noted	Point closed
2	PC183/E/4008/ SEC-VI/PART- 2.0	Technical Specs	2.5.3	4 of 10	Wet Air Receiver K.O. Drum	Capacity is mentioned as 30M3 so please clarify it is to be considered 30M3 only to avoid any ambiguity during detailed engineering	As per NIT	Capacity is mentioned as 30M3 so please clarify it is to be considered 30M3 only to avoid any ambiguity during detailed engineering. We have done calculation and derived capacity of the Air receiver which is attached for your review and acceptance	Low pressure wet air receiver & Instrument Air Receiver capacity shall be as per Amendment-1 sr.no-1&2. HP Instrument Air emergency Receiver calculation shall be as per flow 8000 nm3/hr Point closed
			2.5.4	5 of 10	Bidder shall provide 1 No. Low Pressure Wet Air Receiver upstream of Instrument Air Generation package to avoid any fluctuations in operation of Instrument Air Generation package.	Please advise on capacity as we have understood to consider wet Air Receiver of capacity 30M3	As per NIT	Capacity is mentioned as 30M3 so please clarify it is to be considered 30M3 only to avoid any ambiguity during detailed engineering. We have done calculation and derived capacity of the Air receiver which is attached for your review and acceptance	Low pressure wet air receiver & Instrument Air Receiver capacity shall be as per Amendment-1 sr.no-1&2. HP Instrument Air emergency Receiver calculation shall be as per flow 8000 nm3/hr Point closed
			2.5.12	6 of 10	Instrument Air Receiver	Please clarify as we have considered size of 30M3 only and no further increase will be accepted during detailed engineering	As per NIT	Capacity is mentioned as 30M3 so please clarify it is to be considered 30M3 only to avoid any ambiguity during detailed engineering. We have done calculation and derived capacity of the Air receiver which is attached for your review and acceptance	Low pressure wet air receiver & Instrument Air Receiver capacity shall be as per Amendment-1 sr.no-1&2. HP Instrument Air emergency Receiver calculation shall be as per flow 8000 nm3/hr Point closed
			2.5.13	6 of 10	HP Compressor	Please advise the capacity of HP compressor to be considered	Under Review, amendment shall be issued	Noted	Point closed

			2.6	7 of 10	SITE METEOROLOGICAL DATA:	Please advise design Temp & RH for Compressor	RH-100%, at 31.9 Deg C Max Temp, 46.3 DegC Min Temp, 1 Deg C Avg Temp 31.9 Deg C Atm Pressure- 1008 Mbar	Noted. Guranteed Parameters of flow i.e 8000Nm3/HR and Corresponding Power will be furnished at design condition (31.9 deg c & 100% RH)	Point closed
			3.2	8 of 10	Performance guarantee and trial run	PGTR for equipment will be done at vendor's work as it requires proper testing facility and set up which is not possible to demonstrated at Site due to design criterias and parameters. However we shall demonstrate only mechanical run test(MRT) at site . Unitisation of compressor + Motor + cooler & instrumentation has to be done at works to avoid any mismatch at the time of commissioning.	PGTR Shall be as per NIT	PerformanceTest/MRT of compressor shall be done at shop before disptach. However, PGTR for complete system shall be done at site under supervision of bidderas per NIT.	As per NIT Point closed
3	PC183/E/4008/SEC-VI/PART-3.2.1 (SOW)	MECHANICAL STATIC EQUIPMENT	1.1	3 of 3	SURFACE PREPARATION	Painting as per manufacturer's standard practice suitable for the Fertiliser plant.	NIT to be followed. Under review Painting chapter shall be provided, Amendment if required, shall be issued shortly	Painting as per manufacturer's standard practice suitable for the Fertiliser plant as per prove track record of supplied compressor for same industry	As per Amendment 1, Sr No. 3 Point closed
3	PC183/E/4008/SEC-VI/PART-3.2.2	DESIGN SPECIFICATION – ROTATING EQUIPMENTS	3.2.6	6 of 10	performance characteristics	Please note that IR will submit performance characteristics as per prove track record of supplied compressor	NIT requirement shall be followed	performance curve will be submitted as below: a. Capacity Vs Pressure b. Capacity Vs Power	As per NIT Point closed
			3.2.7	6 of 10	Torsional and lateral critical speed analysis	Please note that it will be as per prove track record of supplied compressor	NIT requirement shall be followed	Torsional & lateral speed analysis is not required for existing established frames having proven track record.	As per NIT Point closed
			3.2.10	6 of 10	Tip speed	Please note that it will be as per prove track record of supplied compressor	NIT requirement shall be followed	Tip Speed of the offered compressor will be higher as per standard OEM proven track record.	As per NIT Point closed
			3.2.11	6 of 10	Seal	Please note that it will be as per prove track record of supplied compressor	NIT requirement shall be followed	Non Contact Carbon ring seals will be provided as per atandard OEM proven track record	As per NIT Point closed
			3.2.13	7 of 10	vibration monitoring instruments	Please note that IR will provide Axial and Radial Vibration Measurement and its control will be done from IR Control Panel. Dedicated VMS will not be provided	NIT requirement shall be followed	Please note that Axial and Radial Vibration Measurement and its control will be done from Local Control Panel. Dedicated VMS is not required and will not be provided	As per NIT Point closed
			3.2.14	7 of 10	trip interlock shall be two out of three voting logic	2003 logic is not possible for the Vibration trips due to the space limitation which is as per the proven design of Manufacturer.	Noted, To be discussed during detailed engineering	2003 will not be possible on vibration trips and each stage discharge due to space contrait. It has be clarified before bidding	2003 will not be applicable on vibration trips.For Each stage discharge, 2003 logic shall be finalized during detailed engineering with valid reason. Point closed.
			3.4	8 of 10	EOT Crains to be provided.	Please exclude EOT Crane from Scope of Supply as it has to be taken care by the CIVIL Contracts	As per NIT, EOT crane shall be part of bidder scope.	Noted	Point closed
			3.5	9 of 10	HVAC System	Please exclude HVAC from Scope of Supply as it has to be taken care by the CIVIL Contracts	Under review, Amendment if required, shall be issued shortly.	Noted	As per Amendment -1, Sr. No-4, Point closed
			7	10 of 10	Vendors List	Please accpet IR Vendor List as per prove track record of supplied compressor	PDIL vendor list shall be followed.	Vendor list within the compressor and Dryer skid will be as per Manufacturer standard proven track record as per amendment 1 dated 5th July. Outside compressor skid will be as per PDIL vendor list	PDIL vendor list shall be followed. However Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
4	PC183/E/4008/SECVI/PART-3.3	DESIGN SPECIFICATION-ELECTRICAL	1.6	4 of 34	Heater control panel shall be installed in Offsite & utilities substation of respective plants.	Please share the distance between compressor room to utility substation for considering cables length	Location of Offsite & Utilities Substation (OUSS) marked in Plot Plan.	We have considered the below:- Drawing (Plot plan) is in scale. The grid number is already marked in the plot plant, distance between two grid is 100M. Approx 1000 metre distance is considered .	Drawing (Plot plan) is in scale. The grid number is already marked in the plot plant, distance between two grid is 100M. However electrical sbstation OSBL and CCR-2 (Located inside Urea & Ammonia control room) are in closed proximity approx 500 metre. Approximate Distance between plant B/L. & CCR-2(Central control room) are approx 1000 metre. Exact distance to be calculated by Bidder considering area plot plan and its scale. Point closed
			1.7	4 of 34	Bidder shall provide the UPS distribution board with all necessary control & monitoring component	Please advise for the placemnt of UPS distribution board with distance	Shall be installed in OUSS.	Noted with Approx 1000 metre distance	Please follow the reply sr.no 30 Point closed
			3	8 of 34	AREA CLASSIFICATION	Since there is nothing mention on Hazardous Area, we are considering the Safe Area.	Area classification shall be in accordance with IS 5572 along with latest update	As per amendment 1 dated 5th July, 2021 ,Air Compressor will be installed in safe Area only . We will provide instruments suitable for Zone-2 gas group IIA/B temperature class T3. Motor , heater , dew point meter and Control Panel will be for safe area only	As per Amendment -1 , Sr. No 13, Remaining items shall be finalised during detailed engineering, Point closed
			5	13 of 34	Heater Control Panel (Thyristor Controlled)	Applicable for dryer heaters	Noted.	Noted	Point closed
			5.6	16 of 34	The Soft Starter shall be installed either on the Line side or neutral side of HV Induction Motor.	Please clarify what to be considered neutral side or line side	The Soft Starter shall be installed on the Line side of HV Induction Motor.	Noted	Point closed
			7	22 of 34	EARTHING AND LIGHTNING PROTECTION	It will be in customer's scope	As per NIT.	Noted for supply & installation and in case of any civil work is required then it will be done by Owner	Noted and Point closed
			10	24 of 34	Vendors List	For critical components which will affect the performance and guarantee of the compressor, we cannot compromise on our tried, tested and proven suppliers. For example, Inlet guide vane type valve, by-pass valve, Aux oil pump, Surge Controller. Please accpet IR Vendor List for these critical components as per prove track record of supplied compressor	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering	Vendor list within the compressor and Dryer skid will be as per Manufacturer standard proven track record as per amendment 1 dated 5th July. Outside compressor skid will be as per PDIL vendor list	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering Point closed

5	PC150/E/4004/P-VI-3.3	LOCAL CONTROL STATION			Local Control Station	Please note that IR Compressor/Dryer will have Local Control Station cum Panel which will have necessary functional requirement mentioned like Start/Stop, Indication Lamps etc. But this also will have Controller and necessary control circuit inside it. Moreover, this control panel will be provided of 2 mm CRCA Rittal or equivalent reputed make IP-55 Enclosure suitable to Area Classification.	Noted	Noted	LCS shall be provided as per NIT. Point closed
6	PC183/E/4008/SECVI-PART-3.4	DESIGN PHILOSOPHY – INSTRUMENTATION		9 of 87	Instrument Air Plant shall be provide as per below mentioned Control System	Please advise for selection of Option-1 or 2. In case of PLC, please advise on TMR or DMR as we can accept DMR	Minimum requirement of PLC control system is DMR . Option shall be selected by Bidder	Noted, we shall consider only DMR and we will not accept other than DMR during detailed engineering	Noted, Point closed.
			3.1	11 of 87	SIL certification rating	We can provide SIL2 and SIL3 will not be provided	SIL certification rating for all the instruments shall be minimum as per clause 3.10 of the Tender requirement	Noted & confirmed for Instrument in line with NIT, there will not be any SIL rating for Local control panel . PLC panel will be SIL2	Noted, Point closed.
			3.45	15 of 87	System / Marshalling/ Packages cabinet	Please advise on selection, should it be separate panel or combination of all	Depending on IO counts Bidder to segregate or combine marshaling /system/package cabinets	Please advise Min & Max qty of I/O counts which will decide to segregate or combine marshaling /system/package cabinets	IO counts shall be in Bidders scope.The same to be reviewed during detail engineering.Point closed.
			8.1	45, 46, 47 of 87	PLC Control System and all sub-clauses Redundant Power supplies (at least three in parallel) shall be supplied.	We can accept DMR type of PLC , please accept for DMR type of PLC. Please specify exact requirements - TMR/DMR	Minimum requirement of control system is DMR	Noted, we shall consider only DMR and we will not accept other than DMR during detailed engineering	Noted.Point closed
7	PC183E/4008/SECVI/ PART-8.0	VENDOR LIST	1	2 of 53	Static Equipment	Please accept Heatmax/ Premier Equipments & Ecotech for receivers	Vendor list as per NIT to be followed.	Noted, we shall submit document for vendor approval as per NIT clause during detailed engineering	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering.point closed. Point closed
				19 of 53	Soft Starter	Please include Jayshree/LECON Make Soft Starter	Under review,Amendment if required, shall be issued shortly	We still request you to include one more vendor (LECON) for competitive bidding	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering Point closed
					Dryer	Approved Vendor for Dryre is not mentioned in approved Vendor List, Please accpet IR Approved Dryers	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering	Since there is no vendor list for Dryer so we suggest to accept as per OEM recommendation.	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
				48 of 53	Control Panel	Please include Electronic Corporation Of India, Ahmedabad (supplied in previous projects) and IRIS Automation, Ahmedabad	Approved vendor list shall be followed	Please accept Electronic Corporation Of India, Ahmedabad (supplied in previous projects) and IRIS Automation, Ahmedabad as it is only authorised vendor for our package in line with past execute projects also	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
				44 of 53	Temperature Transmitters	Please include Honeywell Automation India Limited also in vendor list (it is included for pressure transmitters)	Approved vendor attached with the tender list shall be followed	Please include Honeywell Automation India Limited also in vendor list (it is included for pressure transmitters)	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
				42 of 53	Orifice Meter	There is only one vendor - Chemtrols. Please include	Approved vendor attached with the tender list shall be followed	please include it as there is only one vendor - Chemtrols	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
				18 of 53	Industrial Heater	For dryer if heater is required, it will be as per dryer vendor approved vendors	As per NIT	Noted	Point closed
				17 of 53	Electric Motor	Please include Toshiba Mitsubishi Electric Industrial Systems Corporation, India	As per NIT	Please include Toshiba Mitsubishi Electric Industrial Systems Corporation, India , we shall submit relevant document of PTR during detailed engineering	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
				16 of 53	Couplings	Please include Rexnord (Eoroflex), India	PDIL vendor list for coupling shall be followed,Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering	Vendor list within the compressor and Dryer skid will be as per Manufacturer standard proven track record as per amendment 1 dated 5th July. Outside compressor skid will be as per PDIL vendor list	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering Point closed
				8 of 53	Vessels	Dryer vessels will be fabricated by dryer vendor only	LSTK bidder may furnish list of proven sub-suppliers with PTR (proven track record) & requisite documents subject to owner's/ consultant approval during detail engg. Documents & PTR shall be in English language only.	Noted	Point closed
8	PC183E/4008/SECVI/ PART-8.0	GENERAL SPECIFICATION FOR PROGRAMMABLE LOGIC CONTROLLER (PLC)	1	17 of 39	4.1.4.2 Outdoor Installations b) Unless otherwise specified, all PLC sub-systems or system components installed outdoor shall have corrosive environmental protection coating meeting the environmental classification class G3 as per ISA-S71.04	This is not applicable since the installation is indoors	Under review,Amendment if required, shall be issued shortly	Noted	Kindly refer deign philosophy - Instrumentation 8.1.1 PLC requirements.Point closed

9			2	18 of 39	4.1.8 Design Requirements of Equipments in Hazardous Area 4.1.8.2 General requirements a) Unless otherwise specified, all instruments in hazardous area shall be intrinsically safe type. Other concepts shall be used when specified. b) For conventional instrumentation, entity concept shall be used for selecting proper barriers / isolators.	Not applicable since installation is in safe area	kindly refer Inst design philosophy clause no 8.1.1 for PLC requirements	we confirm for Inst design philosophy clause no 8.1.1 for PLC requirements.	Noted, Point closed
10			3	19 of 39	4.1.10 The system shall be designed fault tolerant and shall utilize high quality components of proven quality. Any single system fault shall not degrade the system safety or functionality or affect operation. The system shall have certified Safety Integrity Level as per IEC61508/61511 as applicable and specified in job specification. Unless otherwise specified, it shall meet the availability requirement specified in Clause 4.1.3 of this specification.	Safety Integrity Level shall be defined by the purchaser. Presently we have considered No Safety Integrity Level	SIL certification rating for all the instruments shall be minimum as per clause 3.10 of the Tender requirement	Noted & confirmed for Instrument in line with NIT, there will not be any SIL rating for Local control panel . PLC panel will be SIL2	Noted, Point closed
11			4	19 of 39	1.1.16 Safety barriers shall be provided by the vendor for intrinsically safe input/output circuits wherever specified. In such cases, the system shall be designed intrinsically safe based on entity concept. The barriers shall be certified by a statutory authority like Baseefa, LCIE, CSA, UL, PTB, CIMFR etc., for the use in the area classification as specified elsewhere in the job specifications. The proper selection of the safety barriers shall be the vendor's total responsibility. In case of smart transmitter, the entity parameters of the hand held terminals shall also be considered while selecting proper barriers.	This is not applicable since the installation is in safe area	kindly refer Inst design philosophy clause no 8.1.1 (b) for Barrier requirements	we confirm for Inst design philosophy clause no 8.1.1(b) for PLC requirements.	Noted, Point closed
12			5	32 of 38	4.3.4 Safety Earth / Zener Barrier Earth	Zener barriers not considered	kindly refer Inst design philosophy clause no 8.1.1 (b) for Barrier requirements	we confirm for Inst design philosophy clause no 8.1.1 (b) for PLC requirements.	Noted, Point closed
13			6	35 of 38	5.2 Factory Acceptance Tests (FAT) All subsystem shall undergo a minimum of 30 days burn in period. The burn-in time shall start after the sub-system is fully assembled and is powered up. It may include any such time for which the system has been kept powered on even for system generation and Phase I testing.	Please confirm you need 30 days burn in period	NIT requirement shall be followed	Noted & confirmed	Noted, Point closed
14			7	38 of 39	6.0 GENERAL REQUIREMENTS Post Warranty Maintenance Contract Vendor shall quote separately for post warranty maintenance contract after warranty period for five years for the complete system as per commercial terms and condition of the requisition and the type (i.e. comprehensive or non-comprehensive) of post warranty maintenance shall be as specified in job specification. The personnel deployed during postwarranty maintenance shall have thorough knowledge of the system and at least two years of experience on the maintenance of similar system. Any other conditions of contract required by vendor shall be explained in the offer.	Is this required?	NIT Compliance is mandatory	Noted, it will depend on Sub-Vendors response	Noted ,shall be discussed during detail engineering Point closed
15	PC183E/4008/SEC-VI/ PART-8.0	STANDARD SPECIFICATION FOR DISTRIBUTED CONTROL SYSTEM & PLC SYSTEM	1		STANDARD SPECIFICATION FOR DISTRIBUTED CONTROL SYSTEM & PLC SYSTEM PART - III GENERAL REQUIREMENTS OF DISTRIBUTED CONTROL SYSTEM	Not applicable since DCS is not in our scope	Noted as per Tender requirement.	Noted for PLC as DCS is not in our scope	Noted, Point closed
16			2		STANDARD SPECIFICATION FOR DISTRIBUTED CONTROL SYSTEM & PLC SYSTEM PART - II TESTING, INSTALLATION, COMMISSIONING AND ACCEPTANCE OF DISTRIBUTED CONTROL SYSTEM	Not applicable since DCS is not in our scope	Noted as per Tender requirement.	Noted for PLC as DCS is not in our scope	Noted, Point closed
17			3		STANDARD SPECIFICATION FOR DISTRIBUTED CONTROL SYSTEM & PLC SYSTEM PART - I GENERAL SPECIFICATIONS OF DISTRIBUTED CONTROL SYSTEM	Not applicable since DCS is not in our scope	Noted as per Tender requirement.	Noted for PLC as DCS is not in our scope	Noted, Point closed
18	PC183E/4008/SEC-VI/ PART-8.0	GENERAL SPECIFICATION FOR JUNCTION BOXES AND CABLE GLANDS	1	4 of 8	GENERAL SPECIFICATION FOR JUNCTION BOXES AND CABLE GLANDS e) Copy of certificate for approval of increased safety junction boxes, adapter, plug and cable glands from local statutory authority as applicable such as Chief Controller of Explosive (CCE), Nagpur or Director General Mines Safety in India along with:	Not applicable since the installation is in safe area	kindly refer Inst design philosophy clause no 11.4 for junction box & cause no 11.5 for cable glands	Noted & Confirmed	Point closed

19			2	5 of 8	2.1.1 Junction boxes shall be either of the following type as specified in data sheets. a) Weather proof junction boxes. b) Weather proof and increased safety junction boxes. No other type of junction boxes shall be offered, I supplied unless specifically indicated otherwise. 2.1.2 Unless otherwise specified, the enclosure shall conform to the following standards: Weatherproof housing : IP 65 to IEC-60529/IS-13947 Housing : EEx (e) as per IEC-60079/IS-2148.	We will offer weather proof JB since the installation is in safe area with weather proof housing	kindly refer Inst design philosophy clause no 11.4 for junction box	Noted & Confirmed	Point closed
20			3	5 of 8	2.1.4 Multi-pair junction boxes shall be provided with telephone sockets and plugs for connection of hand-powered telephone set	Is this required?	This requirement shall be discussed during detail engineering	Multi-pair junction boxes shall be provided with telephone sockets and plugs for connection of hand-powered telephone set are not in Bidder's scope	This requirement shall be discussed during detail engineering Point closed
21			4	5 of 8	Power junction boxes (junction boxes for power supply cable / distribution) shall have either the warning cast or shall have warning plate with following marking;	Power JB's are not considered	Noted as per Tender requirement, The same shall be discussed during detail engineering	Noted	Noted, Point closed
22			5	6 of 8	2.1.6 Pneumatic Junction Boxes	Not considered in scope	Noted as per Tender requirement	Noted as it is not part of scope so it is not considered	Noted, Point closed
23			6	7 of 8	2.2 Cable glands, Plugs and Reducers/Adaptors 2.2.4 The cable glands shall be weatherproof. Whenever specified they shall also be increased safety and certificate for the specified electrical area classification specified in the data sheets.	Cable glands shall be weather proof	kindly refer Inst design philosophy clause no 11.5 for cable glands	Noted	Noted, Point closed
24	PC183E/4008/SEC-VI/ PART-8.0	GENERAL SPECIFICATION FOR INSTRUMENT TUBING	1	5 of 9	1.3 Drawings and Data 1.3.2 Final documentation consisting of design data by the vendor or after placement of purchase order shall include the following as a minimum; a) Specification sheet for each type of tube	This will not be applicable for tubes on the compressor and Dryer package	Noted as per Tender requirement.	Noted- it is not applicable for tubes on the compressor and Dryer package	Noted, Point closed
25	PC183/E/4008/ SECVI- PART-3.4	CONTRACTOR SCOPE OF WORK - INSTRUMENTATION DESIGN PHILOSOPHY - INSTRUMENTATION	1	3 of 87	1) Instrument Air package plant shall be provided with DCS/PLC based control system. This control system will accommodate all control/trip and monitoring signal/functions for the unit 2) Common DCS/PLC has been considered for Instrument package and bidder to ensure segregation of individual plant level signals at AI/AO/DI/DO card level so as to ensure the reliability of the system. The same control system shall be applicable for Drying Unit also.	1) We have considered our pre-programmed Fenix control panel for the compressor. This will be on compressor skid and will be used for controls and monitoring of the compressor. Similarly for the dryer package we have considered a microprocessor based control panel as per dryer manufacturers' standard. 2) Each compressor and dryer will have their independent control panel.	Noted as per Tender requirement. The make for Package PLC shall be as per Vendor list subject to TFL/PDIL approval.	Noted	Noted, Point closed
			2	3 of 87	One no. Aux. Console with Ann. window, push buttons, switches for critical trip and alarm shall also be provided	This is not required since we are providing control panel in each compressor skid	This is required in control room	We are providing dedicated Microprocessor based pre-programmed Control Panel which will have push buttons & HMI Screen. Hence Annuciation window can not be provided and not considered. Alarms & trips will be thru Local Control Panel only mounted on Compressor skid	This is required in control room. point closed.
			3	3 of 87	All the required protections & interlocks shall be carried out in DCS/PLC.	All the required protections & interlocks shall be carried out in the compressor control panel provided on each compressor skid	kindly comply NIT requirement	Since we are providing dedicated Microprocessor based pre-programmed Control Panel in each compressor skid hence separate PLC control is not considered for Compressor	kindly comply NIT requirement. point closed.
			4	4 of 87	Beside this, Bidder to arrange power distribution to additional 4 operator station. Supply of 4 OS not in bidder scope, power supply distribution from PDB to OS is in Bidder scope. Bidder to consider PDB panel to achieve the same.	We would suggest that power required for individual OS to be provided by purchaser. This will avoid a PDB in the control room.	kindly comply NIT requirement	We will consider 1 Power Distribution Board for 4 Nos. Operating Stations	kindly comply NIT requirement. point closed.
26			5	5 of 87	All operating conditions including necessary data logging, alarms etc. process Cause and Effect graphics etc. shall be communicated to control system. Changes in 'Operating Modes' (for generating either liquid or gaseous Nitrogen) shall be carried out by control system	This is not considered in our scope	kindly comply NIT requirement	Since, we are providing Air Compressor hence Operating Modes' (for generating either liquid or gaseous Nitrogen) shall not be considered	Noted. point closed.
27			6	6 of 87	The system shall be capable of operating on a continuous or intermittent basis and shall be completely automatic, requiring no operator attention, with all cycle control valves actuated by a control system.	Please check if this is really required. If yes, it will need lot of automation like automatic on/off valves on water lines, air lines, etc.	kindly comply NIT requirement	We have provision in our compressors for Remote Start/Stop however before utilizing this facility healthiness of other important parameters to be checked so request you to please advise for consideration	kindly comply NIT requirement. point closed.
28			7	6 of 87	Analyzers shall be designed for continuous monitoring	Please explain this requirement	Shall be discussed during detail engineering	We need explanation as it is not clarified with specifications. However, if the requirement is for Dew Point meter then we have considered the same after the Dryer.	The requirement is for Dew Point/Moisure analyser or any other analyser as per requirement Point closed
29			8	9 of 87	One no. Aux. Console with Ann. window, push buttons, switches for critical trip and alarm shall also be provided.	Not required. If required, where do we provide this	This is required in control room	We are providing dedicated Microprocessor based pre-programmed Control Panel which will have push buttons & HMI Screen. Hence Annuciation window can not be provided and not considered. Alarms & trips will be thru Local Control Panel only mounted on Compressor skid	alarm, trips, annunciator window etc. all to be provided in control room . Kindly comply NIT requirement Point closed
30			9	11 of 87	SIL certification rating for all the instruments shall be minimum as per following list :- 1) All Smart Positioners - SIL 2 2) All Transmitters - SIL2 3) All Solenoids - SIL 3	Generic certification will be provided. Certificate specific to the instrument supplied will not be provided	kindly comply NIT requirement	Noted & confirmed for Instrument in line with NIT, there will not be any SIL rating for Local control panel . PLC panel will be SIL2	Noted. point closed.
31			10	14 of 87	3.40 Hart Compatible gas-detectors to be provided. Electrochemical type gas detectors shall not be considered. Bidder to submit suitable gas detectors as per OEM recommendation/ as per ITB as specified elsewhere. Bidder to submit gas detectors quantity calculation	Gas detectors are not considered in scope	Noted as per Tender requirement.	Noted - Gas detector is not in our scope	Noted. point closed.

32			11	19 of 87	5.0 HAZARDOUS AREA CLASSIFICATION & ELECTRICAL EXECUTION 5.1 Irrespective of area classification, the execution of instrumentation shall be as per area Zone 2, group IIC, T6, Exia and Protection. Electrical / Electronic instruments IP 67	Is this required for safe area installation	kindly comply NIT requirement	As per amendment 1 dated 5th July, 2021, Air Compressor will be installed in safe Area only. We will provide instruments suitable for Zone-2 gas group IIA/B temperature class T3. Motor, heater, dew point meter will be for safe area only	As per amendment 1, Sr. No 13. Point closed
33			12	50 of 87	8.2 DCS CONTROL SYSTEM and all sub-clauses	Not considered in scope hence not applicable	Noted as per Tender requirement.	Noted for PLC as DCS is not in our scope	Noted. point closed.
34			13	53 of 87	8.2.7 Controller Loading Each Controller loading shall not exceed more than 50% (hardware and software load of each controller) in any case, after implementation of complete project and running at peak load. In case more controllers are required to meet 50% loading criteria, CONTRACTOR to include additional controllers without any cost implication.	Is this applicable for DCS controller only?	This is applicable for any control system used	We will consider 50% loading for the Common PLC Controller only	Noted. point closed.
35			14	59 of 87	8.7 Annunciator	Not required since faults will be visible on the HMI	kindly comply NIT requirement	We will provide HMI where all faults, alarms & trips will be visible	kindly comply NIT requirement Point closed
36			15	60 of 87	9.4 Instrument air shall be provided for purging of local panel	Not required for safe area	kindly comply NIT requirement	As per amendment 1 dated 5th July, 2021, Air Compressor will be installed in safe Area only. Control Panel will be for safe area only hence purging is not considered	As per amendment 1, Sr. No 13. However all control panel purging shall be as per NIT Point closed
37			16	67 of 87	11.4 JUNCTION BOX b) JB MOC shall be FRP and 4 mm thick sheet. Junction boxes shall be for IEC Zone 2 & Gas group IIA/IIB EExe. with acid resistant gasket (will be freezed during detailed engineering).	Please confirm JB MOC - FRP or SS316 Please confirm area classification for JB and other accessories	JB MOC shall be FRP and 4 mm thick sheet. Junction boxes shall be for IEC Zone 2 & Gas group IIA/IIB EExe. with acid resistant gasket	Noted	Point closed
38			17	77 of 87	All type of instrument tapping flange rating shall be minimum ANSI 300#, irrespective of minimum design pressure	This is not required for the discharge pressure specified. Definitely not required on suction side of the compressor. So please remove this requirement	Shall be discussed during detail engineering	It will be as per manufacturer's standard as per amendment 1 dated 5th July, 2021	Shall be finalized during detail engineering, point closed
39	Document No. PC150/E/4004/P-VI-3.3	TECHNICAL SPECIFICATION - LOCAL CONTROL STATION (PC183-TS-0817)	1	3 of 9	5.0 GENERAL DESIGN AND CONSTRUCTIONAL FEATURES 5.2 The enclosure shall be of die cast Aluminium alloy LM-6. As an alternative to cast Aluminium, fibre glass enclosure is also acceptable.	Please confirm the MOC of JB - SS316, FRP or LM6	As per NIT.	Noted as per reply given by PDIL/TFL under line No. 84 above. JB MOC shall be FRP	As per NIT Point closed
40			2	4 of 9	6.0 SPECIAL FEATURES FOR FLAME PROOF LOCAL CONTROL STATION	Not applicable for safe area application	As per NIT.	As per amendment 1 dated 5th July, 2021, Air Compressor will be installed in safe Area only. Control Panel will be for safe area only hence FLP is not considered	As per NIT Point closed
41	Document No. PC150/E/4004/P-VI-3.3	TECHNICAL SPECIFICATION - INDUCTION MOTOR (PC183-TS-0810)	1	4 of 12	4.2 Cooling For CACA motor - Aluminium tubes having minimum thickness of 1.6 mm	We will offer CACA motor with cooling as per IC611. Thickness of aluminum tubes needs to be checked with motor supplier	As per NIT.	Attaching Comments & deviation on Electrical specifications from our Motor Supplier. Request you to please check & confirm	As per NIT Point closed
42			2	10 of 12	7.5 Oil Supply System 7.5.2 However, the motor supplier shall quote separate price for the complete oil system of the motor.	Not required for the size of motor we are offering hence not considered	Noted	Noted	Point closed
43			3	6 of 12	4.9 Terminal Box 4.9.3 The power terminal boxes shall be as follows: a) For H.V. motors - Phase segregated type capable of with standing the system fault level for 0.2 Sec. or more.	Please define the system fault level. This will need to be checked with motor supplier. There might be a deviation	Fault level at 3.3kV Switchboard is 26.24 kA	Noted	Point closed
44	DOCUMENT NO PC183/E/4008/SECVI/PART-3.3	SPECIFICATION SHEET INDUCTION MOTOR	1	27 of 34	Cooling Method : IC411	Please reconfirm the requirement of IC411 cooling method for motor	For TEFC motor IC411	Noted- Main compressor Drive motor will be CACA	Noted, However, cooling method: IC 511 shall be applicable. Point closed.
45	DOCUMENT NO PC183/E/4008/SECVI/PART-3.3	DESIGN SPECIFICATION- ELECTRICAL	1	6 of 34	2.2 Statutory requirement Codes and Standards iv) As applicable, Bidder shall obtain approval from all statutory authorities as applicable such as Central Electricity Authority (CEA)/Electrical Inspectorate, CPCB etc. The CEA clearance for electrical equipment and components as applicable thereof shall be obtained by the bidder	Not considered in bidders scope	Noted	Noted	Point closed
			2	8 of 34	3.0 AREA CLASSIFICATION	We are considering safe area	As per NIT	Noted as per amendment 1 dated 5th July, 2021	As per amendment 1, Sr. No 13. Point closed
			3	10 of 34	5.2 MOTOR AND DRIVE COORDINATION b. To arrange where necessary for testing with Soft starter unit to confirm compliance with requirements of load, noise, vibration, temperature rise, etc.	Testing with soft starter has not been considered	As per NIT	It is not possible at works so it will be done at site only	As per NIT, Point closed
			4	11 of 34	h) All LV motors shall be TEFC type as per relevant Indian Standards/IEC while HV motors shall be TEFC/CACA type.. All motors shall be Class-F insulated with temperature rise limited to that of Class-B.	We have considered CACA HV motors Please confirm	Noted	Noted	Point closed
			5	11 of 34	k) All HV motors shall have winding, hot air and bearing RTDs. All the temperature signals shall be terminated to DCS as well as LMS.	What is LMS?	Load Management system.	Noted- We understand that common PLC system is load management system	DCS And LMS are two different System. Point closed
			6	11 of 34	n) The starting current of 11 KV & 3.3 KV motors shall not exceed 550% of FLC. No positive tolerance is acceptable over 550% FLC.	We have considered 550% FLC for 11kV main motor. Please confirm	No positive tolerance is acceptable over 550% FLC.	Noted	Point closed
			7	11 of 34	q) In case of 11 KV & 3.3 KV motor, the terminal box shall be suitably designed for proper termination of XLPE insulated Aluminium cables through heat shrink termination kit	Termination kit is not considered in bidder scope	As per NIT.	Noted, we shall consider termination Kit in our scope	Noted, Point closed

			8	12 of 34	r) The mechanical parameters such as duty, mounting type, shaft extension, direction of rotation, starting torque requirements etc. shall be adequate for the application. Sleeve or anti friction type bearings shall be used.	We have considered anti-friction bearings for motor. Please confirm	Noted.	Noted	Point closed
			9	12 of 34	t) All HV motors shall have safety factor not less than 1.1.	Please explain this requirement	Safety factor not less than 1.1 for motor rating sizing calculation.	Noted for rated condition	Point closed
			10	13 of 34	5.6 HV MOTOR SOFT STARTER 5.6.1 The motor starter shall be Flux compensated magnetic amplifier (FCMA) type with bypass breaker/contacter. 5.6.2 The motor starter shall be designed to restrict starting current upto 2.0 times of motor full load current (inclusive of any tolerance) at Supply bus	Please confirm the requirement of FCMA soft starter. If requirement is for FCMA starter then FCMA starters manufacturers' need to be added in vendor list	As per NIT.	Please include soft starter vendor as requested above	Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering. Point closed
			11	19 of 34	5.9 Local Control Stations	Local Control Stations for motors are not considered.	As per NIT.	Local Control Station for individual Motor is not required for offered design compressor system	As per NIT, Point closed
			12	25 of 34	11.5 At least following tests shall be specifically conducted before commissioning in presence of owner's representative. All the test results shall be recorded and submitted to the owner. a) Insulation Test b) Continuity Test c) High Voltage Test d) Simulation Test e) Earth Resistance Test	These tests cannot be performed before commissioning. These can be offered in vendor works prior to shipment	As per NIT.	These tests cannot be performed before commissioning. These can be offered in vendor works prior to shipment. We have attached QAP from our Motor Vendor, it will be applicable for Motor. Request you to please check & confirm	As per NIT, Point closed
46	PC183/E/4008/ SEC-VI/PART- 3.2.2	DESIGN SPECIFICATION – ROTATING EQUIPMENTS	1.0 SCOPE	3 of 10	1.1.1 This Philosophy states that scope of work shall include basic & detailed engineering, procurement, supply, manufacturing, fabrication, transportation, loading, insurance during transit of all Mechanical Rotating Equipment with allied electrical, instrumentation and civil scope, obtaining all necessary statutory approvals from concerned government authorities as applicable, testing, mechanical completion, supervision/assistance in erection, Mechanical Completion, Pre-Commissioning, Commissioning, performance guarantee test runs of INSTRUMENT AIR / PLANT AIR SYSTEM for M/s TFL ODISHA.	1.1.1 This Philosophy states that scope of work shall include basic & detailed engineering, procurement, supply, manufacturing, fabrication, transportation, loading, insurance during transit of all Mechanical Rotating Equipment with allied electrical, instrumentation and civil scope, obtaining all necessary statutory approvals from concerned government authorities as applicable, testing, mechanical completion, supervision/assistance in erection, Mechanical Completion, Pre-Commissioning, Commissioning, performance guarantee test runs of INSTRUMENT AIR / PLANT AIR SYSTEM for M/s TFL ODISHA.	Same shall be as per the NIT.	As agreed in above that any type Civil work is not in Bidder's scope so we shall not consider the same. Moreover any statutory approvals from concerned government authorities is not in Bidder scope as per amendment 1 dated 5th July, 2021	Same shall be as per the NIT. Point closed
47			3.0 DESIGN REQUIREMENTS	5 of 10	3.1.2 Copper (Cu) or Cu-alloy shall not be used for any components in Ammonia Plant & in other plant for ammonia services	Since this is not installed in Ammonia Plant or in other plant for ammonia service, Copper or copper alloys can be used	cu and cu alloy shall not be used since ammonia complex, however, if it becomes unavoidable then vendor to take approval from TFL/PDIL on case to case basis	Noted	Point Closed
48			3.0 DESIGN REQUIREMENTS	5 of 10	3.1.5 Noise level for all rotating equipment shall be limited to 85 dBA measured at 1meter distance from the equipment. Statutory guideline shall also be followed by contractor	We will include acoustic enclosure to restrict the noise level to 85dBA. Power for the enclosure fan and lighting will be separately provided by purchaser	Noted	Noted	Point Closed
49			3.2 Centrifugal Compressors (for Air services)	6 of 10	3.2.3 Driver rating shall be at least 110% of Compressor rated BKW at rated condition or BKW at unthrottled min. ambient temp. & maximum Atm. Pressure whichever is higher.	Margin over BKW at unthrottled min. ambient temp. & maximum Atm. Pressure is not required for motor sizing	Same shall be as per the NIT.	Noted	Point Closed
50			3.2 Centrifugal Compressors (for Air services)	6 of 10	3.2.6 Following performance characteristics shall be furnished for compressor: a. Discharge pressure vs Inlet capacity (i.e. actual inlet volume) b. Polytropic head vs Inlet capacity (i.e. actual inlet volume) c. Compressor BKW vs Inlet capacity (i.e. actual inlet volume) d. Polytropic efficiency vs Inlet capacity (i.e. actual inlet volume) The performance shall be shown from surge limits to choke limits. Expected surge line and surge control line shall be shown on each performance map.	b & d cannot be provided	drg-doc schedule of NIT to prevail.	performance curve will be submitted as below: a. Capacity Vs Pressure b. Capacity Vs Power	drg-doc schedule of NIT to prevail. Point closed
51			3.2 Centrifugal Compressors (for Air services)	7 of 10	3.2.12 Combined Force lubrication and seal oil system (as applicable) shall be provided for compressor and motor assembly. API-614 standards to be complied for lube oil system.	API 614 standards will be followed; the lube oil system will be part of compressor skid only.	Noted	Noted	Point Closed
52			3.3 Reciprocating Compressors	7 of 10	3.3.1 Lateral and torsional critical speed analysis shall be carried out to ensure the elimination of any lateral and torsional vibration that may hinder the operating speed range.	Not required for belt driven machine	belt driven machine to be avoided. Direct coupled machine to be provided, and requisite test as per NIT / API to be conducted.	HP Reciprocating Compressor is small compressor and as per API 618, belt drive is acceptable below 200HP Rated Motor. Lateral and torsional critical speed analysis is not applicable	As per NIT, Point closed
53			3.3 Reciprocating Compressors	7 of 10	3.3.3 The piston speed for lubricated cylinder shall not exceed 4 m/s and for non-lubricated cylinders it shall be limited to 3 m/s.	This is too low for air compressors. Please increase to 3.5 m/s	Please furnish your limitation with due justification during detail engineering	Noted we shall provide justification during detailed engineering	Point Closed
54			3.3 Reciprocating Compressors	7 of 10	3.3.12 For API compressors the requirements for acoustic study shall be in accordance with the API recommendation.	Not required for this size of compressors	acoustic study shall be in accordance with the API recommendation.	Noted. Please advise the approach for pulsation study for recip compressor	API 618 shall be followed. Point closed
55			4.0 INSPECTION & TESTING	9 of 10	4.2 In general, following tests shall be conducted for all rotating equipments: - Performance Test	Performance test for booster compressors are not possible	Please furnish your limitation with due justification..	Performance test for booster compressors are not possible because HP Air is required at Compressor's suction which is not available in the factory test set-up. Mechanical rub test for booster air compressors are acceptable in line with industry accepted practice	API 618 shall be followed. Point closed

56			7.0 VENDORS LIST	10 of 10	All equipment shall be procured / fabricated as per approved vendor list	For the HP reciprocating compressors, we will buy components from our proven and approved vendors which may not be in approved vendor list. For example, coolers and bottles for the HP compressor will be from Aero Engineers, Ahmedabad	PDIL approved vendor list shall be followed. Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering	Noted in line amendment 1 dated 5th July. That within Skid of Compressor, we shall follow IR approved vendor list only as components are part of our compressor design	PDIL approved vendor list shall be followed. Approval of any additional vendor shall be as per GCC clause No 12.3.2 & same shall be considered during detailed engineering, Point closed
57	DOCUMENT NO PC183/E/4008/SEC-VI/PART-3.2.1	DESIGN PHILOSOPHY- STATIC EQUIPMENT	1. 0 Design Criteria	3 of 39	1.2 The equipment shall be designed & constructed as per the latest edition of the following codes and standards: TEMA 'R' / API 660 Standards of Tubular Exchangers Manufacturer's Association / For Shell & Tube Heat Exchanger	TEMA C will be considered for coolers	TEMA Class 'C' may be used for auxiliary heat exchangers for rotating and packaged equipment exchangers as per NIT.	Noted	Point Closed
58			1. 0 Design Criteria	5 of 39	1.15 All process equipments shall be supplied with Nitrogen filled. In case of equipment assembled and welded at site, it shall be filled with N2 after testing at site. Dry Nitrogen shall be filled at a pressure of 0.5 Kg/cm2g and equipment shall be fitted with a pressure gauge and valve.	Is this required. Please confirm	NIT condition to be followed	N2 filling will not be applicable as agreed above Sr. No. 87	Amendment-1 Sr. No-28 to be followed. Point closed
59			1. 0 Design Criteria	6 of 39	1.24 For equipment designed as per IBR, materials/design/inspection e.t.c shall strictly comply with the requirement of the IBR code. 1.25 IBR Approval for Design Calculations drawings, documents. Testing as per IBR requirements & Certification shall be in the scope of Contractor. All vendors, sub-vendors, fabricators & welders etc should be IBR approved. 1.26 PESO Approval for Design Calculations, drawings, documents, testing e.t.c as per PESO requirements & Certification shall be in the scope of Contractor.	IBR and PESO not applicable & not considered	IBR is not required. For high pressure vessels code/standards shall be applicable along with PESO approval if required.	Noted	Point Closed
60			2.0 Material of Construction	9 of 39	2.2.9 Unless otherwise specified girth flanges shall be of forged quality and ultrasonically tested	We have not considered any girth flanges in the receivers we have quoted	Refer clause number 3.3.16 of PC183/E/4008/SEC-VI/PART-3.2.1 for girth flange requirement. However requirement of flange or manhole will be decided during detail engineering as per NIT.	Noted. Manhole will be provided but Girth flange is not considered	To be finalized during detailed engineering as per NIT condition. Point closed
61			3.2 Shell and Tube Heat Exchangers	11 of 39	3.2 Shell and Tube Heat Exchangers 3.2.1 Process Shell and Tube Exchangers will comply with the requirements TEMA (Latest) Class 'R'. The tube sheet shall be analysis by Appendix "UHX" of ASME Section VIII, Div. 1 & TEMA whichever is more stringent. (TEMA Class 'C' may be used for auxiliary heat exchangers for rotating and packaged equipment exchangers.)	Based on this clause, we will be offering TEMA C coolers	TEMA Class 'C' may be used for auxiliary heat exchangers for rotating and packaged equipment exchangers as per NIT.	Noted	Point Closed
62	DOCUMENT NO PC183/E/4008/SEC-VI/PART-3.2.1 (SOW)	SCOPE OF WORK (STATIC EQUIPMENT)	1.0 Scope	page 2 of 3	Bidder scope of Work (For Static Equipment) shall include but shall not be limited to following j) N2 filling of equipment k) Storage and preservation at site l) Statutory approvals (IBR,PESO, e.t.c)	Not considered in bidders scope	Equipment to be supplied to site in N2 filled condition as per NIT requirement	Noted as it has been agreed in Sr. No. 87	Amendment-1 Sr. No- 28 to be followed. Point closed
63	DOCUMENT NO PC183/E/4008/SEC-VI/PART-3.1	DESIGN SPECIFICATION - Process	1.0 GENERAL:	page 3 of 8	1.0 GENERAL: The plants shall be designed to operate safely and satisfactorily at a capacity of 50 to 110% of Design Capacity	Not applicable for the offered compressors and accessories	Under review,Amendment if required, shall be issued shortly.	Noted as per amendment 1 dated 5th July, 2021	Point closed
64			7.0 COMPRESSORS:	page 7 of 8	7.0 COMPRESSORS: In general, compressors shall be designed to a minimum of 110 % of their maximum required flow.	Not applicable for the offered compressors and accessories	Under review,Amendment if required, shall be issued shortly	Noted	As per Amendment 1, sr. No 7 Point closed
65			Schematic Process Flow Diagram			We will discuss the schematic process flow diagram	Schematic diagram is for indicative purpose only, bidder has to provide during the design & detailed engineering	Noted	Point closed
66	DOCUMENT NO PC183/E/4008/SEC-VI/PART-2.0	SECTION -VI: TECHNICAL PART - 2.0 TECHNICAL SPECIFICATION	2.0 DESIGN BASIS: 2.1 DESIGN CAPACITY	Page 3 of 10	Online Dew point analyser with range of 0 - (-) 60 Degree Celsius at the inlet of IA receiver shall be provided.	Dew point meter will be adequate for the application and we have considered the same	As per NIT	Dew point meter will be adequate for the application and we have considered the same	As per NIT Point closed
67			2.0 DESIGN BASIS: 2.1 DESIGN CAPACITY	Page 3 of 10	2.4 Hazardous Area Classification: In general Area classification shall be in accordance with IS 5572 along with latest update.	We are considering safe area for all equipments including elctricals, instrumentation and controls	As per NIT	As per amendment 1 dated 5th July, 2021 ,Air Compressor will be installed in safe Area only . We will provide instruments suitable for Zone-2 gas group IIA/B temperature class T3. Motor , heater , dew point meter and Control Panel will be for safe area only	As per Amendment 1, Sr.No-13 Point closed
68			2.5 Equipment Specifications 2.5.1 Air Compressor	page 3 of 10	Capacity Control 0-100%	in cetrifugal compressor this range of capacity control is possible with IGV plus by-pass valve fully open	Under review,Amendment if required, shall be issued shortly.	Noted	As per amendment -1, sr no-8 Point closed
69			2.5.2 Air Compressor after Cooler	Page 4 of 10	Allowed pressure drop (cooling water) 0.5 Kg/cm2 (between Battery Limit)	Pressure drop across the after coler will be approximately 1 kg/cm2	However to maintain an optimum pipe line velocity to avoid dirt deposition inside the cooler tube, pressure drop from B/L to B/L will be atleast 1.0 kg/cm2.	Noted	Point closed
70			2.5.2 Air Compressor after Cooler	Page 4 of 10	NOTE: All heat exchangers MOC shall be as follows: 1) SHELL : KCS+3mm CA 2) TUBE: SS-304/SS-304L 3) Channel : Carbon Steel	Intercooler & aftercooler shell MOC will be Cast Iron	As per NIT	Noted	Point closed

71			2.5.3 Wet Air Receiver K.O. Drum (IF APPLICABLE)	page 4 of 10	2.5.3 Wet Air Receiver K.O. Drum (IF APPLICABLE) Capacity By bidder but not less than (30 m3)	Please confirm the requirement of wet air receiver. It cannot be if applicable To size the receiver capacity, we will need the following data: Alternatively, we will supply 30M3 receiver. Please confirm. RECEIVER FILL FLOW RATE PROCESS DEMAND FLOW RATE INITIAL RECEIVER PRESSURE FINAL RECEIVER PRESSURE TIME ALLOWED FOR RECEIVER PRESSURE DROP FROM INITIAL TO FINAL PRESSURE	Receiver fill flow rate -16000 Nm3/hr Initial Receiver pressure- 10.5 kg/cm2g Final Receiver pressure-5 kg/cm2g Time- 15 minutes	Noted. We have now size the receiver as per data provided by you . Receiver sizing calculation is attached for your reference. Request you to please check & confirm	Low pressure wet air receiver & Instrument Air Receiver capacity shall be as per Amendment-1 sr.no-1&2. HP Instrument Air emergency Receiver calculation shall be as per flow 8000 nm3/hr , point closed
72			2.5.4 Adsorber	Page 5 of 10	2.5.4 Adsorber Desiccant Molecular Sieve	If alternative dessiccants can deliver the required dew point, please confirm we can use the same	Under review,Amendment if required, shall be issued shortly	Noted	As per amendment -1, sr no-10, Point closed
73			2.5.4 Adsorber	page 5 of 10	Bidder shall provide 1 No. Low Pressure Wet Air Receiver upstream of Instrument Air Generation package to avoid any fluctuations in operation of Instrument Air Generation package.	Please explain this requirement	This is same wet air receiver as explained in 2.5.3	Noted. We have now size the receiver as per data provided by you . Receiver sizing calculation is attached for your reference. Request you to please check & confirm	Low pressure wet air receiver & Instrument Air Receiver capacity shall be as per Amendment-1 sr.no-1&2. HP Instrument Air emergency Receiver calculation shall be as per flow 8000 nm3/hr , point closed
74			2.5.12 Instrument Air Receiver	Page 6 of 10	2.5.12 Instrument Air Receiver	To size the receiver capacity, we will need the following data: RECEIVER FILL FLOW RATE PROCESS DEMAND FLOW RATE INITIAL RECEIVER PRESSURE: 36.5 Kg/cm2G FINAL RECEIVER PRESSURE: 8 Kg/cm2G TIME ALLOWED FOR RECEIVER PRESSURE DROP FROM INITIAL TO FINAL PRESSURE: 30 minutes	Receiver fill flow rate -8000 Nm3/h PROCESS DEMAND FLOW RATE- 8000 Nm3/hr	Noted. We have now size the receiver as per data provided by you . Receiver sizing calculation is attached for your reference. Request you to please check & confirm	Low pressure wet air receiver & Instrument Air Receiver capacity shall be as per Amendment-1 sr.no-1&2. HP Instrument Air emergency Receiver calculation shall be as per flow 8000 nm3/hr , point closed
75			2.5.13 HP Compressor		2.5.13 HP Compressor No 1 Type Reciprocating Discharge Pressure 40 Kg/cm2g Capacity By Vendor	Please advise: Suction Pressure Suction Temperature Suction RH Capacity Any other requirement to size the compressor	Suction Pressure - 7 kg/cm2g Suction Temperature- 45 Deg C Suction RH- Not applicable, Dew Point-(-)40 Deg C at atm Capacity- Under review,Amendment if required, shall be issued shortly.	Noted	Point Closed
76			2.6 SITE METEOROLOGICAL DATA:	Page 7 of 10	2.6 SITE METEOROLOGICAL DATA: 1 Atmospheric Pressure: Average 1008 mbar 2 Ambient Temperature Maximum Dry Bulb Temperature 46.3°C Minimum Dry Bulb Temperature 1°C Wet Bulb Temperature 29°C Average temperature 31.90C	Please confirm the temperature to select/ Design the centrifugal compressor flow and motor power.	RH-100%, at 31.9 Deg C Max Temp, 46.3 Deg C Min Temp, 1 Deg C Avg Temp 31.9 Deg C Atm Pressure- 1008 Mbar	Noted. Guaranteed Parameters of flow i.e 8000Nm3/HR and Corresponding Power will be furnished at design condition (31.9 deg c & 100% RH)	Point closed
77			3.0 Guarantees:	Page 7 of 10	3.0 Guarantees: 3.1 Workmanship guarantee: Bidder shall guarantee all components of package against faulty design, improper material of construction and poor workmanship in addition to performance guarantee. Repaired or replaced part shall also be covered by same guarantee as in case of main supply	Please replace guarantees with warranties Repaired or replaced part shall also be covered by same warranty as in case of main supply. The warranty period for the repaired or replaced component will not exceed the original warranty period agreed in the contract	As per NIT	Please replace guarantees with warranties Repaired or replaced part shall also be covered by same warranty as in case of main supply. The warranty period for the repaired or replaced component will not exceed the original warranty period agreed in the contract	AS per NIT, Point closed
78			3.3 Process Guarantees: Performance Guarantee parameters for Instrument air system:	Page 9 of 10	3.3 Process Guarantees Performance Guarantee parameters Instrument air system 3.3.9 Pressure drop across each Air Instrument dryer & across the system shall not exceed 0.5 Kg/cm ² .	Pressure drop across the dryer will be 0.5 Kg/cm ² . So pressure drop across the system will be more than this	As per NIT	We will meet your requirement of 8.8 Kg/Cm ² at the outlet of Dryer for Instrument Air and 9.3 Kg/Cm ² for Plant Air	AS per NIT, Point closed
79			4.0 Time Schedule	Page 10 of 10	4.2 Master network shall be prepared in Primavera software. 4.4 Within fifteen days after award of letter of intent bidder shall submit for review and approval of detailed network schedules based on master network	We will submit project schedule in MS Projects within 45 days from PO	MS projects may also be consider but time schedule shall be as per NIT (15 days)	Noted	Point closed
80	DOCUMENT NO PC183/E/4008/SEC-VI/PART-1.0	SCOPE OF WORK	1.1 GENERAL DESCRIPTION OF PACKAGE:	page 2 of 13	1.1 GENERAL DESCRIPTION OF PACKAGE Instrument/plant air system shall comprise of following items for each location: - 2 Working +1 Stand by Centrifugal Air Compressors - 1 No Moisture Separator Knock Out Drum - 1 Working +1 Stand by Electric Heater with standby dryer/regeneration vessel with no purge loss) - 1 No. Dried Air After Cooler - 2 No. Dry Air Receiver vessel - 1 working +1stand by Set of Instrument Air dryers - 2 No. Low Pressure Wet Air Receiver - 1 No. High pressure compressor @ 40 kg/cm2g discharge pressure for back up receiver. - 1 No. Back up Instrument Air receiver for 30 min emergency storage @ 36.5Kg/cm2g pressure	1 No Moisture Separator Knock Out Drum - will be integral to the compressor coolers - 1 Working +1 Stand by Electric Heater with standby dryer/regeneration vessel with no purge loss) - we will be bidding with a No Loss Split Flow type of dryer - 1 No. Dried Air After Cooler - this will be part of dryer - 2 No. Dry Air Receiver vessel - please revise the PFD to show the dry air receivers - 2 No. Low Pressure Wet Air Receiver - please confirm the requirement of wet air receiver and the quantity and revise the PFD accordingly	As per NIT	Noted as per amendment 1 dated 5th July, 2021	Point closed
81			1.1 GENERAL DESCRIPTION OF PACKAGE:	Page 2 of 13	Instrument Air provided by at battery limit considering design flow rate of 8000 Nm3/hr, ACTIVATED Alumina data sheet is to be provided with these Tender documents to ascertain the quality by vendors.	Instrument air cannot be 8000 Nm3/hr since some air will also be used as plant air Are you suggesting the use of activated alumina as dessiccant - please confirm	As per NIT, Activated Alumina is dessiccant for dryer service	Noted	As per amendment -1, Sr. No-10, Point closed

82			2.0 SCOPE OF WORK	Page 3 of 13	2.0 SCOPE OF WORK structural, architectural, piping and insulation works etc	Structural and architectural works are not in bidders scope Insulation will be limited to hot air piping on the dryer	ConfirmedCivil, structural and architectural works are not in bidder's scope. However, installation of various equipments with equipments bolts shall be in bidder's scope. Also, const. of earth pits for laying of burried electrical cables is also in bidder's scope. Concrete trench and pits shall be in Owner's scope. It should be noted that Bidder has to timely provide the following information to the Owner/PMC -equipment installation schedule, foundation plan with pocket details, load data etc for design and construction of foundations etc	We shall supply material required for earth Pit and laying & installation will be done but any construction work like digging also will be in by Owner's scope.	We shall supply material required for earth Pit and laying & installation will be done but any construction work like digging also will be in by Owner's scope. We shall provide GAFD(General Arrangement foundation drawing) which will be submitted within 4 months from date of Contract/PO	We shall supply material required for earth Pit and laying & installation will be done but any construction work like digging also will be in by Owner's scope: Noted & Point closed GAFD(General Arrangement foundation drawing) which will be submitted within 4 months from date of Contract/PO: Shall be discussed during Kick of meeting at the time of submission of GAFD. Point closed
83			Temporary Construction Facilities:	Page 4 of 13	i. Construction power supply facilities: 1 No. 11 kV Feeder (rated for 2 MVA) at Existing Substation near 132 KV Switchyard shall be made available	11kV for construction power is not required. Please provide 415 V and 220V as construction power	As per NIT	Please provide 415 V and 220V as construction power as step down of voltage is not possible for temporary arrangement	AS per NIT, Point closed	
84			Civil scope of work has been already taken in bagging building Tender.	Page 5 of 13	Civil scope of work has been already taken in bagging building Tender.	Civil work is not in our scope and hence this section of the tender is not applicable to bidder	OK. Kindly refer our above reply on similar issue.SI. 82.	Please read our reply as mentioned on similar issue.SI. 82.	Point closed	
85				Page 5 of 13	2.3 Bidder's scope of Work (For Static Equipment) shall include but shall not be limited to following: a) Process Design and Engineering comprising preparation of the following documents:- Interlock and logic diagram with full description	We cannot share compressor surge logic diagram	As per NIT	We cannot share compressor surge logic diagram as it's Proprietary item	As per NIT	
86				Page 6 of 13	b) Detailed Engineering comprising of:- Plot plan development,	Plot plan needs to be provided by purchaser	Plot plan already provided	Noted	Point closed	
87				Page 6 of 13	j) N2 filling of equipment	N2 filling of equipment not considered	Agreed	Noted	Amendment-1 Sr. No-27 & 28 to be followed. Point closed	
88				Page 6 of 13	k) Stage wise and final inspection by appointed TPIA/Owner	Payment toTPIA to be made by purchaser	As per NIT, Payment of TPIA shall be in bidder's scope	Noted	Point closed	
89				Page 6 of 13	Bidder scope of supply for Static equipment shall include but shall not be limited to following Insulating material, primer paints, fire proofing material etc.	Insulating material will be applicable for dryer and supplied pre-installed on dryer. Primer paints and fire proofing material is not considered in bidder scope	fire proofing material shall not be considered in bidder scope	Noted	Amendment-1 Sr. No-27 to be followed. Point closed	
90				Page 6 of 13	Supply of material & equipment required for blast cleaning, chemical cleaning, pickling Passivation, surface preparation & polishing & coating of internal surface, epoxy coating, rubber lining, and FRP lining e.t.c. for equipment as applicable.	This is not considered in bidders scope	Surface preparation & polishing Epoxy Coating and coating of internal surface like rubber lining and FRP lining of internal surface if any shall be provided.	Noted	Amendment-1 Sr. No-27 to be followed. Point closed	
91				Page 7 of 13	Supply of all equipments , tool & tackles including torque wrench, bolt tensioned etc. as per specification and all material required for inspection and testing (i.e. NDT, Hydro testing, performance testing e.t.c)	Supply of tools tackles not considered in bidder scope	As per NIT	As any special tools & tackles are not required for our compressor so it will not be applicable. All material required for inspection and testing (i.e. NDT, Hydro testing, performance testing e.t.c) will not be applicable.	As per Amendment-1, sr. No-28, Point closed	
92				Page 7 of 13	2.5.1 Process Design and Engineering comprising preparation of the following documents:- PFD with major controls, material & energy balance,	Controls need to be defined by purchaser Energy Balance is not included in our scope	As per NIT	Controls need to be defined by purchaser Energy Balance is not included in our scope	AS per NIT, Point closed	
93				Page 7 of 13	2.5.2 Detailed Engineering comprising of:- - Plot plan development	Plot plan development is not part of bidders scope	As per NIT	Noted as it has been agreed in Sr. No. 86	Point closed	
94				Page 7 of 13	All type of Insulation, cladding, and painting of the plant.	Insulation will be on dryer only Painting of plant is not in bidders scope	As per NIT	Please clarify as we have considered Insulation will be on dryer only Painting of plant is not in bidders scope	As per NIT. Point closed.	
95				Page 7 of 13	Unloading, prolong storage/preservation and security at site	Prolong storage/preservation and security at site s not included in scope	Upto commissioning of plant Unloading, prolong storage/preservation and security at site shall be in bidder's scope	Please advise the timelines as it's open statement	Upto commissioning of plant Unloading, prolong storage/preservation and security at site shall be in bidder's scope.Point closed.	
96				Page 7 of 13	Construction, erection, installation, assembly, hook ups and field testing.	Construction not included in bidders scope	Civil, structural and architectural works are not in bidder's scope. However, installation of various equipments with equipments bolts shall be in bidder's scope. Also, const. of earth pits for laying of burried electrical cables is also in bidder's scope. Concrete trench and pits shall be in Owner's scope. It should be noted that Bidder has to timely provide the following information to the Owner/PMC -equipment installation schedule, foundation plan with pocket details, load data etc for design and construction of foundations etc	We shall supply material required for earth Pit and laying & installation will be also done but any construction work like digging is required then it will be done by Owner. We shall provide GAFD(General Arrangement foundation drawing) will be submitted within 3 months from date of Contract/PO	We shall supply material required for earth Pit and laying & installation will be done but any construction work like digging also will be in by Owner's scope: Noted & Point closed GAFD(General Arrangement foundation drawing) which will be submitted within 4 months from date of Contract/PO: Shall be discussed during Kick of meeting at the time of submission of GAFD. Point closed	
97				Page 8 of 13	- Filling of lubricants, Oils, consumables, chemicals etc. (for first filling and replacement as required before handing over to owner) '- Clear the work space of all construction aids debris etc. and provide a tidy work place from pre-commissioning stage.	These are not included in bidders scope of work	As per NIT	Noted as agreed in Sr. No 100.We shall supply equipment with 1st filled and rest will be procured by owner as per supplier's recommendations	As per NIT, Point closed	

98				Page 8 of 13	All statutory clearances and permits from local, statutory and other bodies such as Indian Boiler Regulations, Static and mobile pressure vessel rules, Chief controller of explosives, Factory inspector, Labour Inspector, Electrical inspector, pollution controls board etc. - Contractor shall prepare a comprehensive equipment List showing all items classified on the basis of each Process and utility unit. Equipment list shall also identify Equipment requiring:- - Approval from Statutory authorities (PESO, IBR, etc.), - ASME Code Stamping, - Compliance to Petroleum rules, etc	These are not included in bidders scope of work	Support activities for all statutory clearances and permits from local, statutory and other bodies shall be in bidder's scope	We shall follow all statutory requirements for Labour like PF, wages & insurances and anything other than it, shall be in Owner scope. All approval required for working at site to be taken by Owner from Government/local body	Support activities for all statutory clearances and permits from local, statutory and other bodies shall be in bidder's scope, Point closed
99				Page 8 of 13	2.5.3 Equipment data sheets including accessories and auxiliaries etc. indicating operating Parameters, performance requirements, construction features, instrumentation & Controls, inspection and testing.	Please explain the requirement against construction features	As per NIT	We understand that construction features means mechanical construction of equipment. Please clarify	Any type of construction features like mechanical, electrical, & instrumentation. Point closed
100				Page 8 of 13	Desiccants and subsequent filling before handing over to owner. Vendors site support services for construction and commissioning	Desiccants and subsequent filling before handing over to owner is not part of bidders scope Site support for construction is not part of bidders scope	Desiccants and subsequent filling before handing over to owner- As per NIT, Subsequent filling after handover of plant to owner shall not be in bidder's scope Vendors site support services for construction and commissioning- Civil, structural and architectural works are not in bidder's scope. However, installation of various equipments with equipments bolts shall be in bidder's scope. Also, const. of earth pits for laying of buried electrical cables is also in bidder's scope. Concrete trench and pits shall be in Owner's scope. It should be noted that Bidder has to timely provide the following information to the Owner/PMC -equipment installation schedule, foundation plan with pocket details, load data etc for design and construction of foundations etc	Noted	Point closed
101				Page 8 of 13	Technical advisory control on all Mechanical matters, throughout all phases of project Execution i.e. from design through procurement, construction and commissioning/ ☒ Problems resolution.	This is not part of bidders scope	As per NIT	We shall consider only for the scope which is in bidder's scope	As per NIT, Point closed
102				Page 9 of 13	Two (2) numbers of Heat of Compression with No Purge Loss type Instrument Air Dryers, each of 8000 Nm ³ /hr capacity	Please specify the type of dryer required	HOC dryer or heater type (No-purge split flow type Dryer) both can be used, Subjected to guarantee parameters are met as per cl 3.3 (Process guarantee)After cooler is integral part of compressor	Noted	Point closed
103				Page 9 of 13	3. Scope of Supply Contractor's scope of supply shall include but not be limited to the following on turnkey Basis:- All supports for equipment, piping, ducting etc.	Ducting is not part of scope	As per NIT, same shall be decided during detailed engineering	Ducting is not part of scope as it is not applicable for Centrifugal Compressors	Any ducting if applicable for centrifugal compressor or dryers ,same shall be decided during detailed engineering . Point closed.
104					3.1 Scope of Services Detailed process design including preparation of P&ID, heat and mass balance diagram, control and logic diagram, interlock schemes, etc	Heat and mass balance - not in bidders scope Logic diagram for surge logic cannot be shared with purchaser	As per NIT	Logic diagram for surge logic cannot be shared with purchaser as it is propriety items. Heat and mass balance - not in bidders scope	As per NIT. Point closed.
105					d) Documentation & approvals including approvals from statutory authorities including those required to be taken by Owner	Approvals from statutory authorities is not in bidders scope	Support activities for all statutory clearances and permits from local, statutory and other bodies shall be in bidder's scope	We shall follow all statutory requirements for Labour like PF, wages & insurances are in bidder's scope.and anything other than it, shall be in Owner scope. All approval required for working at site to be taken by Owner from Government/local body	All statutory requirements for Labour like PF, wages & insurances etc. are in bidder's scope. However support activities for all statutory clearances and permits from local and other bodies shall be in bidder's scope. Point closed
106					q) Undertake a HAZOP and Disaster Management studies for the system. The HAZOP will be carried out at PDIL/TFL office. Bidders to incorporate all HAZOP changes into their design and supply without any price and time implication.	Bidders to incorporate all HAZOP changes into their design and supply with additional price and time implication	AS per NIT, Disaster management excluded from bidder scope	Bidders to incorporate all HAZOP changes into their design and supply with additional price and time implication	All HAZOP changes into their design and supply with additional price and time implication shall be in bidder's scope, Point closed
107	REPLIES TO PRE BID QUERIES - LOT- 3 DATE 25.06.2021		SR NO -3 Low pressure Wet Air Receiver and wet air receiver KO drum	1 of 1	"Low pressure wet air receiver is different from wet Air receiver knockout drum. wet Air receiver Knock drum shall be provided in the discharge of all(Three) compressors for moisture separation purpose only, while Low pressure wet Air receiver will be after Wet Air receiver K.O.drum which will act as a surge vessel for supplying plant Air to entire complex as well as feed to dryer system for instrument Air generation."	As per replies to PB queries lot 3 , we require one no of wet air receiver for each compressor ie total 3 nos of wet air receiver KO drum is required, however as per amendment 1 dated 05-07-21 we need to provide total 1 no of wet air receiver KO drum. Please clarify this ambiguity.	Bidder understanding is correct. Bidder has to provide total 1 no of wet air receiver KO drum. Point closed		
108	REPLIES TO PRE BID QUERIES - LOT- 3 DATE 25.06.2021		SR NO -5 FEED PFD	1 of 1	"PFD is indicative only, Under review, Amendment if required, shall be issued shortly."	Please provide us the revised FEED PFD as per the amendment 1 for better clarity.	Under review, Amendment if required, shall be issued shortly. Point closed		

109	AMENDMENT-1 Technical, Date : 05-07-2021		Sr no 2	3 of 58	"2.5.14 Low pressure wet air receiver: 1 No Hold up time both receiver 8 secondsMax Pressure 9.5 kg/cm2gMin Pressure 8 Kg/cm2g"	We understand that the hold up time for low pressure wet air receiver is 8 sec , however which other vessel is being referred as "both"?	As per Amendment-1, Sr. NO-1 &2 Point closed
110	AMENDMENT-1 Technical, Date : 05-07-2021		Sr no 14	6 of 58	Recommended spare parts (only list not spare parts) with unit price shall be provided by bidder with a validity of two years as per the past experience for smooth operation of package system	Please clarify which spare parts you are asking. As per tender, there is Mandatory Spares Parts list which bidder needs to include in their LSTK price. In price bid (excel format) we need to provide only LSTK price, there is no provision to indicate price of spare item. Therefore we will submit it at post order stage.	Recommended spare parts lists shall be provided along with price bid, however, these spares shall not be considered in Price evaluation. Point closed
111	AMENDMENT-1 Technical, Date : 05-07-2021		SI No. 13	6 of 58	IA/PA plant is located in SAFE AREA i.e. Non Hazardous area, however bidder to note that area Classification class for instrumentation shall be per NIT.	Since IA/PA plant is located in SAFE AREA i.e. Non Hazardous area ,So We are considering Motor and all other electrical equipment as per Safe area only . Please confirm.	Noted, Point closed
112	AMENDMENT-3 Technical, Date : 07-07-2021		SI No. 3	2 of 11	HV Motor VFD To be read as HV Motor Soft Starter Remaining part of clause shall remain unchanged	As motor rating will be approx 1500 KW .So Soft Starter is not required for starting purpose of such a small motor . Generally we provide HV soft starter for more than 2000 KW motor in other projects. As HV Soft Starter cost is also very high , so it will unnecessary increase your project cost , hence please remove it from the scope.	As per Amendment - III dated 07.07.2021 Point closed
113	Technical Specification		Clause No. 3.3.8 , Process Guarantees:	Sheet 9 of 10	Noise level shall be maximum 85 dBA at one meter from the source	We understand that noise level does not come under PG Test	As per NIT, Point closed
114	SECTION : TECHNICAL PART – 3.2.2 DESIGN SPECIFICATION – ROTATING EQUIPMENTS		Clause No. 3.2.1	SHEET 5 of 10	All compressors shall be oil-free type and shall be supplied as per 'Special Duty Packages' meeting the requirements of API 672 4th Ed. & Addendum to API 672 4th Ed.	We understand that manufacturer standard deviation for Air Compressor is also acceptable. Please confirm.	API 672 latest edition & Addendum to API 672 shall be followed.
115	SECTION : TECHNICAL PART – 3.2.2 DESIGN SPECIFICATION – ROTATING EQUIPMENTS		Clause No. 3.2.13	SHEET 7 of 10	Shaft vibration monitoring instruments (both radial and axial) shall be provided to trip the machine in case of high radial vibration or axial movement. Complete vibration monitoring system to be provided by the bidder. Bidder to also refer instrumentation philosophy of NIT in this regard. Machine health monitoring for each compressor package shall be done through PLC / DCS. Each compressor shall be provided with probes/detector for measuring vibration. Set points for Alarm (alert) and shutdown (danger) shall be provided for each of the monitored variables.	We understand that health monitoring of compressor machine will be done from PLC/DCS. No separate vibration monitoring system is considered	As per NIT Point closed.
116	SECTION – VI : TECHNICAL PART – 5.0 SPARE PARTS			SHEET 2 of 20	Mandatory Spare Parts	Mandatory spares for Air Dryer is not mentioned in the tender, we understand that same is not required for this project	For Air dryer, spare as per NIT spare philosophy (PC183/E/4008/SEC-VI/ PART-5.0) is applicable & spare for each applicable equipment/item to be provided accordingly. Point closed
117	SECTION – VI : TECHNICAL PART – 5.0 SPARE PARTS		SI No. 2.1	SHEET 4 of 20	Mandatory Spare for Centrifugal Compressor	The spare list for centrifugal compressor as mentioned in tender is extensive and is having huge cost impact, Would request to review it once again	Same shall be as per NIT. Point closed
118	SECTION – VI : TECHNICAL PART – 5.0 SPARE PARTS		SI No. 2.2	SHEET 5 of 20	Mandatory Spare for Reciprocating Compressor	The spare list for Reciprocating compressor as mentioned in tender is extensive and is having huge cost impact, Would request to review it once again	Same shall be as per NIT. Point closed
119					GENERAL	In tender nothing is mentioned about the safety system for IA/PA package such as fire hydrant, DCP, Water monitor etc. we understand that it is not under bidder's scope. Please confirm. If it is under bidder's scope then please provide the detail scope of supply.	Fire hydrants and fire alarm system shall not be in bidder's scope. Point closed
			Clause	Specification Content	C/D	Remarks	PDIL/TFL Reply
			2.0	STANDARDS TO BE FOLLOWED	C	Motor design and performance are according to latest IEC, IEEE & ISO standards. Motor base design is according to the IEC 60034. Safe area motor offered	Noted. Flameproof motors as applicable shall comply the requirements as per IS/IEC60079-1:2007 Point closed.
			4.1.1	Enclosure	C	IP 55 motor offered, any type of canopy if required shall not be in ABB scope	As per NIT,Point closed.
			4.2.2	Cooling	C	CACA motors offered conforming to IC 611	Noted.Point closed.
			4.2.7	Cooling	C	Cooling fan shall be non-sparking type made of MS	As per NIT, Point closed.
			4.5.5	Rotor	C	NDE end shield insulated to prevent shaft current	Noted., Point closed.
			4.6.4	Windings and Insulation	C	Replacemnet of coils not possible as VPI is done	Noted., Point closed.
			4.6.5	Windings and Insulation	C	ABB patenetd 'MIADUR' insulation provided ofr winding. Winding underoes VPI treatment	Noted., Point closed.
			4.8.1	Bearings	C	Grease lubricated antifriction bearings provided	Noted., Point closed.
			4.8.2	Bearings	C	Bearings not designed to take any external thrust	As per NIT, Point closed.
			4.8.9	Bearings	C	Bearing temperature shall be a per ABB design and suitable for given load / application	As per NIT, Point closed.
			4.9.3	Terminal Box	C	Power TB shall be phase segregated type. Suitable for fault level of 40kA for 0.25 seconds and maximum cabke size of 1Rx3Cx240 sq.mm.	Noted.However cable size of shall be finalized during detail engineering..., Point closed.
			4.9.4	Terminal Box	C	Main TB offered is PSTB type and neutral is oversized IEC air insulated type to accommodate 3# CT and hence interchangeability is not possible.	Noted., Point closed.
			4.9.8	Terminal Box	C	Termination kit not in ABB scope	As per NIT, Point closed.
			4.9.10	Terminal Box	C	Gland & lugs not in ABB scope	As per NIT, Point closed.
			5.1.3/5.1.4	Starting		Will reply after RFQ	As per NIT, Point closed.
			5.2.1	Locked Rotor Condition		Will reply after RFQ	As per NIT, Point closed.
			6.0	COUPLING DETAILS	C	Not in ABB scope	As per NIT, Point closed.

Document type:
Comments and deviations

TS Induction Motors –
INDUCTION MOTOR :
PC150/E/4004/P-VI-
3.3

TECHNICAL
SPECIFICATION –
INDUCTION MOTOR:
PC009/E/4001/P-II/
SEC-5.4 RO

7.3.1	Embedded Temperature Detectors	C	6# simplex RTDs provided for winding between coil sides	Noted., Point closed.
7.3.2	Embedded Temperature Detectors	C	1# RTD for warm aie & 2# RTDs for bearings provided.	Noted., Point closed.
7.4.2	Dial Type Thermometers	C	In stead of mercury filled dial type thermometers (which are banned), gas filled capillary type are offered	Noted., Point closed.
9.0	NOISE LEVEL	C	Noise level on no-load measured at 1m distance on test bed shall be 85 dB without tolerance.	As per NIT, Point closed.
10.0	PAINTING	C	Painting procedure shall be as per ABB standard procedure. However corrosion category, paint shade & DFT shall be a sper client requirement	Finalized during detail engineering., Point closed.
11.0	TESTS AND INSPECTION	C	AS per standard ABB QAP attached.	As per NIT, Point closed.
11.4	TESTS AND INSPECTION	C	Final acceptyance shall be based on FAT. Site inspection is not in ABB scope'	As per NIT, Point closed.
12.0	PACKING	C	AS per standard ABB procedure.	As per NIT, Point closed.
13.0	DRAWINGS AND DOCUMENTS	C	AS mutually agreed & project requirement. Shall be furnished in soft format	As per NIT, Point closed.
Design Specs Electrical				
We have only referred claise 5.3 Motor. If any other point please advise.				
k)	DCS		Connection to DCS not in ABB Scope.	As per NIT, Point closed.
n)	Starting Current		IR need to confirm exact requirement	As per NIT, Point closed.
u)	CT		OK	As per NIT, Point closed.
Engineering Standard - electrical erection, testing and Commissionin				
We have only referred claise 5.3 Motor. If any other point please advise.				
7.1	ERECTION, TESTING & COMMISSIONING		Kindly follow ABB O&M Manual	As per NIT, Point closed.
7.11.11	Testing		As per IEC Standard. Abb ITP Plan attached	As per NIT, Point closed.
Specs for heater				
	This is for LT Motor		This is for LT Motor	As per NIT, Point closed
Additional note form ABB				
TB fault	TB Fault level : PSTB :: 6.6KV and below -TB Fault Level 43.7kArms for 0.25s and PSTB: 11KV -TB Fault Level 40kArms for 0.25s,			As per NIT, Point closed.
Cable Size	Max Allowable Cable Size : PSTB : Max Allowable Cable Size 1R X 3CX 240 sq.mm			Cable size of shall be finalized during detail engineering., Point closed.
RTD	Due to space constraint in stator slots 12 numbers simplex winding RTD PT100- unshielded shall be provided. However bearings shall be with Duplex RTD , 3 Wire.			As per NIT, Point closed.
Bearing	NDE Side bearing housing is insulated to prevent shaft current. Hence, we are not offering insulated bearing.			As per NIT, Point closed.
Vibration	We are offering Vibration Pad, vibration measuring device is not in ABB Scope.			As per NIT, Point closed.
	Glands , lugs , termination kits not in ABB scope			As per NIT, Point closed.