



BHARAT HEAVY ELECTRICALS LIMITED
PROJECT ENGINEERING MANAGEMENT, NOIDA

Date-7-Jun-25

CORRIGENDUM- 02

PROJECTS	:	2 X 800 MW NTPC SINGRAULI TPP
PACKAGE	:	COMPRESSED AIR SYSTEM
ENQUIRY NO	:	77/25/6030/SAN Dated 23.05.2025
SUBJECT	:	PRE-BID CLARIFICATIONS

Type of Corrigendum			
Technical Corrigendum -	<input checked="" type="checkbox"/>	Commercial Corrigendum -	<input type="checkbox"/>

Bidders are requested to note:

- Refer attached BHEL Replies to Pre-Bid Clarifications

All the other terms and conditions of the tender enquiry remain unchanged. All the bidders are requested to quote accordingly.

Yours faithfully,

For and on behalf of BHEL

Sanjeev Kumar
Engineer/BOP

BHEL Replies to Pre-Bid Queries

S. no.	Page no.	Clause no.	Description	D/C	Bidder's query	BHEL Reply
1	6	12	To clock equal number of running hours, sequential panel for the same is in CAS supplier scope.	C	Additional sequential panel is not required, equal running hours setting can be achieved through DCS.	Sequential panel is required to be provided as per specification.
2	7	30	All primers/paints/coatings shall take into account the hot humid, corrosive & alkaline, subsoil or over ground environment as the case may be.	D	Compressor and dryer paint shall be as per OEM std, suitable for indoor application.	Pl. refer page no. 103 of 125 of Technical specification, wherein, painting for Air Compressors & Air Dryer as per OEM Standard compliant to industrial grade paint is acceptable.
3	7	35	All the materials stored in the open or dusty location must be covered with suitable weatherproof and flame-proof covering material wherever applicable.	D	Material storage at site shall be in customer scope, storage procedure for OEM equipments shall be shared with customer during detail engineering.	Material storage is in the scope of bidder. Further, pl. refer Cl. No. 23 of SCC for more clarity on scope related to storage.
4	7	3	Compressor operation and bearing temperature / vibration monitoring in main DCS shall be through redundant bus serial link interface between Compressor control system and DCS	D	Vibration monitoring system is not applicable for oil free screw compressor as machines are dynamically balanced. Brg temperature instruments shall be wired with compressor controller (Elektronikon), further signal can be transferred to DCS via MODBUS RS485/Profibus. Redundancy not applicable for skid based controller.	Pl. refer clause no. 10 of page 8 of 125, wherein it is confirmed that VMS is in BHEL scope. Bidder to provide provisions in compressor canopy for cable & access for mounting of probe/ sensors at motor DE & NDE by BHEL at project site.
5	8	4	Bidder to provide Profibus PA protocol compatible PT (Pressure Transmitters), DPT (Differential Pressure Transmitters), TT (Temperature Transmitters) and Flow/Level Transmitters (DP type) for entire Compressed air system (CAS).	C	Instruments within compressor and dryer skid shall be as per OEM std transducers. All instruments will terminate at controller and Profibus signal will be available from controller instead of individual instruments.	For measuring instruments type, specification, redundancy and quantities that are connected to Compressor skid and Dryer skid, Bidder's standard and proven practice is acceptable. However, the field instruments those to be terminated to BHEL DCS shall be profibus type as per specification.
6	8	6	Profibus based electronic positioner (as per standard and proven practice of valve OEM) is to be provided with all the pneumatically operated control valves (if applicable).	C	Not applicable for Oil free screw compressors	If applicable for the system, Bidder to follow technical specification.
7	8	12	Redundancy of instruments to be provided by bidder shall be as follows: i) Triple redundancy for all analog and binary inputs required for protection of system/drives. ii) For all control instruments outside skid, dual redundancy of the sensors shall be provided by the bidder.	D	Due to space constraint, instruments and controller within compressor and dryer skid are non-redundant	For redundancy of instruments within compressor and dryer skid, pl. refer our reply at sl. no. 5 above. Further, field instruments shall be provided as per P&ID of CAS, refer page 67 of 125 of technical specification.
8	8	13	Bidder to provide Junction Boxes in field for termination of all the instruments.	C	JBs are not required for skid mounted instruments, applicable only for field instruments	Noted. However, the applicability of junction box shall be discussed & finalized during detailed engineering.
9	8	18	For transmitters, electronics items etc. all weather canopy\ rack enclosures shall be provided by Bidder for protection from direct sunlight and rain for open locations. For applications where transmitter location is not accessible, the transmitter shall have separate sensor unit and electronic unit for such applications. It should be mounted at accessible location.	C	Canopy and instrument rack is not required as the skid mounted instrument are within compressor canopy and direct mounted. Transducers are offered instead of transmitters within compressor skid. Also for field instruments as they are within compressor room (indoor) we do not foresee requirement of Rack and rain protection canopy for the same.	For instruments mounted within compressor and dryer skid, pl. refer our reply at sl. no. 5 above. Further, for field instruments bidder to comply specification requirement.
10	8	19	All field instruments/analyzers/actuators/solv/control valves etc. shall be hooked with DDCMIS based control system as per requirement mentioned elsewhere in the specification. RTD/BTD signals from motor shall be terminated in compressor panel.	C	All instruments will terminate at controller and Profibus signal will be available from controller instead of individual instruments.	For instruments mounted within compressor and dryer skid shall be terminated to respective skid mounted panel as per standard and proven practice of OEM. Further, for field instruments bidder to comply specification requirement.

BHEL Replies to Pre-Bid Queries

S. no.	Page no.	Clause no.	Description	D/C	Bidder's query	BHEL Reply
11	8	27	Bidder's presence is required for 3 Man-days (Excluding travel time) at EDN Bangalore during FAT of DDCMIS for certifying correctness & completeness of implementation of Control logic. Intimation regarding FAT shall be given 2 days in advance. All the expenses like boarding, lodging and travel, air fare etc. shall be in bidder's scope.	C	Not applicable for Oil free screw compressors.	Bidder to comply specification requirement.
12	8		Paint required for painting of all items under the package for corrosion protection and to meet color coding required by customer.	C	Compressor and dryer (including all internal items such as core, coolers, instruments, valves, baseframe, etc) shall be painted as per OEM paint procedure.	Pl. refer our reply at point no. 2 above.
13	61	2.12	Local control panel	D	Local controller Elecfronikon shall be microprocessor based, mounted on compressor and dryer skid, shall be as per OEM proven design.	Skid mounted local contol panel for Compressor and air dryer are acceptable as per standard and proven practice of OEM and subjected to the approval of end user during detail engineering.
14	81		Test Methodology	D	Air dryer can not be tested in factory due to unavailability of compressor air line.	Noted and shall be finalized during detailed engg inline with proven practice followed in previous BHEL/ End User projects.
15	89	1.01.00	Quality assurrance - Air compressor	C	As per NTPC RQP	Noted subjected to end user acceptance during detail engineering.
16	94		Sub Vendor list	C	Sub vendor list shall be followed for filed instruments, valves, receivers, external coolers, etc. Items within compressor and dryer package shall be as per Atlas Copco preferred vendors and/or Atlas Copco branded.	Makes for instruments mounted within compressor and dryer skid are acceptable as per proven experience of OEM .
17	16		ANNEXURE-A (e-LEARNING PACKAGE)		ACIPL will provide Ppt.	Bidder to comply specification requirement.
18	23		A) ERECTION MANUALS		ACIPL will provide Ppt.	
19	23		B) OPERATION & MAINTENANCE MANUALS		Standard operation manual will be shared in soft copy and ppt will shared for understanding of compressor working and tripping limits.	
20	24		2) Chapter 2.0 - Plant Operation:		Standard operation manual will be shared in soft copy and ppt will shared for understanding of compressor working and tripping limits.	
21	25		List of lubricants with their Indian equivalent, Lubrication Schedule including charts showing lubrication checking, testing and replacement procedure to be carried daily, weekly, monthly & at longer intervals to ensure trouble free operation and quantity required for complete replacement.		ACIPL will not recommend to non-genuine spares. Roto -Z Oil will be used as per standard compny guidelines.	OEM recommendation is noted.
22	26		PLANT HANDBOOK AND PROJECT COMPLETION REPORT		Standard operation manual will be shared in soft copy and ppt wil shared for understanding of compressor working and tripping limits.	Bidder to comply specification requirement.
23	22		4.0 Tools and tackles		Normal tools service engineer will carry during routine maintenace but special tools will be customer scope.(Lifting arrangments , Pullers & Special spanners).	Bidder to comply specification requirement for all special tools used for maintenance. Further lifting arrangements scope is excluded from bidder scope, pl. refer Exclusions under clause no. 41 of Page no. 7 in tech. spec.
24	18		ANNUAL MAINTENANCE CONTRACT SERVICES		Customer will provide 2 nos. semiskilled manpower during maintenance work.	Bidder to comply specification requirement.
25	26		DRAWINGS		Standard operation manual will be shared in soft copy and elctrical draings are available in same.	Bidder to comply specification requirement. Detailed manuals shall be provided to avoid damage to compressors during operation by BHEL/ End User.

Legend : C- Clarification, D-Deviation, I-Information