

BHEL's replies to Pre-Bid Queries on Fire Detection and Alarm System

Project 2x250 M W BSEB Barauni

Doc Ref.: PEM C 03844, Rev No. 00.

Sl.No	Ref.Clause No.	Section	Page No	Tender requirement	Contradictory statement in the enquiry	Bidders Queries	Final Resolution
1	Clause # 10 & 10.1.1.6		19 of 235 & 29 of 235	Fire alarm panel shall be provided with power supply unit consisting of battery charger & Ni-Cd battery of adequate capacity	Lead acid Batteries (maintenance free) and battery chargers of adequate capacity will be provided.	Listed Panels are not Compatible to NiCd.batteries , we propose SM F lead acid batteries.as per cl. 10.1.1.6	Lead acid Batteries (maintenance free) and battery chargers of adequate capacity will be provided. The battery will supply the normal power requirements for a period of 24 hours system operation under normal condition and for 30 minutes under alarm condition.
2	10.1.1.3 a)		27 of 235	Smoke detectors shall be low voltage dual chamber type		Dual chamber detectors are Ionization type smoke detectors. Those type of detectors are not in use due to radioactive source with in the detector. Please confirm whether multi sensor type detector are acceptable in place of Ionisation type detectors.	Photoelectric type smoke detectors are to be used.
3	10.1.2		30 of 235	All instruments i.e. pressure switches, pressure gauges, level switches, level indicators etc. as per approved drawings shall be provided.		Please clarify whether Instruments are under the scope of FDA system 's vendor .	All instruments are in the Water Based Fire Protection System's vendor scope.
4	11.3.4		34 of 235	Flameproof and/ or weatherproof control stations (IP-55) for Deluge Valve Operation shall be provided		Please clarify whether D.V control panels are under the scope of FDA system 's vendor .	D.V control panels are under the scope of Water Based Fire Protection System's vendor .
5	Clause 11.17.13.1			Direct signals to field control room & MAFP		MAFP is in whose scope	FDA bidders scope.
6	Clause 8.4.3.1			Inter connection cable between PLC (in FWP) and MAFP is by others		Please confirm	FDA bidders scope.
7	Clause 8.4.3.2			Inter connection cable between PLC (in FWP) & Plant DCS is by others		Please confirm	FDA bidders scope.
8	Additional points 8			All drawing should be make available in autocad format/ PDF format.		Please confirm	PDF drawings are attached as a part of specification
9	LOGIC DIAGRAM PEM C03892_REV00			All the cable between MAFP & pressure switch & SOV are in FDA vendors scope.		Please confirm	Confirmed
10	2.7			Bidder to note that they shall not be permitted for any claim for additional commercial implication on any account during detail engineering stage including the following: - Change (increase/decrease) in quantities in the equipments/areas covered by different FPS facilities.		Bidder will follow tender based drg furnished by BHEL only. Any addition in scope of area increase shall be paid by BHEL at extra cost.	Not Acceptable.
11							
12	6.1. (i)			QB heat detection system			
13				Coal Conveyors			
14				Equipment like oil filled transformer, coal conveyors in the coal handling plant, Boiler burner fronts, & LDO fuel oil tank.		As per Cl. 6.1.(d) & (j), coal handling conveyors shall be provided with digital type LHS cable & IR detectors (min 2 Nos.). Please clarify QB heat detection system for coal conveyors in the coal handling plant, is an additional requirement. Also please note that QB detector along with its piping & fitting would fall in mechanical items and hence please confirm the requirement of inclusion of same in fire alarm system .	Please follow specification requirement.
15	7.2.4			For the purpose of tender, total No of 50 mandays to be covered in 7 visits have been considered.		Please specify the span period to be considered for manday & visits. eg. 1 year from the date of LOI.	Not acceptable. Please follow specification.
16	10.1.1.4.			in addition, one No. Annunciation panel shall be provide in fire water pump house to indicate the status of fire water pumps, system pressure, hydrant system on, spray system on etc.		As per FP System practice of industrial projects, an Annunciation panel would be part of PLC based control panel and this panel would have all the annunciation of water based system & status as requested in this clause. Hence, this panel may become redundant. Please confirm your requirement.	Please follow specification requirement.
17	10.1.1.8			FRLS cable for detector, manual call point connection shall be of 1pair x1.5 sq.mm (minimum) copper conductor		As per Cl. 11.2.2 -Fire alarm Cable - minimum size of fire alarm cable for detectors/ manuacla call points shall be 2 pair 1.5/2.5 sq.mm copper conductor. Please confirm your requirement.	Loop cable for signalling line circuit shall be 1pair x1.5mm2 (minimum) as armoured flame Retardant low smoke cable (FRLS) type which will be used for connecting detectors, modules, call points and networking of panels & control cables, power cables for Notification appliances
18	11.2.3			Wiring for fire alarm system shall be concealed inside the buildings and in surface conduit in cable gallery, above false ceiling/below false floor area.		As per Cl. 11.2.1, - fire alarm cables are of armoured type. Generally armoured cabling will not be used in conduit wiring. Please confirm your requirement.	Clause is withdrawn.
19	Cl No 6 (d)		Page No. 9 of 98	In cable vaults, the digital linear heat sensing cable provided shall run in zigzag fashion (with included angle of maximum 90 deg.) at least in each of top tray, bottom.		Please provide us drawings with cross sectional details including cable tray legnth , width, Raws and tears for cable vaults area (TG Building E10.0, EL 10.0 , ESP Building , Service Building, Adm in building where ever applicable)	Drawings is not available.
20	Cl No 6.1 (a)		Page No. 8 of 98	Multisensor Type smoke detector (below the ceilings &/or below the false ceiling as the case may be). All switchgear room / MCC/ Control room of main plant, ESP control room, MCC & Control room of various auxiliary bldgs in compressed air system, Cooling water system, condensate polishing plant, water treatment plant, Coal handling plant, Ash handling pump house, all pump houses, Administration bldg, Service bldg. etc.		Please provide us drawings with cross sectional details of False ceiling/Flooring, beam details of all auxiliaryplant buildings . And also provide plot plan alongwith cable trench/ cable tray / cable pipe rack .	Drawings is not available.
21	Cl No 6.1 (l)		Page No. 9 of 98	Quartzoid bulb heat detection system Equipment like oil filled transformers, Coal conveyors in the coal handling plant, Boiler Burner Front & LDO fuel oil tank		We understand that QBD is not required for detection for Coal conveyor GALLERY & TUNNEL. Please Confirm	Please follow specification requirement.
22	Cl No 13		Page No. 20 of 98	Pl. note that networking between FAP & PLC to be provided by bidder. In addition, PLC & MAFP shall also be communicated to DCS through OPC contact & the connectivity b/w the same is in bidder scope.		FDA panel for each unit in CCR Room shall provide hardwired contacts for Group Alarm for FDAS & to be connected to the DCS of respective unit. Please Confirm distance between CCR & DCS.	CCR and DCS is situated in same floor i.e. Layout of CCR building.
23				Please clarify the Fire alarm system networking philosophy. (Networking between Fire Alarm Control Panels and networking between Fire Alarm Panel with PLC panel, BM S etc).			Please follow specification requirement.
24				Required Information :: Regarding Electrical Feeder Details' List for FDPS. Required Information :: Regarding Electronic earthing for C&I system. equired Information :: Regarding Preferred Fixation Points against Elevation Level for Floors - Mezzanine, Operating, Boiler Burner Firing, Deaerator Floor, Mill Building & Bunker Floor. Required Information :: Regarding Electrical Feeder Details' List for FDPS. Required Information :: Regarding Electronic earthing for C&I system. Required Information :: Regarding Functional Requirement of various panels in Fire Protection System. Required Information :: Regarding Master Fire alarm panel and repeater fire alarm panel at fire station. Required Information :: Regarding Cable Specification for C&I. Required Information :: Regarding Power Supply for PLC. Required Information :: Regarding For Multisensor Detector :: Required Information for Set-Point for Each Type of Detectors. Required Information :: Regarding For Multisensor Detector :: Required Information about response time for Each Type of Detectors.			Please follow specification requirement.
25	Cl. No. 8.2.			1. Sizes and Quantity Of Cables Required Shall Be Informed By Vendor At Contract Stage (Based On Inputs Provided by BHEL). 2. Finalization Of Cable Sizes Shall Be Done By BHEL. Vendor Shall Provide Lugs & Glands Accordingly. 3. Termination At BHEL Equipment Terminals By BHEL. 4. Termination At Vendor Equipment Terminals By Vendor.		Kindly Confirm Whose Scope of Supply Is Cable As Per Your Clause No.8.2 Of Page 15 Is In BHEL Scope. But As Per Clause No. 11.4.14 Of S. No.4 Cable It Seems It Is In Bidder Scope Of Supply. Please Clarify. Also Please Clarify Whose Scope Of Work As Erection Is Not In Bidder Scope Then Termination At Vendor Equipment Terminals By Vendor Shall Also Be In BHEL Scope.	Please see electrical scope matrix as indicated in the specification.
26	Cl.no.2.7			Bidder to further note that they shall not be permitted for any claim for additional commercial implication on any account during the detail engineering stage including the following: Change (increase/decrease) in dimensions of equipments / areas location of equipments/areas within the battery limits. Change (increase/decrease) in quantities in the equipments/areas covered by different FDA facilities Further of any input drawing to bidder at any stage of contract execution Changes in any of the input drawings Other conditions mentioned elsewhere in this specification.		The entire clause 2.7 shall be fixed to a limit. The increase shall be 5% for variation in room dimensions & quantities. If any building & equipments is added or increased other than mentioned in drawings / scope of work in the battery limits shall be extra.	Not acceptable. Please follow specification.
27	Cl.no.6.2.1.1			All the first fill consumables like lubricants etc. and replacements, if any, are in bidder scope till successful handing over of plant to BHEL and subsequently by BHEL to end customer after successful completion of erection and commissioning and / or site performance test.		The first fill consumables like lubricants etc and replacements if any, shall be bidder scope till successful handing over of the system to BHEL.	Please follow specification requirement.
28	Cl.no.8.1			1) Support structure for piping, cabling etc is in bidder scope.		Clarify in detail about the type of support structure required.	Supports required for erection of cables and other accessories items in FDA system shall be supplied by bidder.
29	Cl.no.8.2			3.) both end equipment in vendor's scope & Laying of cables by BHEL except for cabling in vendor scope.		Since supervision of erection & commissioning is in bidder's scope, this laying of cables is not applicable.	Confirmed.
30	Cl.no.8.3			Pl.3) The microprocessor based fire alarm panel to be provided at various locations as described in this specification shall have 100 % redundancy within the stand alone fire alarm panel with respect to CPU The redundant card / portion shall take-over the full and unrestricted system function automatically in case of failure main CPU.		Clarify in detail about the 100 % redundancy requirement.	Please follow specification requirement.

31	Cl.no.8.3			Pt.7.) Pl. note that spacing b/w detectors shall be 25 m2 or as per Rules of NFPA-72, whichever is minimum.		Confirm whether this spacing b/w detectors to be considered for which type of detectors (ie. Multi sensor, Photo electric type, heat detectors). Also provide us the area to be protected with this spacing.	Please follow specification for area to be protected.
32	Cl.no.8.3			Pt. 11) Pl. note that independent redundant UPS with one (1) hour battery backup shall be provided for each of local PLC system.		Provide us the quantity and requirement of the UPS.	UPS for PLC is in Water based FPS bidder's scope and UPS for computer and supporting system shall be in FDA bidder's scope.
33	Cl.no.8.3			Pt.13) Pl. note that networking between FAP & PLC to be provided by bidder. In addition, PLC & M FAP shall also be communicated to DCS through OPC contact & the connectivity b/w the same is in bidder scope.		Clarify in detail about the protocol to be considered for DCS communication. (from PLC & M FAP)	Serial communication to DCS shall be OPC (Data access 2.0), Ethernet based TCP/IP Protocol. Alternatively the serial communication shall be MODBUS protocol on RS 485 network
34	Cl.no.10.1.1.1			The system shall have networked with Main fire alarm panels (M FAP) at Central Control Room, FACP at CHP Control Room, Repeater panel at Fire Station & Security guard room.		Provide us the location of the security guard room where repeater panel is to be placed. Also the two repeater panels will have display with alarm control (Only Silence Option).	Location for Security Guard room is available in PLOT plan.
35	Cl.no.11.1.1			Supply & installation of junction boxes for detectors mounting and control relays mounting.		In this clause installation of junction boxes will not be in our scope.	Confirmed.
36	Cl.no.11.1.1			Supply of FA loop cables & power supply loop cables from M FAP to FA equipment/devices for type-A loops, serial & hardwired cables from M FAP for interface with clean agent system, HVAC, PA system, Water Based FPS, Main PLC placed in FWP, Foam Protection system etc.		Provide us the interfacing details of HVAC, PA system.	This data is not available.
37	Cl.no.11.1.1			Input power supply (415V/240V) to M FAP & Repeater panel including providing feeders in emergency board/ELP, supply, laying and termination of power supply cables.		Only supply is in bidder's scope.	Input power supply to M FAP and Repeater panel is in BHEL's scope.
38	Cl.no.11.1.10			Sealing of cable exit/entry required for control room for interlocks, indication etc. for fire detection and alarm cables shall be in bidder's scope.		Clarify in detail about the requirement & scope to be considered.	E&C is not in bidder's scope.
39	Cl.no.11.4.3			Instruments used in hazardous areas shall generally be intrinsically safe and shall be selected based on entity parameters, except for solenoid valves which shall be flameproof. If intrinsically safe item is not available for any instrument, then it must be flameproof.		Confirm us the hazardous areas where intrinsic safety barriers to be provided as per tender specification.	Hazardous area is not applicable for this project.
40	Cl.no.11.4.21.2			Each junction shall have minimum of 30% spare terminal of those actually required to be utilized. Number of terminals for various types of junction boxes shall be as follows: 24 Nos. for 6 pair junction box. 48 Nos. for 12 pair junction box 36 Nos. for 6 triad junction box. 48 Nos. for 8 triad junction box.		Kindly clarify the bidder's scope in detail.	Please follow specification requirement.
41	General			Plot plan & other pump houses, building drawings		Provide us the soft copy (Autocad format) of the plot plan, all pump houses & other building drawings.	PDF copies of drawings are attached as a part of the specifications.