BHARAT HEAVY ELECTRICALS LIMITED, PE&SD, Ramachandrapuram : Hyderabad – 502 032	**Enquiry Number: T7B1P97852 & NIT_ 27734**	**PROJECT: KOTHAGUDEM THERMAL POWER STATION STAGE-VII, UNIT # 12, (1X800 MW)**

SUB:: PREBID QUERIES

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
1	6	Architecture - 32 bit (Computer & Printer Data Sheet)	64 bit need to be changed.	32 bit or higher can be considered for CPU of the computer.However bidder to ensure that the all GUI /driver softwares are compatiable with the selected CPU configaration
2	B	Monitor. 2.0 Type - TFT Monitor	need to be changed as LCD Monitor	Pls refer to clause No4.04.030 of Annexure I to PY55182. 24 inch TFT LCD moniotor for PC to be considered
3	6	Output - 4 Nos (Control Module)	1 no can serve the purpose of 4 outputs as all of them will operate at a time. So there should be option of a single output also.	Bidder to consider single output for all the control modules(420nos) mentioned in BOM. Output-4 Nos mentioned in the data sheet stands deleted.
4		Exit Sign	Detail description need to be given.	Pls refer to clause No3.11.00 of Annexure I to PY55182,. Backlit maintained type emergency exit light shall be provided.
5	Notes: 2	The battery of each of the panels shall be located in the bottom portion of te same panel.	All the panels will not have the space for installing Battery inside the panel. Battery may be kept outside the panel in a closed enclosure and connected to the panel.	Pls refer to clause No 7.09.00 of Annexure I to PY55182,. Battery & battery charger shall be integral part of each MFAP/loacal/repeater panel.
6	Sl. 8 of Note	Each Manual Call Point Unit shall be provided with the following accessories.	you have asked for a break glass type Manual Call Point. But Push Button type Manual Call point is also there in market. The benefit is that after every activation you don't need to wait for the broken glass to be replaced for panel reset.	Pls refer to clause No 7.07.00 of Annexure I to PY55182,. Break glass type MCP to be consdiered inline with specification.
7	Sl No: 17	Input - 04 Nos	there should be option of 1 input also, as because this is a general spec. Otherwise 4 nos output seems be a specification of a particular make. That needs to be changed.	Bidder to consider additional modules as per the requirements mentioned in Note 1 & 2 of S.No A(BOM for FDA Items) of Annex-C to PY55182 . Modules for monitoring the requirement as mentioned above in s.no 1 & 2 shall be of any combination meeting the functional requirement of the specification.

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8	Sl No: 26	Optical LHS Cable Data Sheet - Interface	Interface can only be done through monitor module only, LHS cable via Ethernet/ Mod bus output cable not possible.	Bidder to note that optical LHS cable is the requirement of the project for which interface through monitor module is not required.
9	-	-	-	-
10	Note:- Sl. 1, 2 & 3		We need to consider extra modules or it is already included in the BOM !	Bidder to consider additional modules as per the requirements mentioned in Note 1 & 2 of S.No A(BOM for FDA Items) of Annex-C to PY55182
11	-	-	-	-
12			As understood entire Cabling and all other erection will be done by BHEL. Only supervision and commissioning will be done by the bidder. So please let us know the days your erection team will take as because commissioning days of supervision & commissioning will completely depend on that. Otherwise we will consider 200 days as per your Price bid format.	Bidder to consider 50 man days with 7 nos of visits for Supervision of E&C activities while submitting price offer. For more details please refer point No 11 of common notes in revised (Rev 01) price schedule of FDA system
13	ANNEXURE-C OF PY5 61 82(BOM)	Bill of Materials	The design drawings are not available,we propose our offer as per the ANNEXURE-C OF PY56182(BOM-Bill of material).Kindly confirm.	Unit prices shall be operated for any addition/deletion in BOM for the items mentioned in the page 3&4 of Annexure-F of PY56182. Intent of the specification is for complete Engineering of FDA system with the BOM mentioned in the specification.All the items required for complete functioning of FDA system(except for field cables & main power supply cables of FDA system) in line with the schematic diagram for FDA system is in bidders scope. For complete details please refer to cl. Nos. 1, 2.7, 5.3, Annexures-A of technical specifications.
14	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM	Technical offer confirming to technical specification PY56154 &its associated Annexures, pre-bid clarifications etc., Bidder to confirm (Yes / No).	Checklist-Typographical error is occur in the specification No-whether it is PY56182 OR PY 56154	Bidder to read specification ref as "PY56182"
15	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:5 of 19 section:4.1	4.1 Fire Detection, Alarm and Protection system proposed through the Fire detection and Repeater panels shall provide continuous surveillance against fire in the areas of plant. All Fire detection and repeater panels shall be colored MIMIC based.	We understand that the display unit of the fire alarm panel is considered as MIMIC.	Bidder understanding is correct. No mimic panel is required seperately.Mimic to be realised in PC with respective GUI software, printer & Aceessories.

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
16	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:6 of 19 section:4.7	Each Fire detection alarm cum MIMIC panel shall be capable of operating in stand-alone mode. All Fire detection alarm cum MIMIC panel, Repeater panels and PC based operator stations shall be connected by a dedicated fault tolerant Local Area Network (LAN) through redundant Fiber optic communication cable.	We understand all the fire Alarm panel (5 Nos) shall be networked through fiber optic cable and the same (fiber optic cable) is not in our scope.Kindly confirm?	Noted.However hardware provision with in the panel i.e fibre optic cards and accessories for establishing fibre optic network as per the system configaration shall be in the scope of vendor
17	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:6 of 19 section:4.8	Fire detection alarm cum MIMIC panel shall have multiple loop processing capability.Each area / zone shall be monitored by one independent loop and a loop shall not beshared between different zones.Each Fire detection alarm cum MIMIC panel shall have additional capacity of handling at least ten alarms per zone, requiring only field wiring, as a spare for future modification or expansion.	The mentioned point is not clear.Hence request to brief in detail about the requirement of the same.	Since FDA is analog addressable system , all the devices in the system shall have unique address.Each loop covers different areas based on loop length limitations. For Spare handling capacity of the panel bidder shall refer replies to point NO 51
18	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:6 of 19 section:4.3.6	To provide contact output in the loop / from fire detection and protection panel & repeater panel for fire protection & other systems viz. opening of deluge valves, tripping of Ventilation System Fans / Dampers / Air Handling Units / tripping of belt conveyor / activating foam system / inert gas flooding system on detection of fire in specific area for effective fire protection.	Whether the Relay module is included in the provided BOQ or we need to consider additional 50 relay modules in our scope.	Bidder to consider additional modules as per the requirements mentioned in Note 1 & 2 of S.No A(BOM for FDA Items) of Annex-C to PY55182 Relay modules for tripping of Ventilation System Fans / Dampers / Air Handling Units / tripping of belt conveyor / activating foam system / inert gas flooding system are considered as a part of BOM of FDA items.
19	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:7 of 19 section:4.18	4.18 The automatic fire detection and alarm system shall be designed with electronics having built-in redundancy to ensure availability at all times.	we understand that redundancy refers only CPU in the fire alarm panel.Kindly confirm.	For details on redundancy Bidder refer to clause No5.04.03 of Annexure I to PY55182.
20	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:8 of 19 section:4.26	4.26 In the event of detection of fire, auxiliary systems like ventilation, air-conditioning may require shutdown. For this purpose potential free contacts from the output of the fire protection system shall be made available in the local / main fire panel and terminated in the terminal block	Please provide the required Nos of Potential free contacts.	Pls refer to the reply of the query in S.no 18

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
21	ANNEXURE-C OF PY5 61 82(BOM) & Annexure-B- 9 of 24	Each loop element associated with microprocesser based fire detection & alarm system such as addressable detectors,relay modules,monitor modules,manual call points etc shall have inbuilt short circuit isolator to isolate particular device from functionig in that loop in case of any malfunction/failure.	Isolator Module is not mentioned in the BOM.whether we have to propose isolator base for each detectors.or Isolator Module is to be considered for every 20 detectors & devices .Kindly confirm.	Incase the detectors/devices do not have inbuilt isolator modules , Bidder to provide isolator modules as per IS 2189
22	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:10 of 19 section:4.33	4.33 Infra Red Flame Detector: 4.33.1 The Dual wavelength Infrared Flame Detector shall be provided in Boiler Burner front and Turbine Oil tanks to provide an alarm in case of fire.	Please provide the datasheet/make for the Infrared flame detector.	For data sheet bidder to refer S.no F of annex-VIII of Annexure I of main specification PY 55182
23	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:12 of 19 section:4.39.3	4.39.3 Equipments installed outdoors shall be able to operate in all-weather conditions and to withstand the work site environment. For equipment in operation or in standby that may be influenced by direct sunshine, shelter or cover shall be provided.	Kindly provide the details & quantity of FDA equipments shall be operate in outdoor areas.	Outdoor equipments are as follows a.Control unit for IRD (Ember & Flame) b.Infra red detectors(Ember & Flame) c.Optical LHS d.Probe type detectors e.Siren f.20 nos Nos of MCP Bidder to follow constructional details as per technical data sheet
24	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:12 of 19 section:4.39	4.40.8 The FDA system shall be intelligent redundant which means the microprocessor/controllers, Electronic elements in panel/network, system structure etc., are redundant. Hence all functions shall have seamless transfer in case of a system fault, wire breaks	As per manufacturer standards redundant CPU, redundant Power supply, redundant network card is applicable.so we prpose the same in our offer.Kindly confirm.	Pls refer to the reply of the query in S.no 19
25	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:12 of 19 section:4.39.6	4.39.6 The FDA system has to be connected to customers DCS/PLC/SCADA on OPC at three locations of the plant. Hence the server HMI shall have OPC gateway on TCP/IP with necessary hardware (Firewall) OPC driver software. The connectivity shall be distributed using TCP/IP switches for establishing connectivity to the three upstream control systems. All these hardware & software are in bidder's scope.	Since the cables are not in bidders scope,we have considered the provision for customers DCS/ PLC/ SCADA .kindly clarify the entire point.	Only Main fire alarm panel shall be interfaced with DCS over OPC. Cable/hardware/software etc required to establish this connectivity shall be in the scope of the bidder.

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
26	TECHNICAL SPECIFICATION FOR FIRE DETECTION & ALARM SYSTEM Page No:15 of 19 section:5.22	5.22 Please note that networking between fire alarm panel, repeater panel, panel in foam pump house (by others), panel in fire water pump house (by others) to be provided by bidder. In addition, MFAP shall also be communicated to plant control system through OPC contact/OEM protocol & the connectivity between the same is in bidder scope.	since the details of foam pump house (by others), panel in fire water pump house (by others) is not available please provide the no.of modules required for connect the fire protection system with fire detection system.	The control system located at FWPH (foam pump house/booster Pump house) is PLC based.Hence this PLC shall be netwrked to FPS system over modbus.
27	ANNEXURE-C OF PY5 61 82(BOM)	LHS cable-30000 Mtrs.	The LHS cable is used for conveyors & cable galleries for detection purpose.Kindly provide the separate quantity for conveyors & cable galleries.From that shall we for cable gallery we considered the Nylon braided LHS cable & for conveyors SS braided LHS cable.Kindly confirm.	Entire length of LHS cable indicated in BOM of the specifications is exclusively for conveyors and accordingly SS braided LHS cable to be considered by bidders. For complete details on LHS cables please refere technical data sheet of the specifications.
28	ANNEXURE-C OF PY56182(BOM)	Sl.No:3 Control Unit of IRD & Sl.No:8 Control Unit of IRD (Fla	since the IRD & IRD(Flame) are conventional device the control unit for this detectors are considered as monitor module.Kindly confirm.	Bidder's understanding is correct.Note 3 of annexure C stands deleted
29	ANNEXURE-C OF PY56182(BOM)	Requirement of Monitor Module	Monitor module is not available in the Annexure-C(BOM).Kindly share the requirement of the same.	Bidder to consider additional modules as per the requirements mentioned in Note 1 & 2 of S.No A(BOM for FDA Items) of Annex-C to PY55182
30	ANNEXURE- B OF PY5 6182-Page No:6 of 24	Degree of Protection -IP 66 for control Module	As per the manufacturer standards,IP 66 is not applicable for control module .kindly confirm.	IP rating of the control module shall be as per OEM standards
31	Annexure-A	Schematic diagram for Fire detection & Alarm system-Drg No:1-383-16-00178(Rev-2)-Legend(Description)	Please share the scope of Intrinsically safe ROR detector,Intrinsically safe Manual call point.	Bidder to consider only probe type detectos as intrinsically safe .
32	General Technical Specification-3.09.00	Passive fire Protection system for all outdoor transformers & indoor transformers having rating more than 10 MVA,cable vault,cable spreader room& enclosed cable risers (cable shafts) shall be provided.	since the details/drawings are not available for the mentioned areas passive fire protection are not in our scope.kindly confirm.	Passive fire protection is not in the scope of the bidder
33	General Technical Specification-5.04.06	5.04.06 -Scope of supply-Hot redundant PLC	since the requirement of PLC panel is not clear the same is not in our scope.Kindly confirm.	PLC panel is not in the scope of bidder.

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34	General Technical Specification-5.04.06	3.14.00 Gas sensing detectors working on air sampling shall be provided for all control rooms & control equipment room	kindly provide the datasheet/specification for air sampling detectors.	For data sheet bidder to refer S.no G of annex-VIII of Annexure I of main specification PY 55182
35	Annexure I and PY6182-00	Technical Specifications of the System	Both the documents mentioend here include technical specifications. It was nticed that some of the clauses of these documents are contradicting to each other. We understand the Document PY6182-00 is final and to be considered for Bidding Purpose. Please confirm.	Bidder to follow complete specifications including all annexures to the main specification PY55182. However contradictions,if any, to be brought out in specific for clarification For more details please refer reply of Point No 36
36	Annexure I and Annexure B	Data Sheets	Both the Annexures contain data sheets of the devices and panels. We understand the Document --------- is final and to be considered for Bidding Purpose. Please confirm.	Data sheets mentioned in Annexure I(end customer specifications) stands first in the order of priority. Data sheets in Annexure-B are provided for additional information over and above info. in the data sheets of Annexure I. Any conflict between these data sheets , annexure I data sheets to be considered by the bidder.
37	Clause No. 3	Codes & Standards	This clause do not include Vds approved system. We request you to confirm acceptance for Vds approved system as per EN54 in codes & standards. Vds system is already accepted in point no. 4.39.7 of specifications.	VDS approved system is accepted
38	Document PY 56182-00 Clause No. 4.1	Fire Detection, Alarm and Protection system proposed through the Fire detection and Repeater panels shall provide continuous surveillance against fire in the areas of plant. All Fire detection and repeater panels shall be colored MIMIC based.	Please elaborate about the requirement of colored Mimic based. We request you to please confirm whether you require additional Mimic Panel with each FAP and Repeater Panel?	Pls refer to the reply of the query in S.no 15
39	Document PY 56182-00 Clause No. 4.7	Each Fire detection alarm cum MIMIC panel shall be capable of operating in stand-alone mode. All Fire detection alarm cum MIMIC panel, Repeater panels and PC based operator stations shall be connected by a dedicated fault tolerant Local Area Network (LAN) through redundant Fiber optic communication cable.	Clause no. 4: Point no. 4.7: FAS is compatible for networking through Local Area Network (LAN). Panel shall have on board TCP/IP port. Need one IP port on each panel. However in BOQ, asked panel with optical fibre card. Please clarify the networking between panels. Is it through LAN or Optical fibre cable? In case of OFC, networking shall be in ring topology & not like as shown in schematic.	a)Networking between panels is through optical fibre cables. B)All fire alarm panels & repeater panels shall have fibre optic card with 2 ports for dual redundancy. C) Existing topology as per scematic drawing in the specification to be followed by bidder. The toplogy shall be implemented through 2 Nos of network switches (not in bidders scope) connected to all panels through OFC cables.

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
40	Document PY 56182-00 Clause No. 4.7	Alarms and indications of Fire detection alarm cum MIMIC panel s are repeated in the repeater panel. Repeater panels shall be provided with a 24" LCD display unit indicating major events, alarm, trouble etc., which shall repeat the information related to sector / area,zone, floor Elevation, room no. and detector no. etc., which are being displayed in the related Fire detection alarm cum MIMIC panel. Repeater panels shall allow acknowledgement of all alarm signals generated by fire alarm system.	Does this mean to provide 24 inch LCD Screen inbuilt to Repeater Panel or 24 Inch Monitor connected to the PC?	Display on the repeater panel shall be as per typical OEM standards. However it shall indicate major events, alarm, trouble etc., which shall repeat the information related to sector / area,zone, floor Elevation, room no. and detector no. etc., which are being displayed in the related Fire detection alarm panel. Repeater panels shall allow acknowledgement of all alarm signals generated by fire alarm system.
41	Document PY 56182-00 Clause No. 4.17	The fire detection and alarm system shall be in normal operation even during mains 240V AC power failure. The stand by DC power supply from the battery in Fire detection alarm cum MIMIC panel shall be capable of maintaining the system in normal operation & in alarm condition for a period of not less than 48 hours after the failure of mains supply.	As per IS:2189 the normal operation of the panel after failure of mains supply is 12 Hrs and in alarm condition it is 30 mins. Please reconfirm the exact requirement of back up supply for each panel including repeater panels, so that battery selection can be done accordingly.	Pls refer to clause No 6.02.15 of Annexure I to PY55182, Not less than 48 Hrs for System in normal operation & 30 mins in alarm condition to be followed by bidder
42	Document PY 56182-00 Clause No. 4.19	Bidder shall offer microprocessor based Intelligent/ analogue addressable type fire detection and alarm system. Fire alarm system working on microprocessor based system shall have dual redundant fibre optic data highway.The fire detection and alarm system shall essentially consist of Fire detection alarm cum MIMIC panels with respective monitor, Key Board Stations located in CCR, Fire detection alarm cum MIMIC panel, Master Fire Alarm Panel with monitor, Key Board Station located in Fire Station, Satellite Fire Alarm panels located in various Plant areas, detectors, Manual Call stations, alarm devices, accessories, wiring and all connections to devices.	Please clarify the requirement "Fire alarm system working on microprocessor based system shall have dual redundant fibre optic data highway." Does this requirement is meant for integration with SCADA over MODBUS/ OPC? In schematic, there is no dual redundant data highway shown. It seems to be requirement for LAN & not for FAS & its networking. Request you to reconfirm please.	OPC network to DCS shall be of "single link" For FAS ,dual redundant fibre optic data highway is to be followed for the network as shown in configuration drawing..Necessay hardware required in each panel i.e MFAP/SFAP/repeater panels for establishing dual redundant optical fibre network is in the scope of the bidder.
43	Document PY 56182-00 Clause No. 4.28.5	The detectors shall be located where the largest combustion gas concentration can be expected.	The detectors mentioned in the BOQ are capable of sensing smoke. We shall consider the same for bidding purpose. Please elaborate the requirement in this clause.	Bidder to consider quantity of detectors as per the BOM of S.No A of Annex-C to PY55182
44	Document PY 56182-00 Clause No. 4.28.9	In such areas where detectors themselves are not easily accessible, the remote response indicators outside the enclosed areas shall be provided to indicate the fire condition.	Response Indicators are not quantified in the BOM. Kindly confirm the quantity of the same.	Quantity of response indicators is already mentioned in S. No 14 of the BOM of S.No A of Annex-C to PY55182
45	Document PY 56182-00 Clause No. 4.28.10	The indigenous detectors shall have the approval of ISI/ISO in addition to the approval of FM/UL/. Detectors and panels shall be preferably from the same manufacturer for compatibility.	We confirm that Detectors and panels shall be from the same manufacturer for compatibility purpose. Data Sheets in Annexure B asks for FOC/FM/UL/MAC/LPA/VDS approval. ISI / ISO approval in addition to UL/FM for individual item may not be applicbale. So we shall consider approval acceptance as mentioend baove. Kindly confirm.	All Equipments of fire detection & alarm system shall UL/FM/LPCB/VDS approved.

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
46	Document PY 56182-00 Clause No. 4.35	Manual Call System of Fire Alarm (Intelligent Addressable Type)	We wish to mention that Manual Call Points offered by us shall be as per standard design of approved manufacturer and in line with the approved guidelines. It may not be possible to customise design of any device since each device is manufactured in line with respective guideline / approving authority. With recent development, there is no need of hammer to break the glass, as the glass can be broken by hand pressing the device.	Pls refer to clause No 7.07.00 of Annexure I to PY55182,. Break glass type MCP to be consdiered inline with specification.
47	Document PY 56182-00 Clause No. 4.39.6	The FDA system has to be connected to customers DCS/PLC/SCADA on OPC at three locations of the plant. Hence the server HMI shall have OPC gateway on TCP/IP with necessary hardware (Firewall) OPC driver software. The connectivity shall be distributed using TCP/IP switches for establishing connectivity to the three upstream control systems. All these hardware & software are in bidder's scope.	It is asked OPC output for integration with DCS/PLC/ SCADA at 3 locations. However as per BOM of FDA, item no. 23 & 24, require 1 no. MODBUS & 1 no. OPC connectivity. Please clarify?	Only Main fair alarm panel shall be interfaced with DCS over OPC. Cable/hardware/software etc required to establish this connectivity shall be in the scope of the bidder. The control system located at FWPH (foam pump house/booster Pump house) is PLC based.Hence this PLC shall be networked to FPS system over modbus(OFC). Pls follow schematic diagram for fire detection & Alarm system.
48	Document PY 56182-00 Clause No. 4.40.17	Fire alarm panels shall be provided with necessary contacts for performing following functions on occurrence of fire in corresponding areas:- • Initiating required alarm/indication in computer/repeater panel. • Operation of the deluge system (HVWS & MVWS combined) provided in the cable gallery / transformers.	We believe the same has been considered in BOM as we will quote in accordance to BOM. Please confirm.	Pls refer to the reply of the query in S.no 18
49	ANNE XURE -C OF PY561 82	Bill of Material	Do we have to strictly follow the BOM and submit our bid as per BOM.	Pls refer to the reply of the query in S.no 13
50	ANNE XURE -C OF PY561 82	Air Sampling Detectors	There is no details about aspiration detector in specifications. Aspiration detector are avaialble in different capacities which are selected as per dimension of particular room. Please provide at least tentative dimensions of the areas where these detectors are to be located.	For data sheet bidder to refer S.no G of annex-VIII of Annexure I of main specification PY 55182.. Tentative area dimensions are as follows. A) CCR ::23(L)x12(W)x7(H) Mts B) CER-1 :: 23(L)x23(W)x7(H) Mts C)CER-2 :: 23(L)x10.5(W)x7(H) Mts

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51	General		Please refer page no. 14. Please recheck & clarify the spare loop capacity/ spare loops. With 30% spare loop capacity+ 30% spare loops + 1 extra loops, usable capacity of panel shall be less than 50%!!!.	The following spare philosophy shall be followed for satellite fire alarm panel – 1, 2 and 4:- • 20% spare capacity shall be left free in each loop. • 1 spare loop shall be provided in each fire alarm panel. The following spare philosophy shall be followed for main fire alarm panel:- • 20% spare capacity shall be left free in each loop. • Additional loops required to accommodate 350 devices shall be provided in main fire alarm panel • 1 spare loop shall be provided in each fire alarm panel. The following spare philosophy shall be followed for satellite fire alarm panel – 3:- • 20% spare capacity shall be left free in each loop. • Additional loops required to accommodate 160 devices shall be provided in main fire alarm panel • 1 spare loop shall be provided in each fire alarm panel.
52	General		a)In notes, it mentioned that considered suitable no. of modules for 200 nos. deluge valve. These modules are on & above module already mentioned in BOM or already considered in BOM (420 nos. control modules but no monitor modules). b)Please note that monitor module is used with 3rd party items like IRD/ flame detectors instead of control module as mentioned in BOM. Kindly confirm qty. of Monitor Modules, if required.	a)Pls refer to the reply of the query in S.no 18 b) Pls refer to the reply of the query in S.no 28
53	Annexure- C- Bill of Material	Quantities of various items have been furnished by BHEL.	We clarify that our offer is based on the quantities as mentioned in the BOM. Variation in quantities/ additional items will be payable extra.	Pls refer to the reply of the query in S.no 13

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54	Vendor List	Not enclosed with the specification.	Please provide the same.	Equipments/components of fire protection system shall be FM/UL/VDS/LPSB/ISI approved in line with clause 4.39.7 & also as per clause 3.0 of PY8162. List of component vendors proposed for the project shall be provided along with the technical offer.Bidder to supply all the required details including submission of credentials of components porposed for this project for BHEL's review & approval.
55	Annexure- I	Development Consultant Specification	It has been cnsidered for information purpose only. BHEL's specification will be followed in totality.	Entire specification with all annexures in the bid dcouments are to be considered whiile submitting the offer.
56	BHEL's Technical Specification, Clause 4.45.5.Note C.	Additional loops for accomodating additional 30% devices in each panel shall also be considered.	We clarify that 30% spare capacity is available in each loop and 1 spare loop is also provided. Hence, additional loop for 30% devices are not required. Kindly review and clarify.	Pls refer to the reply of the query in S.no 51
57	BHEL's Technical Specification, Clause 4.16.	It shall be possible.....equipments.	We clarfy that the MFAP in the CCR and Fire Station will be accessible from the respective PC thru wiring.Access from any other remote PC is not envisaged.	Pls refer to the reply of the query in S.no 39 for realization of spec. requirement
58	BHEL's Technical Specification, Clause 5.8	Cable Laying and accessories.	We clarify that supply of cable and its laying is not in our scope. However, cable accessories as per the BOM will be supplied by us.	Noted. However cable accessories as required as per clause.no 5.3 & 5.8 of our specification PY56182 Rev 00 shall be considered and supplied by bidder.
59	BHEL's Technical Specification, Clause 5.11	Special tools and tackles	We request BHEL to provide the List.	Special tools & tackels shall be as per the OEM's recommedations. List of the same to be provided along with the technical offer. Any specific tools, if not supplied and are found required for Erection commissioning & maintanance, shall be supplied by bidder without any financial implication.
60	BHEL's Technical Specification, Clause 5.12.1	Commissioning Spares	We request BHEL to provide the List.	Commissioning spares shall be as per standard OEM supplies that are to be supplied along with main package. List of the same to be provided along with the technical offer.

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61	BOM for FDA items	Optical LHS Cable- Item no 9	We request BHEL to provide separate quantity for coal conveyor and cable gallery.	Pls refer to the reply of the query in S.no 27
62	BOM for FDA items	Note -1	We understand tht the modules are covered in the BOM. Additional quantity is not required.	Pls refer to the reply of the query in S.no 18
63		Clause no. 3: Codes & Standards	Please approve VdS approved system as per EN54 in codes & standards. Vds system is already accepted in point no. 4.39.7 of specifications. It is to avoid any issue later on.	Pls refer to the reply of the query in S.no 45
64		Clause no. 4: Point no. 4.	Please clarify “Mimic panel” requirement. FAS shall have LC display. In PC, there shall be GUI software with as built auto cad drawing.	Pls refer to the reply of the query in S.no 15
65		Clause no. 4: Point no. 4.7:	FAS is compatible for networking through Local Area Network (LAN). Panel shall have on board TCP/IP port. Need one IP port on each panel. However in BOQ, asked panel with optical fibre card. Please clarify the networking between panels. Is it through LAN or Optical fibre cable? In case of OFC, networking shall be in ring topology & not like as shown in schematic.	Pls refer to the reply of the query in S.no 39
66		Clause no. 4: Point no. 4.19:	Please clarify the requirement “Fire alarm system working on microprocessor based system shall have dual redundant fibre optic data highway.” Do you require the same for integration with SCADA over MODBUS/ OPC. In schematic, there is no dual redundant data highway shown. It seems to be requirement for LAN & not for FAS & its networking.	Pls refer to the reply of the query in S.no 42
67		Clause no. 4: Point no. 4.35:	We suggest to approve material, construction & design of manual call point as per international approval. It is not possible to customise design of any devices since they have necessary international approvals. With recent development, there is no need of hammer to break the glass.	Pls refer to the reply of the query in S.no 6

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
68		Clause no. 4: Point no. 4.39.6	It asked OPC output for integration with DCS/PLC/ SCADA at 3 locations. However as per BOM of FDA, item no. 23 & 24, require 1 no. MODBUS & 1 no. OPC connectivity. Please clarify?	Only Main fire alarm panel shall be interfaced with DCS over OPC. Cable/hardware/software etc required to establish this connectivity shall be in the scope of the bidder. The control system located at FWPH (foam pump house/booster Pump house) is PLC based.Hence this PLC shall be networked to FPS system over modbus(OFC). Pls follow schematic diagram for fire detection & Alarm system.
69		Please refer page no. 14.	Please recheck & clarify the spare loop capacity/ spare loops. With 30% spare loop capacity+ 30% spare loops + 1 extra loops, usable panel capacity shall be less than 50%!!!	Pls refer to the reply of the query in S.no 51
70			BOM sheet – In notes, it mentioned that considered suitable no. of modules for 200 nos. deluge valve. These modules are on & above module already mentioned in BOM or already considered in BOM (420 nos. control modules but no monitor modules). Please note that monitor module is used with 3rd party items like IRD/ flame detectors instead of control module as mentioned in BOM.	Pls refer to the reply of the query in S.no 52
71			There is no details about aspiration detector in specifications. Aspiration detector are considered as per dimension of particular room like inert gas system. Please provide at least tentative dimensions or we shall consider maximum capacity aspiration detector.	Pls refer to the reply of the query in S.no 50
72	Clause No.3.00 of BHEL specification	Codes & Standards	Please approve VdS approved system as per EN54 in codes & standards. Vds system is already accepted in point no. 4.39.7 of specifications. It is to avoid any issue later on.	Pls refer to the reply of the query in S.no 37
73	Clause no. 4: Point no. 4.1 BHEL specification	Requirement of MIMIC Panel	FAS shall have LC display. In PC, there shall be GUI software with as built auto cad drawing.	Pls refer to the reply of the query in S.no 15
74	Clause no. 4: Point no. 4.7: BHEL specification	FAS is compatible for networking through Local Area Network (LAN). Panel shall have on board TCP/IP port. Need one IP port on each panel. However in BOQ, asked panel with optical fibre card.	Please clarify the networking between panels. Is it through LAN or Optical fibre cable? In case of OFC, networking shall be in ring topology & not like as shown in schematic.	Pls refer to the reply of the query in S.no 39

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
75	Clause no. 4: Point no. 4.19: BHEL specification	Fire alarm system working on microprocessor based system shall have dual redundant fibre optic data highway	Please confirm whether you require the same for integration with SCADA over MODBUS / OPC. In schematic, there is no dual redundant data highway shown. It seems to be requirement for LAN & not for FAS & its networking.	Pls refer to the reply of the query in S.no 42
76	Clause no. 4: Point no. 4.35: BHEL specification		We suggest approving material, construction & design of manual call point as per international approval. It is not possible to customise design of any devices since they have necessary international approvals. With recent development, there is no need of hammer to break the glass.	Pls refer to the reply of the query in S.no 6
77	Clause no. 4: Point no. 4.39.6: BHEL specification	It asked OPC output for integration with DCS/PLC/ SCADA at 3 locations. However as per BOM of FDA, item no. 23 & 24, require 1 no. MODBUS & 1 no. OPC connectivity	Please note that MODBUS & OPC are two gateways for third party integration. For a single panel both of them cannot be installed. So please clarify whether you need both of them on two different panel or only one type of gateway shall be considered.	Only Main fair alarm panel shall be interfaced with DCS over OPC. Cable/hardware/software etc required to establish this connectivity shall be in the scope of the bidder. The control system located at FWPH (foam pump house/booster Pump house) is PLC based.Hence this PLC shall be networked to FPS system over modbus. Pls follow schematic diagram for fire detection & Alarm
78	BOM sheet	suitable no. of modules for 200 nos. deluge valve.	Please clarify These modules are on & above module already mentioned in BOM or already considered in BOM (420 nos. control modules but no monitor modules). Please note that monitor module is used with 3rd party items like IRD/ flame detectors instead of control module as mentioned in BOM	a)Pls refer to the reply of the query in S.no 18 b) Pls refer to the reply of the query in S.no 28
79			There are no details about aspiration detector in specifications. Aspiration detector is considered as per dimension of particular room like inert gas system. Please provide at least tentative dimensions or we shall consider maximum capacity aspiration detector.	Pls refer to the reply of the query in S.no 50
80	Clause No. 4.04.03 ii) of TSPGCL specification	Repeater Fire detection alarm cum MIMIC panels, one each, in local area rooms eg, DM plant, AHP, CHP, CW pump house etc.	Our understanding is Repeater panel & MIMIC panels are different. So what is the actual requirement & as per BOQ the number required for repeater panel is 5 whereas here it is showing 4 nos . Please confirm.	Pls refer to the reply of the query in S.no 15
81	Clause no. 7.06.13 b) of TSPGCL specification	The detectors shall be sensitive to very low smoke densities of the order of 0.05 gm/cu.m.	Firstly the unit of sensitivity of detectors is measured in obscuration per feet & secondly our offered detectors shall bear international standard listing and the sensitivity range shall be as per manufacturer norms. Please confirm.	Sepcification referring to clause 7.06.13 to be followed by bidder
82	Clause No. 7.07.02 of TSPGCL specification	The MS Box and the external MS enclosure shall be completely dust, weather and vermin proof. The housing of the electronic circuitry shall have minimum IP 65 protection	Please confirm that whether this IP-65 requirement is applicable for only outdoor MCPs or for all. If only for outdoor MCPs then please confirm the quantity of the same.	Bidder to consdier 20Nos of MCP 's for outdoor applications.

Sl.NO.	Clause No.	Description as per Specification	Queries by Bidder	BHEL Replies dated 29/06/16
83	Clause No. 7.09.00 of TSPGCL specification	Battery & battery charger	Please confirm whether this battery & battery charger is in our scope or not.	Batter & battery charger for fire alarm/repeater panels are in the scope of the bidder
84	Datasheet of BHEL specification	Exit sign Board	Serial no 1 (Type) is self-luminous exit sign board again at serial no 7 (operating Voltage) is asking for 24 V DC. Both are contradictory, please clarify.	Pls refer to the reply of the query in S.no 4
85	Datasheet of BHEL specification	Optical LHS cable	Two types of cable have been mentioned steel type & thermoplastic type for two type of areas. Please confirm the quantities.	Pls refer to the reply of the query in S.no 27
86		Control unit for Optical type LHS cable.	Please provide the datasheet or technical details of this item as it is very expensive item.	For details bidder to refer data sheet bidder of LHS cables in S.no D of annex-VIII of Annexure I of main specification PY 55182