

**BHEL REPLIES AGAINST PRE-BID QUERIES FOR WATER BASED FPS PACKAGE EQUIPMENTS
PROJECT: ROURKELA PP-II EXPANSION PROJECT (1X250 MW)**

SL NO	Clause No	Page number	Description as per specification	Queries by bidder	BHEL REPLY
1	6.1.3	10 of 32	Tentative BOQ (for major items) for HVWS system are as follows: 1. Deluge Valves = 10 Sets 2. Y Strainers = 10 Nos (Upstream of DV) 3. Isolation Gate Valves = 10 Nos (Downstream of DV) 4. Fast acting Butterfly Valves = 20 Nos (bypass valve to DV and upsteam of Dv) 5. DVLCP = 10 Nos 6. Isolation valves for test lines in Detector header = 20 Nos	As per Cl. No. 9.1.2 , Gate valves shall be provided for each deluge valve on upstream and downstream. Fast acting butterfly valve is provided in the bypass line of deluge valve. However tentative BOQ indicates Isolation gate valve for Downstream of DV & Butterfly Valve for bypass & upstream of DV . Kindly confirm the requirement of Gate Valve & Butterfly Valve.	Bidder to note that Butterfly valve shall be provided at upstream of each deluge valve and gate valve shall be provided at downstream of each deluge valve for isolation purpose as well as Butterfly valve is provided in the bypass line of each deluge valve. Refer P & ID of HVWS system(PY-DP-1-M087-8315-02), which is attached in ANNEXURE-12.
2	9.2.1	17 of 32	Medium Velocity Water Spray System (MVWS) The velocity in main header pipe shall not exceed 3m/sec and in feed pipe after deluge valve shall not exceed 5m/sec.	As per TAC, The velocity in main header pipe shall not exceed 5m/sec and in feed pipe after deluge valve shall not exceed 10m/sec. Kindly confirm your requirement.	Bidder to follow specification requirement.
3	11.1	22 of 32	DOCUMENTATION c) The first submission of drawings shall start within 30 days from the date of Purchase order. All the first submission shall be completed within 120 days from the date of Purchase order.	First submission of drawings / documents - 30 days from the date of receiving base inputs drawings in Auto cad format.	Please note that as per clause no 11.1 (sl no c) " The first submission of drawings shall start within 15 days from the date of Purchase order. All the first submission shall be completed within 60 days from the date of Purchase order." Bidder to note that inputs required for Spray system package are already attached as Annexures to the specification in PDF format for bidding purpose. Successful bidder shall be provided with input data in Autocad format wherever possible. Successful bidder shall inform the requirements of additional inputs, if any, after the award of contract by Kick-off meeting which shall be conducted within one week after the award of contract. The drawing flow shall start within two weeks after award of contract and bidder shall adhere to the schedule mentioned on the specification.
4	11.3	23 of 32	11.3. Drawings review and approvals e) After receiving the inputs, bidder shall furnish the first set of drawings within 30 days progressively. All revised drawings after incorporating the comments shall be furnished within 7 days. BHEL shall furnish comments (if any)/approval on the documents within 7 days after the receipt of same. Engineering shall be completed within 90 days from the date of purchase order.	Kindly note that the system engineering will be completed within 6 months from the date of purchase order.	Bidder to follow specification requirement.
5	11.9	26 of 32	11.9. As built drawings b) Bidder shall furnish reproducible and electronic files of all the drawings under their scope to Owner/ certified as "As Built Issue."	We will furnish only electronic files of all the drawings under our scope to Owner/ certified as "As Built Issue."	Bidder to follow specification requirement.
6	6.1.3(11)	10 of 32	QBD and detection pipes and accessories for transfer point in coal handling system BY BIDDER	Kindly confirm the scope of MVWS System for transfer point.	Bidder to note that MVWS system for Transfer Towers are not in the scope bidder, hence this clause is not applicable.
7	6.1.3	10 of 32	NOTE-2, Isolation valves for test lines in Detector header = 20 Nos	Isolation valves for test lines in detector header are not indicated in reference drawing. Kindly clarify the requirement of 20nos of isolation valve for 10 nos. of deluge valve.	Isolation valves in detection line is envisaged for periodic testing of deluge valve. However this requirement is not applicable, hence the isolation valves required for periodic testing of DV are not applicable. For details, refer P & Id of HVWS system (Drawing number ; PY-DP-1-M087-8315-02) and P & id of MVWS system (Drawing number ; PY-DP-1-M087-8315-03)
8	6.1.3,p	9 of 32	For periodic testing of deluge valve, QB detector with GI pipe & isolating valve connected to detector network shall be provided for each of transformers. Testing arrangement should not interfere with main spray system.	Kindly furnish the data sheet of Isolation valve to be used for periodic testing of Deluge Valve.	Isolation valves in detection line is envisaged for periodic testing of deluge valve. However this requirement is not applicable, hence the isolation valves required for periodic testing of DV are not applicable. For details, refer P & Id of HVWS system (Drawing number ; PY-DP-1-M087-8315-02) and P & id of MVWS system (Drawing number ; PY-DP-1-M087-8315-03)

9	6.1.3,h	9 of 32	h. Globe type instrument root valves for mounting the instruments.	Kindly furnish the data sheet of Globe type instrument root valves.	There is no specific datasheet is available for globe valve. However please refer instrument instalation diagram(sample instalation for pressure gauge) attached along with the prebid query reply for details.
10		page 18	TECHNICAL SPECIFICATION FOR EPC PACKAGE System shall comprise network with pipeline.....instrumentation (pressure switches, limit switches, pressure gauges).....shall also provided for each deluge valve	Kindly confirm the scope of requirement of Limit Switch.	Limit switches are not applicable . Bidder to follow the P & Id of HVWS system (Drawing number ; PY-DP-1-M087-8315-02) and P & id of MVWS system (Drawing number ; PY-DP-1-M087-8315-03)
11	6.1.3		p. For periodic testing of deluge valve, QB detector with GI pipe & isolating valve connected to detector network shall be provided for each of transformers.Testing arrangement should not interfere with main spray system.	the same is not shown in the P & IDs FOR HVWS SYSTEM (DOC NO: PY-DP-1-M087-8315-02- REV-00) .--- Please confirm that the same to be considered or not.	Isolation valves in detection line is envisaged for periodic testing of deluge valve. Howver this requiremnet is not applicable, hence the isolation valves required for periodic testing of DV are not applcable. For details, refer P & Id of HVWS system (Drawing number ; PY-DP-1-M087-8315-02) and P & id of MVWS system (Drawing number ; PY-DP-1-M087-8315-03)
12	6.1.3	page no 9 of 32	Deluge Valve Local control panel (Refer Scheme of DVLCP)	Please provide the scheme.	Scheme shall be submitted by bidder during Detailed engineering. However for the detail of the local panel refer specification of local panel is attached along with the prebid query reply.
13	6.1.3	page no 10 of 32	QBD and detection pipes and accesories for transfer point in coal handling system.	The protection for TP, Crusher House is not being considered in Cl. No. 6. BIDDER'S SCOPE OF SUPPLY.-- Please confirm the same to be considered in the present scope.	Bidder to note that MVWS system for Transfer Towers are not in the scope bidder, hence this cluase is not applicable.
14	6.1.3	page no 10 of 32	Erection hardware required for the equipment supplied by bidder.	Please specify the same	All erection hardware including structural steel, fittings, brackets, U clamps, nuts & bolts etc. that are required for the erection of spray system shall be supplied by bidder.
15	6.1.3	page no 8 of 32	a. Hydraulically operated deluge valves along with all its accessories (trim kit) , fast acting butterfly valves, gate valve , Y strainer, solenoid valves, test valves and local control panel with related inertface units	Please specify the type of interface unit with local control panel to be consider in the scope	Bidder to follow the specification.
16	6.5.3	page no 14 of 32	Material re-conciliation will be done jointly by Purchaser's erection office & Sub- vendor. Bidder to note that the payment towards the supply for any item will be made only after the completion of the material reconciliation activity at site. All costs for material reconciliation activity shall be included in supply price by bidder.	The same is applicable for the present scope with locaation, no & detail provided with tender documen.--- Please confirm.	Bidder to follow the specification.
17	6.6.3.		All necessary engineering and documentation support required for approval of TAC shall be provided by bidder. The cost towards this services shall be included in main price .	As per CL. 7. Exclusion : TAC approval is not vendor cope ---- Please confirm TAC approval under whose scope	TAC approval is in BHEL scope. Please refer clause no 9.23 for details.
18	7		Terminal Points:		
			b) Cables: At the terminals of DV LCP (inlet/outlet)	Please provide the voltage rating for incoming feder of DVLCP	For DVLCP 24 V DC supply shall be provided.
19	9		DESIGN DESCRIPTION OF SYSTEMS:		
	9.1		Automatic High Velocity Water Spray System (HVWS)		
	9.1.1		Design Guidelines		
19.1			The minimum running water pressure at any spray nozzles will not be less than 3.5 kg/cm2 (g) and not greater than 5.0 kg/cm2 (g). The velocity in feed pipes shall not be more than 10m/s as per cl. No. 3.2.3.6.2.7 of TAC manual for Spray System.	As per Annexure-13 (Technical Specification for EPC Package, Document No. CC&M-C-347-211 Sub section 5.0) velocity in main header 3 M/Sec & in the feed pipe after deluge valve 5M/Sec.----- Please Confirm which one to be considered	Bidder to follow specification requirement.
19.2	9.1.2		The spray system has been provided in accordance with Cl. No. 8.8.1 of IS 3034 (Fire Safety of Industrial Buildings - Electrical Generating and Distributing Stations) - which specifies that no fixed fire protection equipment (such as high velocity water spray) is required for transformers below 10 MVA or in the case of oil filled transformers with oil capacity of 2000 liters and below.	we have considered no of transformer as per Cl. No 6.1.1.1 of technical specification PY5 1345 in present scope. If any other transformer to be considered in the present scope please confirm & provide the detail.	Bidder to follow the Scope of HVWS system as per Cl NO. 6 of technical specification PY51345.

19.3			The water supply to HVWS system will be controlled by wet pilot type deluge valve which will be operated hydraulically and is normally closed by water pressure. Water for deluge valves shall be supplied from spray header. Gate valves shall be provided for each deluge valve on upstream and downstream. Fast acting butterfly valve is provided in the bypass line of deluge valve. Y- Strainer shall be provided at upstream of each deluge valve	As per P & IDs FOR HVWS SYSTEM (DOC NO: PY-DP-1-M087-8315-02- REV-00) the upsteram & bypass are butterfly valve & downstream is Gate Valve.--- Please confirm which one to be considered.	Bidder to note that Butterfly valve shall be provided at upstream of each deluge valve and gate valve shall be provided at downstream of each deluge valve for isloation purpose as well as Butterfly valve is provided in the bypass line of each deluge valve. Refer P & ID of HVWS system for detail.
19.4			A provision is also made to operate the HVWS system manually through local push button station and remotely from fire alarm panel. The system will automatically detect, control and extinguish any outbreak of fire and simultaneously give audible alarm.	As per Cl. 9.1.3 Operation of HVWS System: No separate local push button units envisaged for the deluge valve. -- Please confirm local push button station is required for HVWS system or not.	Local push bottom station shall be required in DVLCP. Bidder to follow specification requirement.
20	9.2		Medium Velocity Water Spray System (MVWS)		
	9.2.1		Design Guidelines:		
20.1			Pressure at most favouravle sprayer in conveyer shall not more than 3.5 bars.	Please specify the upper range of pressure for cable gallery	A minimum pressure of 1.4 bars shall be achieved at the hydraulically remotes sprayer. However, pressure at the hydraulically favourable sprayer shall not exceed 3.5 bars as per Spray Manual of TAC.
20.2			The velocity in main header pipe shall not exceed 3m/sec and in feed pipe after deluge valve shall not exceed 5m/sec .	As per TAC velocity of MVWS system for conveyor & cable gallery 10M/Sec can be considered. Also Annexure-13 (Technical Specification for EPC Package, Document No. CC&M-C-347-211 Sub section 5.0) is silent about the velocity for MVWS System.--- Please confirm.	Bidder to follow specification requirement.
20.3			The MVWS system for fuel oil pump house will be provided similar to that of the system provided for cable galleries except that there will not be any zoning in this area. The fire in the fuel oil pump house will be detected by a detection system (water filled quartzoid bulb detectors), which will actuate the deluge valve. The fuel pump skids in the fuel oil pump house shall be provided with MVWS pipe network.	The protection for FOPH is not being considered in Cl. No. 6. BIDDER'S SCOPE OF SUPPLY.-- Please confirm the same to be considered in the present scope.	MVWS system for Fuel oil pump house is not in the scope of bidder.
21	11		Documentation		
			Drawings review and approvals		
21.1			d) Review of drawings and documents issued by bidder shall be carried out by Purchaser /End customer.	Please specify the approving authority- BHEL / MECON / NSPCL	Review of drawings and documents issued by bidder shall be carried out by Purchaser as well as End customer (MECON & NSPCL).
21.2	18		List of Drawing		
				Following drawing not attached with bid document	
				GA and Load Data of Conveyors 1A/1B (IS-1-GA-708-101-M006 R01)	Drawing is attcahed as a part of pre-bid reply
				Typical Cross Section of Conveyor Gallery & Tunnels (IS-1-GA-708-101-M003 R04)	Drawing is attcahed as a part of pre-bid reply
				GA of All Conveyors Profiles (IS-0-GA-708-101-M004)	Drawing is attcahed as a part of pre-bid reply
				Coal Flow Diagram (IS-1-FL-708-100-M001)	Drawing is attcahed as a part of pre-bid reply
				Key Plan of Boiler (0-00-512-93686)	Drawing is attcahed as a part of pre-bid reply
				GA of Dirty Oil tank (11705240625)	Drawing is attcahed as a part of pre-bid reply
				MAIN TURBINE LUBES OIL TANKS, OIL COOLERS & PURIFIER UNIT (0-13100-D5004)	Drawing is attcahed as a part of pre-bid reply
				GA & LOAD DATA OF TP-1 (IS-1-GA-708-104-M022)	This document is not applicable.
				GA & LOAD DATA OF TP-2 (IS-1-GA-708-104-M023)	This document is not applicable.
				GA & LOAD DATA OF TP-3 (IS-1-4A-708-104-M024)	This document is not applicable.
				GA & LOAD DATA OF TP-4 (IS-1-GA-708-104-M025)	This document is not applicable.
				GA & LOAD DATA OF TP-5 (IS-1-GA-708-104-M026)	This document is not applicable.
				GA & LOAD DATA OF CRUSHER HOUSE (IS-1-GA-708-104-M030)	This document is not applicable.
22	ANNEXURE-7		DATA SHEET OF EQUIPMENT		
			PIPES - MS BLACK, GALVANIZED -MEDIUM INCLUDING FITTINGS		
			PIPES NORMALLY EMPTY BUT PERIODICALLY FILLED WITH WATER		

22.1			G.I. Pipes (Aboveground)	As per Annexure - 9 pipe 25NB to 150NB is IS: 1239 Pat-I Heavy Grade but as per Technical Specification for EPC Package, Document No. CC&M-C-347-211 Sub section 5.0 pipe 65NB & Below IS:1293 Part I, Heavy grade & 80NB & Above IS:1239 Part I, Medium Grade.-- Please confirm actual pipe grade also please specify Phylon Pipe Grade.	All Pipes shall be as Heavy grade confirming to IS 1239 Part-1. However for details following Datahseet of Pipie& Fittings which is attcahed as Annexure-7 to the specification PY51345. Bidder to considere medium garde for pylon supports confirming to IS1239-I.
22.2	ANNEXURE-9		PAINTING SPECIFICATION	Please specify the type of GI pipe primer.	ETCH primer shall be considered for GI pipe.
22.3	ANNEXURE-11		BOQ	Limit Switch indicated as line item in the BOQ, but as per specification the same is not required. ---Please confirm	Annexure-11 is a BOQ format only. Bidder to supply the material as per specification PY51345.
22.4	ANNEXURE-13		Technical Specification for EPC Package, Document No. CC&M-C-347-211 Sub section 5.0		
23			Main components of the system		
			Dewater Pump	No dewatering system mentioned in the TECHNICAL SPECIFICATION FOR WATER SPRAY SYSTEM (Document No. PY5 1345 (Rev.00).--- Please confirmed if the same to be considered in the present scope. If require, please provide the specification for the same	Scope of supply shall be as per clause number 6 of specification PY51345.
24	Clause 6, page 6 of 32 of Technical Specification		Bidder's Scope of Supply	We have considered Spray System for the equipments/ areas as mentioned in this clause. Protection of any other equipment is not included in our scope.	Scope of supply shall be as per clause number 6 of specification PY51345.
25	Note below Clause 6.1.2, page 7 of 32 of Technical Specification		Portion of the conveyor coming inside TP shall also be protected by MVWS System	We understand that MVW spray system for the complete TP is not required. However, as per TAC, TP should also be protected by MVW Spray System. We request BHEL to review and confirm the same.	Bidder to follow specification requirement.
26	Clause 6.4.2, page 12 of 32 of Technical Specification		Recommended Spares	We clarify that Recommended Spares are not required beyond Mandatory Spares as mentioned in clause 6.4.3.	Noted.
27	Clause 9.2, last para, page 17 of 32 of Technical Specification		The velocity in.....5m/sec.	We clarify that velocity will be as per TAC Rules for Water Spray System.	Bidder to follow specification requirement.
28	Clause 9.16, page 19 of 32 of Technical Specification		Strainer area will be at least 6 times of pipe cross section area at inlet.	We clarify that the Strainer area will be at least 4 times of pipe cross section area at inlet as per the General Engineering Practice..	Bidder to follow specification requirement.
29	Clause 18 (List of Drawings), page 29 of 31 of Technical Specification		Following drawings are not attached with the specification;	We request BHEL to provide the drawings.	
			19. Coal Flow Diagram.		Drawing is attcahed as a part of pre-bid reply
			20. Typical cross section of conveyor gallery and tunnel.		Drawing is attcahed as a part of pre-bid reply
			21. GA of all conveyor profile.		Drawing is attcahed as a part of pre-bid reply
			22. GA and load data of conveyor 1A/ 1B.		Drawing is attcahed as a part of pre-bid reply
			33. Key plan of boiler.		Drawing is attcahed as a part of pre-bid reply
			37. GA of dirty oil tank.		Drawing is attcahed as a part of pre-bid reply
			38. Main turbine lube oil tanks, oil coolers & purifier unit.		Drawing is attcahed as a part of pre-bid reply
30	Data Sheet		Technical Data Sheet/ Specification for QB Detectors is not available in the specification.	We request BHEL to provide the same.	Drawing is attcahed as a part of pre-bid reply
31	S.No.17, page 10 of 31 of Technical Specification		Interconnecting Cable is in bidder's scope. However, Technical Specification of cable is not available in the specification.	We request BHEL to provide Technical Specification of cable.	The cable specification is attached as a part of prebid query reply.
32	Technical Specification		Technical specification of BHEL as well as Customer has been furnished.	In case of any contradiction between the two, BHEL's specification will prevail. Kindly confirm.	In case of any contradiction, bidder to seek cklarification pre-bid stage, if not at later stage BHEL decision reagrding the same shall be final.

33	Note of Clause 6.1.1.2, page 7 of 32 of Technical Spec		A tap-off shall be provided from the nearest spay network (by BHEL) shall be provided to bidder for the HVWS spay system at required pressure. Composite layout of Spray network is attached as an Annexures as reference drawing. Spray network is available around the TG building as well as in Transformer yard area. Tap-off connection for above equipments shall be given from this network.	We request BHEL to provide the tap off point within 5 mtr of equipment to be protected. Kindly confirm	Bidder to note that taapping for DV shed shall be within 5 meters. Loaction of DV shed for the equipment to be protected shall be deecided during detailed engineering.
34	Note of Clause 6.1.2, page 8 of 32 of Technical Spec		Bidder has to take a tap up from nearest spray network (refer composite layout for nearest spray network) . Spray header network is in BHEL scope . Composite layout of Spray network is attached as an Annexures as reference drawing. Spray network is available around the TG building, Coal Conveyors, near ESP control building etc. Tap-off connection for above equipments shall be given from these network.	We request BHEL to provide the tap off point within 5 mtr of equipment to be protected. Kindly confirm	Bidder to note that taapping for DV shed shall be within 5 meters. Loaction of DV shed for the equipment to be protected shall be deecided during detailed engineering.
35	Clause 9.2.2, 4th para, page 18 of 32 of Technical Specification		MVW Spray system for FOPH is required.	FOPH is not appearing in clause 6 (Bidder's Scope of Supply). Kindly confirm if MVW Spray System for FOPH is required.	MVWS system for Fuel oil pump house is not in the scope of bidder.
36				The following documents are required	
				A) GA drawings of the following coal conveyors	
				1) BCN 1A/B.	Drawing is attcahed as a part of pre-bid reply
				2) BCN 2A/B.	Document is already attached in annexure-12 of specification .
				3) BCN 4A/B.	Document is already attached in annexure-12 of specification .
				4) BCN 6G.	BCN 6G is not available. Please check for the specification requirement.
				5) BCN 7A/B.	Document is already attached in annexure-12 of specification .
				6) BCN 8A/B.	Document is already attached in annexure-12 of specification .
				7) BCN 8C/D	Document is already attached in annexure-12 of specification .
				B) GA drawings of Cable Gallery (Cable Cellars) of TG Building and ESP Building.	Document is already attached in annexure-12 of specification .
				C) Plot Plan (Composite Layout of spray system)	Document is already attached in annexure-12 of specification .