

FRAMEWORK AGREEMENT FOR FGD FPS PROJECTS
Un-Priced Price Bid Format

R00 -02.11.2021

Item: HYDRANT VALVE
PR No: 1900141162

SI No	PR No	Material Code	Material Description	UOM	PR Qty (No.s)	Technical Specification	Price Weightage Factor	Bidder Confirmation (Quoted)
1	1900141162	PY9751391016	SS HYDRANT VALVE (ISI APPROVED)	EA	914	PY51391	0.97622	
2	1900141162	PY9751415055	SET OF SEAT & RUBBER RING OF HYD VALVE	EA	5	PY51415	0.00078	
3	1900141162	PY9751415063	SPINDLE WITH NUTS OF HYD VALVE	EA	22	PY51415	0.00486	
4	1900141162	PY9751415071	BONNET, GLAND NUT, RUBBER ASSY OF HYD VLV	EA	22	PY51415	0.00573	
5	1900141162	PY9751415080	SEAT, CHECK NUT, WASHER ASSY OF HYD VALVE	EA	25	PY51415	0.00283	
6	1900141162	PY9751415098	RUBBER WASHER FOR FEMALE COUPLING	EA	25	PY51415	0.00018	
7	1900141162	PY9751415101	FEMALE COUPLING ASSY FOR HYD VLV	EA	22	PY51415	0.00809	
8	1900141162	PY9751415110	LOCK PIN ASSEMBLY FOR HYDRANT VALVE	EA	22	PY51415	0.00131	
Total							1.00000	

NOTES:

- 1) Vendor to Quote Lumpsum Price for the Total Package.
- 2) Line Item Rates of the individual items shall be derived by multiplying the "Price Weightage Factor" with the Lumpsum Price quoted.
- 3) Unit Rates of the Individual items thus arrived, shall be binding on the bidder, for the total period of Framework Agreement.
- 4) Observations / Objections, if any, of the Bidder, to the "Price Weightage Factor" shall be brought to the notice of BHEL, during Pre-Bid Stage.
- 5) No Observations / Objections shall be entertained after the Techno-Commercial Bid is opened.
- 6) Bidder to indicate "Quoted" in the column "Bidder's Confirmation" as a confirmation of their bid to the respective item.
- 7) The Bid Evaluation is on Overall L1 Basis. Each and Every item of the Package shall be quoted by the bidder.
- 8) Partial offers will not be considered for evaluation and the same are liable for rejection.
- 9) The details of the Projects for which Framework Agreement is proposed are given elsewhere in the NIT. The distribution of the line items across the projects is attached as **Annexure-A**.
- 10) The permissible ordering limits specified in NIT are strictly applicable on the Total Framework Value. The same are not applicable at the Individual Project level.
- 11) The Total Lump price quoted shall be INCLUSIVE of Freight, Packing & Forwarding and Testing Charges.
- 12) The Total Lump price quoted shall be EXCLUSIVE of GST, Third party inspection (TPI) & Insurance Charges.

DISTRIBUTION OF FRAMEWORK ITEMS ACROSS PROJECTS

ITEM: HYDRANT VALVE

PR NO 1900141162

Annexure-A to Price Bid Format

SL NO	Material No	Material Desc	UOM	PMD No	UWT	KOTHAGUDEM	BHADRADRI	NORTH KARANPURA	BARH-1	BARH-2	MAUDA	BRBCL NABINAGAR	NPGCL NABINAGAR	RAMAGUNDAM	KORBA	NSPCL BILLAI	TUTICORIN	UDANGUDI	SAGARDIGHI	ENNORE	BHUSAWAL	YADADRI	PATRATU	PANKI	CONTINGENCY
1.0	PY9751391016	SS HYDRANT VALVE (ISI APPROVED)	EA	PE.MP.587		23	35	42	24	24	27	42	42	42	42	27	23	320	214			114	264		
2.0	PY9751415055	SET OF SEAT & RUBBER RING OF HYD VALVE	SET	PE.MP.587														0	0			5	0		
3.0	PY9751415063	SPINDLE WITH NUTS OF HYD VALVE	EA	PE.MP.587														0	0			0	22		
4.0	PY9751415071	BONNET, GLAND NUT, RUBBER ASSY OF HYD VLV	EA	PE.MP.587														0	0			0	22		
5.0	PY9751415080	SEAT, CHECK NUT, WASHER ASSY OF HYD VALVE	SET	PE.MP.587														0	3			0	22		
6.0	PY9751415098	RUBBER WASHER FOR FEMALE COUPLING	EA	PE.MP.587														0	3			0	22		
7.0	PY9751415101	FEMALE COUPLING ASSY FOR HYD VLV	EA	PE.MP.587														0	0			0	22		
8.0	PY9751415110	LOCK PIN ASSEMBLY FOR HYDRANT VALVE	EA	PE.MP.587														0	0			0	22		

1. The quantities indicated are total quantity with additional 50 % qty variation considered
2. The above list of Quantity , project/customer is tentative only. Final details of quantity, Project/ Customer shall be informed at the time of PO
3. The Project/ Customer are subject to change based on buisness scenario of BHEL.

Bulk Procurement of HYDRANT VALVE
Price Variation Formula – Hydrant Valve
PVC- HYDRANT-VALVE

$$PO = PA \times \left(\left[0.50 \times \frac{M1O}{M1A} \right] + \left[0.10 \times \frac{M2O}{M2A} \right] + \left[0.15 \times \frac{FO}{FA} \right] + \left[0.10 \times \frac{LO}{LA} \right] + 0.15 \right)$$

PO	Purchase Order Value, adjusted in accordance with above Price Variation Formula
PA	Purchase Order Value, as per Original Framework Agreement Price

Escalation for Raw Material:

M1O	JPC Retail Market Price of “Pig Iron”, as on the date of respective Project PO Placement, <i>calculated as an Average of the Prices for Kolkata, Delhi, Mumbai, Chennai regions.</i>
M1A	JPC Retail Market Price for “Pig Iron”, as on the date of Part-1 bid opening of Framework Agreement Tender, <i>calculated as an Average of the Prices for Kolkata, Delhi, Mumbai, Chennai regions.</i>

As published under the Item “**Pig Iron**” by Joint Plant Committee, Ministry of Steel, Govt of India, in their subscription based bimonthly publication “*JPC MARKET PICE RETAIL*”.

M2O	Closing Price of MCX India “Nickel” near Futures Contract, as on the previous day of respective Project PO Placement
M2A	Closing Price of MCX India “Nickel” near Futures Contract, as on the previous day of Part-1 bid opening of Framework Agreement Tender

As per the near Futures Contract Price of **Nickel**, traded on the commodity exchange MCX India, as per the data available on their website www.mcxindia.com

Escalation for Fuel & Power:

FO	Wholesale Price Index for “Fuel & Power”, as on the date of respective Project PO Placement
FA	Wholesale Price Index for “Fuel & Power”, as on the date of Part-1 bid opening of Framework Agreement Tender

As published under the Index “**II Fuel & Power**” by Office of the Economic Adviser, Ministry of Commerce and Industry, Govt of India, on their website www.eaindustry.nic.in

Escalation for Labour:

LO	All-India Average Consumer Price Index Number for Industrial Workers (Base_2016=100), as on date of respective Project PO Placement
LA	All-India Average Consumer Price Index Number for Industrial Workers (Base_2016=100), as on the date of Part-1 bid opening of Framework Agreement Tender

As published by Labour Bureau, Ministry of Labour and Employment, Govt of India, on their website www.labourbureaunew.gov.in

Overheads and Margin:

0.15	Constant for Overheads and Margin
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NOTE: Latest Index Values, as published by respective agencies, **Available as on the date** of Part-1 bid opening of FA Tender / date of PO, shall be considered, for all the factors.

BULK PROCUREMENT OF GENERIC PIPING ITEMS
Pre-Qualification Criteria (Technical)

Package Name : HYDRANT VALVE
PR No : 1900141162

Manufacturers of **HYDRANT VALVE** qualified as per the Pre-qualification criteria laid down below, are allowed to bid. Documentary evidence shall be provided by such bidders to establish their claim. **However, offer consideration is subjected to approval from end Customer.**

The bid evaluation shall be on Overall L1 basis. The Bidder shall meet the Pre-Qualification Criteria (listed below.

Non-compliance to any of the criteria listed below will lead to disqualification of bidder for the subject item of the tender.

Qualification Criteria of the Bidder:

- 1.** The bidder should be an established manufacturer of **Hydrant valve** and should have successfully completed Manufacture, Supply of **Hydrant valve**.
- 2.** The Bidder should have successfully completed supply of **Hydrant valve** for similar specification with a total minimum quantity of **640 No.s** through a single Purchase Order or multiple Purchase Orders in the last 5 years ending on original due date of this tender, with at least one order executed after 01.01.2019.
- 3.** Detailed BOQ of the items supplied, satisfying the criteria laid down above, shall be provided in the format enclosed as Annexure-1, with details like Project & Customer, Description & Quantity of Items supplied, PO details etc. as a minimum for assessing pre-qualification. **PO Copies, Inspection Reports and Dispatch documents shall be enclosed for the references provided.**
- 4.** The bidder should not have been under suspension for business or blacklisted by any of the BHEL units.

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BHEL, HYDERABAD -32.**

PY51391

Rev No. 01

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TECHNICAL SPECIFICATION
FOR SS HYDRANT VALVE

Revisions :	Prepared by:	Checked by:	Approved By:	Date
	-SD-	-SD-	-SD-	
00	Sumant	Amit/PCS	MNSR	25.07.18

**1. SCOPE/INTENT:**

- 1.1. This specification covers the technical requirements of constructional features, accessories, inspection, tests, test certificates, documentation, preservation, packing and forwarding of SS Hydrant Valve.
- 1.2. Scope of supply shall include design, manufacture, inspection, shop testing, shop painting, packing and delivery.
- 1.3. The supplier shall strictly comply with this standard in all respects. No deviation shall be allowed. However, bidder can raise technical queries on the specification during pre-bid stage and clarifications may be sought from BHEL before the bid submission.

APPLICATION:

These valves suitable for fire protection systems (both Water/Foam based).

2. VARIANT TABLE:

Var. No.	Description	Material Code
01	SS Hydrant Valve (ISI Approved)	PY9751391016
02	SS Hydrant Valve (FM Approved)	PY9751391024

Note: Bidder to quote as per Material Code as mentioned in the Enquiry.

3. TECHNICAL REQUIREMENTS:**3.a. SS Hydrant Valve (ISI Approved)**

Sl. No.	Requirements	Compliance
3.1	Type	Female oblique type with the outlets angled towards ground
3.2	Size	Inlet of 75 mm and outlet of 63 mm female instantaneous.
3.3	Material of construction	
3.3.1	Body	SS 304
3.3.2	Stop valve	SS 304
3.3.3	Spindle	SS 304
3.3.4	Seat	SS 304
3.3.5	Bonnet	SS 304
3.3.6	Instantaneous Coupling	SS 304
3.3.7	Hand wheel	CI IS 210 Gr. 260
3.3.8	Spring	Phosphor bronze to IS : 7608 / SS



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3.3.9	Check Nut	SS 304
3.4	Code/Standard	IS 5290 Type-A
3.5	Hydraulic test	
	Body	21 kg/cm2(g)
	Seat	14 kg/cm2(g)
3.6	Flow Test	900 LPM min AT 7 Kg/cm2
3.7	End Connection	As per ANSI B 16.5 150#
	Inlet connection	Flat Faced, Flanged, only Drilling and OD as per ANSI B 16.5
	Outlet connection	Female Instantaneous Coupling with Blank Cap & (SS) Chain
	Approval	ISI Approved

3.b. SS Hydrant Valve (FM Approved)

Sl. No.	Requirements	Compliance
3.1	Type	Female oblique type with the outlets angled towards ground
3.2	Size	Inlet of 75 mm and outlet of 63 mm female instantaneous.
3.3	Material of construction	
3.3.1	Body	SS 304
3.3.2	Stop valve	SS 304
3.3.3	Spindle	SS 304
3.3.4	Seat	SS 304
3.3.5	Bonnet	SS 304
3.3.6	Instantaneous Coupling	SS 304
3.3.7	Hand wheel	CI IS 210 Gr. 260
3.3.8	Spring	Phosphor bronze to IS : 7608
3.4	Code/Standard	FM 1521 for FM approved
3.5	Hydraulic test	
	Body	21 kg/cm2(g)
	Seat	14 kg/cm2(g)
3.6	Flow Test	900 LPM min AT 7 Kg/cm2
3.7	End Connection	As per ANSI B 16.5 150#
	Inlet connection	Flat Faced, Flanged, only Drilling and OD as per ANSI B 16.5
	Outlet connection	Female Instantaneous Coupling with Blank Cap & (SS) Chain



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Approval

FM approved

4. PAINTING

Tentative Painting details are as per the below table. However, Final painting details and final color shade shall be provided to Bidder after placement of PO.

Paint Scheme	Total DFT
Primer: Zinc filled Epoxy	Minimum 200 Microns
Intermediate: Epoxy MIO	
Final: Aliphatic Polyurethane	

Final shade of the paints shall be informed after post order.

5. INSPECTION AND TESTING

As per BHEL QAP (Refer attached Annexure)

6. DOCUMENTATION:**6.1. Along with the offer:**

Signed and stamped copy of this specification as token of acceptance of the specification for execution in the event of Order.

6.2. After PO Placement:

Two copies each of the following documents shall be submitted for approval.

- G.A. Drawings with weights and dimensions
- Technical Data sheets, Catalogue
- material specification details
- tests to be conducted
- O&M manuals
- Storage/Preservation instructions for at least three years.


Final documentation consisting of above documents shall be submitted in requisite sets(to be decided post order) of hard and soft copies.

Schedule for document submissions:

S.no	Description	Schedule
1	Submission of GA drawing & Technical Datasheet by vendor	7 days from the date of P.O.
2	Approval GA drawing & Technical Datasheet by BHEL	14 days from receipt of the document*

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<p align="center">COPYRIGHT AND CONFIDENTIAL</p> <p>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.</p>		<p>* The GA drawing & Technical Datasheet submitted by vendor shall be strictly in compliance to all applicable standards and specification.</p> <p>7. PRESERVATION, PACKING & MARKING OR PACKING CASE:</p> <p>7.1. A suitable temporary rust preventive with minimum life of two years shall be applied inside the item/equipment body in order to prevent corrosion.</p> <p>7.2. All the item / equipment shall be packed suitably in closed wooden cases in order to avoid damage during transit and storage at BHEL. Suitable supports shall be provided inside the cases in order to avoid internal movement. In case of exported consignments, the packing shall be seaworthy (Refer enclosed Annexure for Export Packing guidelines, AA 0490009, Rev-01).</p> <p>Each item / equipment after end protection should be wrapped in polythene sheet before packing in the cases.</p> <p>Each packing case must contain two copies of the shipping list giving details of all the contents of the case.</p> <p>7.3. The following marking shall be done on each packing case minimum on two sides and at the top.</p> <ul style="list-style-type: none"> (a) Complete address of the consignee and destination as per BHEL Purchase Order. (b) BHEL Purchase order Number (c) BHEL item Material Code (d) Number of pieces in each packing case (e) Net Weight (f) Gross Weight (g) Packing case number and total number of packings (h) Arrow indicating top of the packing case. 		
Ref.	Doc.			

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TECHNICAL SPECIFICATION
OF SPARES FOR FPS COMPONENTS

Revisions :	Prepared by:	Checked by:	Approved By:	Date
	-SD-	-SD-	-SD-	
00	Anupam/Sumant	Amit/PCS	MNSR	03.08.18



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1. SCOPE/INTENT:

1.1. This specification covers the spares to be offered for following items :

- Water monitor
- Deluge valve
- Hydrant valve
- Solenoid valve

1.2. The design, construction, dimension, material of these items shall be exactly same as supplied for the main equipment & shall be suitable for direct replacement without any modification/ alterations in the main equipment.

1.3. The supplier shall strictly comply with this standard in all respects. No deviation shall be allowed. However, bidder can raise technical queries on the specification during pre-bid stage and clarifications may be sought from BHEL before the bid submission.

APPLICATION:

These items suitable for fire protection systems (Water & Foam based protection system).

2. VARIANT TABLE:

Var. No.	Description	Material Code	Specification of Main item
1.	Nozzles of water monitor	PY9751415012	PY-51395
2.	Clapper assembly for 150 NB DV	PY9751415020	PY-51388
3.	Clapper assembly for 100 NB DV	PY9751415039	PY-51388
4.	Clapper assembly for 80 NB DV	PY9751415047	PY-51388
5.	Set of Seat & Rubber Ring of Hyd valve	PY9751415055	PY-51391
6.	Spindle with nuts of Hyd valve	PY9751415063	PY-51391
7.	Bonnet,gland nut,rubber assy of Hyd vlv	PY9751415071	PY-51391
8.	Seat,check nut,washer assy of Hyd valve	PY9751415080	PY-51391
9.	Rubber washer for female coupling	PY9751415098	PY-51391
10.	Female coupling assy for hyd Vlv	PY9751415101	PY-51391

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11.	Lock pin assembly for hydrant valve	PY9751415110	PY-51391
12.	Coil for Solenoid Valve	PY9751415128	PY-51410
13.	Plunger for Solenoid Valve	PY9751415136	PY-51410
14.	Seat for Solenoid Valve	PY9751415144	PY-51410
15.	Gaskets for Solenoid Valve	PY9751415152	PY-51410
16.	O ring set for Solenoid Valve	PY9751415160	PY-51410

Note: Bidder to quote as per Material Code as mentioned in the Enquiry.

3. TECHNICAL REQUIREMENTS:

Technical Requirements shall be as per the Specification for Main items.

4. PAINTING

As per manufacturer standard practice.

5. INSPECTION AND TESTING

As per BHEL QAP (Refer attached Annexure)

6. DOCUMENTATION:

6.1. Along with the offer:

Signed and stamped copy of this specification as token of acceptance of the specification for execution in the event of Order.

6.2. After PO Placement:

Two copies each of the following documents shall be submitted for approval.

- G.A. Drawings with weights and dimensions
- Technical Data sheets, Catalogue
- Material specification details
- Tests to be conducted
- O&M manuals
- Storage/Preservation instructions for at least three years.

Final documentation consisting of above documents shall be submitted in requisite sets (to be decided post order) of hard and soft copies.

Schedule for document submissions:

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S.no	Description	Schedule
1	Submission of GA drawing & Technical Datasheet by vendor	7 days from the date of P.O.
2	Approval GA drawing & Technical Datasheet by BHEL	14 days from receipt of the document*

* The GA drawing & Technical Datasheet submitted by vendor shall be strictly in compliance to all applicable standards and specification.

7. PRESERVATION, PACKING & MARKING OR PACKING CASE:

- 7.1.** A suitable temporary rust preventive with minimum life of two years shall be applied inside the item/equipment body in order to prevent corrosion.
- 7.2.** All the item / equipment shall be packed suitably in closed wooden cases in order to avoid damage during transit and storage at BHEL. Suitable supports shall be provided inside the cases in order to avoid internal movement. In case of exported consignments, the packing shall be seaworthy (Refer enclosed Annexure for Export Packing guidelines, AA 0490009, Rev-01).


Each item / equipment after end protection should be wrapped in polythene sheet before packing in the cases.


Each packing case must contain two copies of the shipping list giving details of all the contents of the case.

- 7.3.** The following marking shall be done on each packing case minimum on two sides and at the top.
- Complete address of the consignee and destination as per BHEL Purchase Order.
 - BHEL Purchase order Number
 - BHEL item Material Code
 - Number of pieces in each packing case
 - Net Weight
 - Gross Weight
 - Packing case number and total number of packing
 - Arrow indicating top of the packing case.

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<p style="text-align: center;">RECORD OF REVISIONS</p>				Rev No. 00							
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			00	06.08.2018	First Issue	-SD-	-SD-	-SD-			
			Ref. Doc.								

		MANUFACTURING QUALITY PLAN						MQP. NO.: SMQP/FPS/22/B/092013					
		PROJECT ENGINEERING & SYSTEMS				PRODUCT: HYDRANT VALVE		REV NO: 00		DATE: 01/09/2013			
		DIVISION BHEL, RC PURAM, HYD-502032						PAGE 1 OF 2					
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY			REMARKS
										P	W	V	
1.0	RAW MATERIALS & BOUGHT OUT ITEMS												
	Body, Bonnet, Female outlet	Chemical, Physical	Major	Analysis Test	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	Spindle	Chemical, Physical	Major	Analysis Test	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	Spring	Chemical	Major	Analysis Test	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	Outer Washer, Seat Washer	Hardness	Minor	Measurement	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
2.0	INPROCESS INSPECTION												
	Water tightness Seat Test	Leakage	Major	Hydro Test	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IIR	√	2	2	1	
	Hydrostatic Pressure Test	Leakage	Major	Hydro Test	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IIR	√	2	2	1	
	Operation Test	Open-close	Major	Functional	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IIR	√	2	2	1	
	Flow Test	Flow	Major	Flow	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IIR	√	2	2	1	
3.0	FINAL INSPECTION & TESTING												
	Water tightness Seat Test	Leakage	Major	Hydro Test	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	

LEGEND: P: PERFORM, W: WITNESS, V: TEST CERTIFICATE REVIEW. INDICATE 1 FOR BHEL / BHEL NOMINATED INSPECTION AGENCY/END USER/END USER'S REPRESENTATIVE & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.	PREPARED BY	APPROVED BY	APPROVED BY
	BHEL QA SIGNATURE & STAMP	BHEL QA SIGNATURE & STAMP	CUSTOMER'S SIGNATURE & STAMP (IF APPLICABLE)



MANUFACTURING QUALITY PLAN

MQP. NO.: SMQP/FPS/22/B/092013

PROJECT ENGINEERING & SYSTEMS
DIVISION BHEL,
RC PURAM, HYD-502032

PRODUCT: HYDRANT VALVE

REV NO: 00

DATE: 01/09/2013

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SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY			REMARKS
										P	W	V	
	Hydrostatic Pressure Test	Leakage	Major	Hydro Test	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
	Operation Test	Open-close	Major	Functional	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
	Flow Test	Flow	Major	Flow	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
4.0	PRESERVATION & PACKING												
	Identification	Marking & Stamping	Major	Verification & Stamping	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	2	1	
	Painting	Final finish & Paint DFT	Major	Visual & Measurement	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Painting Report	√	2	1	-	
	Packing	Soundness of packing	Major	Verification	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	2	1	

<p>LEGEND: P: PERFORM, W: WITNESS, V: TEST CERTIFICATE REVIEW. INDICATE 1 FOR BHEL / BHEL NOMINATED INSPECTION AGENCY/END USER/END USER'S REPRESENTATIVE & 2 FOR VENDOR/SUB VENDOR AS APPROPRIATE AGAINST EACH COMPONENT /CHARACTERISTIC UNDER P, W & V COLUMNS. * FOR ITEMS MARKED ✓ (TICK) IN COLUMN 'D', TEST CERTIFICATES SHALL BE SUBMITTED TO BHEL FOR RECORDS.</p>	PREPARED BY	APPROVED BY	APPROVED BY
	BHEL QA SIGNATURE & STAMP	BHEL QA SIGNATURE & STAMP	CUSTOMER'S SIGNATURE & STAMP (IF APPLICABLE)



QAP GUIDELINES & FORMAT

(ANNEXURE)


The QAP format and guidelines for filling up the format shall be used by vendor for preparation and submission of QAP after order placement.


Note:

1. Typical /Indicative /Standard QAP(s) for equipment /package attached is reference document and to use by successful bidder in future for preparation and submission of QAP for BHEL /CUSTOMER approval.
2. No deviation to reference document is acceptable.

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Form No.	 HYDERABAD	PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION HYDERABAD	ANNEXURE Rev No. 00 Page 2 of 3
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.	<u>GUIDELINES TO VENDORS FOR PREPARATION OF QUALITY ASSURANCE PLAN</u>		
Ref. Doc	<ol style="list-style-type: none"> 1. QAP shall be made in landscape mode on A4 size paper as per the format enclosed. Font size shall be minimum 10. 2. Each page of QAP shall contain the following information. <ol style="list-style-type: none"> a) Vendor's name & address. b) Customer: BHEL, Hyderabad. c) Project. d) BHEL Product Standard Number/revision number as referred in P.O. e) BHEL Purchase Order Number & Date. f) Product as per P.O. description. g) QAP Number (unique and shall not repeat)/revision number/date. h) Page number and number of pages 3. QAP shall contain four parts / stages as follows. <ol style="list-style-type: none"> a) Raw materials and bought out items. b) In process Control / Inspection. c) Final assembly, Inspection & Testing. d) Painting, preservation & packing. 4. Under 'Component', indicate name of the component (say casing, rotor, pressure gauge, etc). 5. Under 'Characteristics', indicate appropriately (say chemical analysis, mechanical properties, NDT (UT, DP etc.), hydrostatic test, calibration check etc.) 6. Under 'Class', indicate minor, major or critical depending on the importance of characteristic. 7. Under 'Type of check', indicate appropriately (say chemical, mechanical, UT, DP etc.) 8. Under 'Quantum of check', indicate appropriately (say 100%, 10%, sample, per melt, per heat, all pieces etc.) 9. Under 'Reference document' and 'Acceptance norms', appropriate National & International standards, BHEL standards, approved drawing references etc. should be indicated. It is not correct to mention as "Vendor's internal standards or Vendor's standard practice etc.". If vendors' internal standards are referred, same shall be in line with BHEL Spec. indicated in the P.O. These may require review & approval by our Engineering dept. 10. Under 'Format of record', indicate appropriately supplier's test certificate, calibration certificate, lab report, inspection report etc. 11. Please refer 'Agency' in QAP format. Under P: Perform, W: Witness, V: Verify Indicate against each characteristic 1: (BHEL CQS/Nominated inspection agency), OR 2: (Vendor / Sub vendor) 		

	Form No.	 HYDERABAD	PRODUCT STANDARD PROJECT ENGINEERING & SYSTEMS DIVISION HYDERABAD	ANNEXURE Rev No. 00 Page 3 of 3
COPYRIGHT AND CONFIDENTIAL The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED . It must not be used directly or indirectly in any way detrimental to the interest of the company.		<p>Note: Performing agency is normally vendor or his sub vendor (Legend 2). Where witness points are indicated in specification, P.O., Drawing etc., for such operations, Under Witness (W) column use 1. Under 'Verify' column, use code1.</p> <p>12. Under 'D' please put (☐ Tick) against each characteristic where vendor proposes to submit test certificate/report etc. OR as required as per BHEL Specification.</p> <p>13. Vendor's signature & stamp should be available on each page of QAP.</p> <p>14. Vendor should read the BHEL Product Standard thoroughly and QAP should be made only inline and relevant to the Specification & Approved Drawings.</p> <p>15. The following operations/characteristics/check points may be included (AS APPROPRIATE)</p> <ol style="list-style-type: none"> Visual check Dimensional check Mechanical and Chemical properties. Surface preparation before painting (by chemical cleaning, sand blasting, shot blasting etc. as the case may be.) Painting check for shade, Dry Film Thickness (DFT), Adhesion/ peel off test etc. Check for correctness for all components mounted as per General Arrangement Drawing, Bill of Materials (BOM), etc. for range, rating, make, color, size, location as per GA, quantity, label description including tag nos., annunciator facia, loose components, accessories, spares etc. Verification of test certificate for protection class for the enclosures. Mechanical functioning of switches. Continuity of earthing and provision of earth points. Colour coding of wiring, size, tightness & dressing of wiring. Review of test certificates of assembled items, raw materials, internal test reports etc. Witness of functional checks, which may include mechanical run & electrical run, H.V.test, IR measurement, Electrical and Mechanical tests etc. PQR, WPS, Welder Qualification Record, welding records (fit up, DP) etc. Material identification (for punch marks of serial numbers, Heat No, Melt No, Inspector's stamp etc.) Hydraulic Pressure Test, Pneumatic Pressure Test, Liquid Penetration Examination and other Non-Destructive Tests. Tests on Galvanised items (Visual, Hammer Test, Knife Test, Thickness, Pierce Test (Copper sulphate test), Hydrogen evaluation test, Stripping test (for Mass of Zinc coating) All tests as per BHEL Product Standard & approved drawings including Type tests and Routine tests on individual items and on System as a whole. Packing and Preservation. <p>16. QAP Format enclosed.</p>		
	Ref. Doc			



**PROJECT ENGINEERING & SYSTEMS DIVISION
RC PURAM, HYDERABAD.
QUALITY & BUSINESS EXCELLENCE**

INSPECTION / TC REVIEW FORMAT

1	Vendor's Name:		5	Applicable BHEL Spec No:	
2	Project:		6	Approved Drawing No:	
3	PO No:		7	Approved Data Sheet No:	
4	Item Description:		8	Approved QAP No:	

OFFER LIST

S.No	BBU/ PO Sr. No.	Item Description	Total Qty as per PO/BBU	Qty. already accepted	Qty offered for TC review	Cumulative Qty	Balance Qty
A							
B							
C							
D							

TC REVIEW REQUISITION

BBU / PO Sr. No.	QAP Clause No.	Format of Record	Certificate No. & Date	Page No.	REMARKS
A. Item Description:					
B. Item Description:					
C. Item Description:					
D. Item Description:					
E. Item Description:					

SUPPLIER / VENDOR SIGNATURE WITH SEAL

BHEL/ BHEL's TPIA SIGNATURE WITH SEAL

Dt:

Dt: