

Note No. #1

Attachment:PR DOCS – MAIN –1900141151-FRAME WORK-GUN METAL GATE VALVE.pdf

## FRAMEWORK AGREEMENT FOR FGD FPS PROJECTS

## Un-Priced Price Bid Format

Item: GUN METAL GATE VALVE

PR No: 1900141151

Sl No	PR No	Material Code	Material Description	UOM	PR Qty (No.s)	Technical Specification	Price Weightage Factor	Bidder Confirmation (Quoted)
1	1900141151	PY9751412013	GATE VALVE GUN METAL, 1" PN16	EA	170	PY51412	1.00000	
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.

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## DISTRIBUTION OF FRAMEWORK ITEMS ACROSS PROJECTS

Annexure-A to Price Bid Format

ITEM: GUN METAL GATE VALVE

PR NO 1900141151

SL NO	Material No	Material Desc	UOM	PMD No	UVT	KOTHAGUDEM	BHADRAORI	NORTH KARANPURA	BARH-1	BARH-2	MAUDA	BIRCL NABINAGAR	NPGL NABINAGAR	BAMAGUNDAM	KORBA	NSCL BILLAI	TUTICORIN	UDANGUDI	SAGARDIGHI	ENMORE	BHUSAWAL	YADADRI	PATBATU	PANNA	CONTINGENCY
1.00	PV9751412013	GATE VALVE GUN METAL, 1" PN16 SCRD	EA	PE.MP.S01		7	7	7	7	7	7	7	7	7	7	7	7	45	37		3	35	36		

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 business scenario of BHEL.

Note No. Attachment: PR DOCS - MAIN - 1900141151 - FRAME WORK GUN METAL GATE VALVE.pdf  
BULK PROCUREMENT OF GENERIC PIPING ITEMS  
**Pre-Qualification Criteria (Technical)**

**Package Name** : GUN METAL GATE VALVE  
**PR No** : 1900141151

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Manufacturers of **Gun Metal Gate 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 **Gun Metal Gate valve** and should have successfully completed Manufacture, Supply of **Gun Metal Gate valve**.
2. The Bidder should have successfully completed supply of **Gun Metal Gate valve** for similar specification of total minimum quantity of **120 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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**Annexure-1 PQC Criteria****Supply References for the Last 5 Years (dispatch date) from the Original due date of this tender**

Enquiry Item No &amp; Description: (To be filled by Bidder)

Sl No	Project Name along with name of Customer	Description Item(s) supplied	Purchase Order No & Date (Copy to be enclosed)	Delivery Date as per Order	Value of Order	Inspection Reports / Dispatch Documents (Copy to be enclosed)	Remarks

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## Bulk Procurement of GUN METAL GATE VALVE

### Price Variation Formula

#### PVC-GUNMETAL GV

$$PO = PA \times \left( \left[ 0.60 \times \frac{MO}{MA} \right] + \left[ 0.15 \times \frac{FO}{FA} \right] + \left[ 0.10 \times \frac{LO}{LA} \right] + 0.15 \right)$$

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:

MO	Closing Price of MCX India “Copper” near Futures Contract, as on the previous day of respective Project PO Placement
MA	Closing Price of MCX India “Copper” 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 “ <b>Copper</b> ”, traded on the commodity exchange MCX India, as per the data available on their website <a href="http://www.mcxindia.com">www.mcxindia.com</a>	

#### 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 “ <b>II Fuel &amp; Power</b> ” by Office of the Economic Adviser, Ministry of Commerce and Industry, Govt of India, on their website <a href="http://www.eaindustry.nic.in">www.eaindustry.nic.in</a>	

#### 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 <a href="http://www.labourbureau.gov.in">www.labourbureau.gov.in</a>	

#### 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.

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					Rev No. 01
					Page 1 of 5
<p><b><u>TECHNICAL SPECIFICATION</u></b>  <b><u>OF GUN METAL GATE VALVE</u></b></p>					
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Revisions :		Prepared by:	Checked by:	Approved By:	Date
					
01		AKB	VUK	GS	12.07.19

## Note No. Attachment: PR DOCS – MAIN –1900141151-FRAME WORK-GUN METAL GATE VALVE.pdf

TD-106-2 Rev No. 5	Form No.		<b>PROJECT ENGINEERING &amp; SYSTEM DIVISION</b> <b>BHEL, HYDERABAD –32.</b>	<b>PY51412</b>
				Rev No. 01
				Page 2 of 5

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**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 Gunmetal Gate 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 items suitable for fire protection systems (Water & Foam based protection system).

**2. VARIANT TABLE:**


Var. No.	Description	Material Code
01	GATE VALVE GUN METAL, 1" PN16 SCRD	PY9751412013

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

**3. TECHNICAL REQUIREMENTS:**


Sl. No.	Requirements	Compliance
1	Type	Gate Valve (Rising Stem/spindle)
2	Size	25 NB
3	Product Standard	IS: 778 / EN 12266 Part-1
4	End Connection	Screw threaded
5	Material of Construction	
5.1	Body, Bonnet, Wedge, Gland, Gland Nut	Leaded Tin Bronze as Per IS:318 GR. LTB2
5.2	Stem	High tensile Brass as Per Brass to IS: 320 HT-2
5.3	Gland Packing	Non Asbestos
5.4	Hand Wheel	CI as Per IS: 210 FG260
6	Hydraulic Test Pressure	
6.1	Class	PN 16
6.2	Body, Bonnet, Wedge, Gland, Gland Nut	24 kgf/cm <sup>2</sup>
6.3	Seat	16 kgf/cm <sup>2</sup>
7	Approval	ISI/ TAC approved/ Any international standard

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<div style="display: flex;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); padding: 5px; font-size: small;"> <b>COPYRIGHT AND CONFIDENTIAL</b>          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.       </div> <div style="flex-grow: 1; padding: 10px;"> <p><b>4. PAINTING</b> As per manufacturer standard practice.</p> <p><b>5. INSPECTION AND TESTING</b> As per BHEL QAP (Refer attached Annexure)</p> <p><b>6. DOCUMENTATION:</b></p> <p><b>6.1. Along with the offer:</b> Signed and stamped copy of this specification as token of acceptance of the specification for execution in the event of Order.</p> <p><b>6.2. After PO Placement:</b> Two copies each of the following documents shall be submitted for approval.</p> <ul style="list-style-type: none"> <li>G.A. Drawings with weights and dimensions</li> <li>Technical Data sheets, Catalogue</li> <li>Material specification details</li> <li>Tests to be conducted</li> <li>O&amp;M manuals</li> <li>Storage/Preservation instructions for at least three years.</li> </ul> <p>Final documentation consisting of above documents shall be submitted in requisite sets (to be decided post order) of hard and soft copies.</p> <p>Schedule for document submissions:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>S.no</th> <th>Description</th> <th>Schedule</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Submission of GA drawing &amp; Technical Datasheet by vendor</td> <td>7 days from the date of P.O.</td> </tr> <tr> <td>2</td> <td>Approval GA drawing &amp; Technical Datasheet by BHEL</td> <td>14 days from receipt of the document*</td> </tr> </tbody> </table> <p>* The GA drawing &amp; Technical Datasheet submitted by vendor shall be strictly in compliance to all applicable standards and specification.</p> <p><b>7. PRESERVATION, PACKING &amp; MARKING OR PACKING CASE:</b></p> <p><b>7.1.</b> 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><b>7.2.</b> 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> </div> </div>					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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<b>COPYRIGHT AND CONFIDENTIAL</b> 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>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><b>7.3.</b> 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"> <li>(a) Complete address of the consignee and destination as per BHEL Purchase Order.</li> <li>(b) BHEL Purchase order Number</li> <li>(c) BHEL item Material Code</li> <li>(d) Number of pieces in each packing case</li> <li>(e) Net Weight</li> <li>(f) Gross Weight</li> <li>(g) Packing case number and total number of packing</li> <li>(h) Arrow indicating top of the packing case.</li> </ul>		
Ref.	Doc			

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TD-106-3 Rev No. 5 Form No.		<b>PRODUCT STANDARD</b> <b>BHEL, HYDERABAD –32.</b> <b>PROJECT ENGINEERING &amp; SYSTEM DIVISION</b>				PY51412	
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<b>COPYRIGHT AND CONFIDENTIAL</b> 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.	<b>RECORD OF REVISIONS</b>						
	<b>Rev. No.</b>	<b>Date</b>	<b>Revision Details</b>	<b>Revised By</b>	<b>Checked By</b>	<b>Approved By</b>	
	00	30.07.2018	First Issue	Anupam	Amit/PCS	MNSR	
	01	12.07.2019	Reference to Globe Valve removed	AKB	VUK	GS	
	Ref. Doc.						

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VENDOR'S NAME & ADDRESS:		<b>TYPICAL MANUFACTURING QUALITY PLAN</b>						QAP. NO						
		CUSTOMER: BHEL, HYDERABAD -32.			BHEL P.O.NO.:			REV NO:		DATE:				
		PROJECT:			P.O.DATE:			PAGE 1 OF 3						
		PRODUCT: Gate Valve (Gun Metal)			BHEL SPEC: REV:									
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY				REMARKS
										P	W	V		
<b>1.0 RAW MATERIALS &amp; BOUGHT OUT ITEMS</b>														
1.1	Body, Cover Bonnet / Yoke,	Chemical & Mech. properties	Major	Chem. & Mech. Analysis	One per Heat	BHEL Specification / Approved Drawing / Approved Data sheet		MTC	✓	2		1&3		
1.2	Gland & Gland Nut	Visual Examination	Major	Surface Defects	100%			IR	✓	2	2	1&3		
1.3	Trim (Stem, Seat, body seat ring, Back seat bushing, Wedge, Spindle, back seat as applicable)	Chemical & Mech. properties	Major	Chem. & Mech. Analysis	One per Heat			MTC	✓	2		1&3		
1.4		Visual Examination	Major	Surface Defects	100%			IR	✓	2	2	1&3		
1.5		Crack free check	Major	Mercurouse nitrate test	One per Heat			TC	✓	2	2	1&3		
1.6	FASTENERS (Bolt, Nut, Stud, Eye Bolt etc.)	Chemical & Mechanical Properties	Major	Chem. & Mech. Analysis	One per Heat			MTC	✓	2		1&3		
1.7		Visual, Dimensions, Heat Treatment, Proof Load, Hardness etc.	Major	Visual & Measure. Hardness Test	100%			TC	✓	2	2	1&3		
1.8	Hand Wheel	Chemical & Mech. properties	Major	Chem. & Mech. Analysis	One per Heat			MTC	✓	2		1&3		
1.9		Hardness & Visual Examination	Major	Hardness test & Surface Defects	100%			TC	✓	2	2	1&3		
1.10	Gland Packing	Dimension & Visual Examination	Major	Measurement & Surface Defects	100%			TC	✓	2	2	1&3		
<b>2.0 INPROCESS INSPECTION</b>														
2.1	Bonnet/bonnet/ wedge/ seat ring/trim	Surface finish of Machining	Major	Visual	100%	BHEL Specification / Approved Drawing / Approved Data sheet		IIR	✓	2	2	1&3		
2.2		LPI For Seating Surfaces	Major	NDE	100%			NDE Report	✓	2	2	1&3		
2.3		Dimensions	Major	Measurements	100%			IIR	✓	2	2	1&3		
LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. INDICATE 1 FOR BHEL (OR BHEL NOMINATED INSPECTION AGENCY), 2 FOR VENDOR/SUB VENDOR & 3 END USER / CUSTOMER 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						
						VENDOR'S SIGNATURE & STAMP	BHEL QA SIGNATURE & STAMP	CUSTOMER'S SIGNATURE & STAMP						

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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		
<b>3.0 FINAL INSPECTION &amp; TESTING</b>														
3.1	Valve Assembly	Visual Inspection, Dimensional check	Critical	Visual & measurement	100%	MSS SP55/BHEL Specification / Approved Drawing / Data sheet	IIR	✓	2	1,2 &3			10% shall be witnessed by 1&3	
3.2	Valve Assembly	Hydro test for - a) body and bonnet b) seat c) back seat d) Air leak test	Critical	Pr. Testing	100%	API 598 / BHEL Specification / Approved Drawing / Data sheet	TC	✓	2	1,2 &3				
3.3		End connection Threads	Critical	Go No Go check	100%	BHEL Specification / Approved Drawing / Data sheet	IR	✓	2	1,2 &3				
3.4		Name Plate Check / Tag No.	Critical	Visual & Doc Verification	100%		IR	✓	2	1,2 &3				
3.5		Fire Safe Test *	Critical	Type test	100%		TC	✓	2	2	1&3			*If applicable
3.6	SPARES FOR VALVE	BOM & TC	Major	Visual & TC review	100%		TC	✓	2	1&3				
<b>4.0 PRESERVATION &amp; PACKING</b>														
4.1	Valve Assembly	Painting (Shade, DFT etc.) Marking	Major	Visual & DFT Measurement	Random	BHEL Specification / Approved Drawing / Data sheet	IR	✓	2	1,2 &3			*If applicable	
4.2		Preservation and End Protection	Major	Visual	100%		ITR	✓	2	1,2 &3			10% witnessed by 1&3	
4.3		Packing*	Major	Visual	Random		Packing list	✓	2	1,2 &3			*witnessing of seaworthy packing for export orders	

LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. INDICATE 1 FOR BHEL (OR BHEL NOMINATED INSPECTION AGENCY), 2 FOR VENDOR/SUB VENDOR & 3 END USER / CUSTOMER 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

VENDOR'S SIGNATURE &amp; STAMP

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		PROJECT: PRODUCT: Gate Valve (Gun Metal)			P.O.DATE: BHEL SPEC:                      REV:			PAGE 3 OF 3						
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	*	AGENCY				REMARKS
									D	P	W	V		

**Notes:-**

1. This QAP should be read along with specification (latest revision), approved drawings & approved data sheet.
2. Specification/drawing/data sheet shall prevail over quality plan for contradiction if any between Quality plan and drawing/specification.
3. All test certificates/reports reviewed and certified by TPI/BHEL shall be submitted to BHEL as documentation package.
4. Any project/customer specific requirements, which shall be notified, have to be fulfilled by the vendor at the time of execution of order.
5. Material test certificate shall include tensile, impact, hardness, bend, IGC, hot tensile, grain size, chemical analysis etc. as required by applicable material code / approved drawing /data sheet.
6. Hydro test shall be done in un-painted condition as per approved procedure/relevant code.
7. All lab reports shall be from NABL accredited lab.


**Abbreviations:-**

MTC – Material Test certificate,  
 IIR – Internal Inspection Report  
 DFT – Dry Film Thickness  
 ITR – Internal Test Report

TC – Test Certificate,  
 IBR – Indian Boiler Regulations  
 NDE – Non Destructive Examination  
 IR – Inspection Report

LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. INDICATE 1 FOR BHEL (OR BHEL NOMINATED INSPECTION AGENCY), 2 FOR VENDOR/SUB VENDOR & 3 END USER / CUSTOMER 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
	VENDOR'S SIGNATURE & STAMP	BHEL QA SIGNATURE & STAMP	CUSTOMER'S SIGNATURE & STAMP


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TD-201 Rev No. 00	Form No.  HYDERABAD	<p align="center"><b>PRODUCT STANDARD</b></p> <p align="center">PROJECT ENGINEERING &amp; SYSTEMS DIVISION HYDERABAD</p>	ANNEXURE Rev No. 00 Page 1 of 3
<p align="center"><b>QAP GUIDELINES &amp; FORMAT</b></p> <p align="center">, (ANNEXURE)</p> <p>The QAP format and guidelines for filling up the format shall be used by vendor for preparation and submission of QAP after order placement.</p> <p><b>Note:</b></p> <ol style="list-style-type: none"> <li>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.</li> <li>2. No deviation to reference document is acceptable.</li> </ol>			


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<p style="text-align: center;"><b><u>GUIDELINES TO VENDORS FOR PREPARATION OF QUALITY ASSURANCE PLAN</u></b></p> <ol style="list-style-type: none"> <li>QAP shall be made in landscape mode on A4 size paper as per the format enclosed. Font size shall be minimum 10.</li> <li>Each page of QAP shall contain the following information.           <ol style="list-style-type: none"> <li>Vendor's name &amp; address.</li> <li>Customer: BHEL, Hyderabad.</li> <li>Project.</li> <li>BHEL Product Standard Number/revision number as referred in P.O.</li> <li>BHEL Purchase Order Number &amp; Date.</li> <li>Product as per P.O. description.</li> <li>QAP Number (unique and shall not repeat)/revision number/date.</li> <li>Page number and number of pages</li> </ol> </li> <li>QAP shall contain four parts / stages as follows.           <ol style="list-style-type: none"> <li>Raw materials and bought out items.</li> <li>In process Control / Inspection.</li> <li>Final assembly, Inspection &amp; Testing.</li> <li>Painting, preservation &amp; packing.</li> </ol> </li> <li>Under 'Component', indicate name of the component (say casing, rotor, pressure gauge, etc).</li> <li>Under 'Characteristics', indicate appropriately (say chemical analysis, mechanical properties, NDT (UT, DP etc.), hydrostatic test, calibration check etc.)</li> <li>Under 'Class', indicate minor, major or critical depending on the importance of characteristic.</li> <li>Under 'Type of check', indicate appropriately (say chemical, mechanical, UT, DP etc.)</li> <li>Under 'Quantum of check', indicate appropriately (say 100%, 10%, sample, per melt, per heat, all pieces etc.)</li> <li>Under 'Reference document' and 'Acceptance norms', appropriate National &amp; 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 &amp; approval by our Engineering dept.</li> <li>Under 'Format of record', indicate appropriately supplier's test certificate, calibration certificate, lab report, inspection report etc.</li> <li>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)</li> </ol>			
<p style="writing-mode: vertical-rl; transform: rotate(180deg);"> <b>COPYRIGHT AND CONFIDENTIAL</b>          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>			
Ref. Doc			

Note: Attachment: PR DOCS - MAIN - 1900141151 - FRAME WORK-GUN METAL GATE VALVE.pdf

Form No.		<b>PRODUCT STANDARD</b> PROJECT ENGINEERING & SYSTEMS DIVISION HYDERABAD	ANNEXURE
			Rev No. 00
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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.		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.	
		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.	
		13. Vendor's signature & stamp should be available on each page of QAP.	
		14. Vendor should read the BHEL Product Standard thoroughly and QAP should be made only inline and relevant to the Specification & Approved Drawings.	
		15. The following operations/characteristics/check points may be included (AS APPROPRIATE)	
		a) Visual check	
		b) Dimensional check	
		c) Mechanical and Chemical properties.	
		d) Surface preparation before painting (by chemical cleaning, sand blasting, shot blasting etc. as the case may be.)	
		e) Painting check for shade, Dry Film Thickness (DFT), Adhesion/ peel off test etc.	
		f) 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.	
		g) Verification of test certificate for protection class for the enclosures.	
		h) Mechanical functioning of switches.	
		i) Continuity of earthing and provision of earth points.	
		j) Colour coding of wiring, size, tightness & dressing of wiring.	
		k) Review of test certificates of assembled items, raw materials, internal test reports etc.	
		l) Witness of functional checks, which may include mechanical run & electrical run, H.V.test, IR measurement, Electrical and Mechanical tests etc.	
		m) PQR, WPS, Welder Qualification Record, welding records (fit up, DP) etc.	
		n) Material identification (for punch marks of serial numbers, Heat No, Melt No, Inspector's stamp etc.)	
		o) Hydraulic Pressure Test, Pneumatic Pressure Test, Liquid Penetration Examination and other Non-Destructive Tests.	
		p) 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)	
		q) All tests as per BHEL Product Standard & approved drawings including Type tests and Routine tests on individual items and on System as a whole.	
		r) Packing and Preservation.	
		16. <b>QAP Format enclosed.</b>	
Ref. Doc			





Note: Attachment: PR DOCS – ~~MANE C9004 ENGINE FRAME WORK ON METAL~~ GATE VALVE.pdf



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
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##### 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:

Format No: PESD/QA/10, Rev: 00