



ANNEXURE-1

**UN-PRICED PRICE BID FORMAT FOR  
SOLENOID OPERATED VALVES**

Sl. No.	Description	Material Code	Qty.	Unit	Bidder Confirmation (Quoted/Not Quoted )
1.	Solenoid Valve – 15 NB	PY9751410010	1620	Nos.	
2.	Solenoid valve – 15 NB (UL Listed)	PY9751410045	205	Nos.	
3.	Solenoid valve – 25 NB (UL Listed)	PY9751410037	11	Nos.	

**Offer will be evaluated based on Item wise prices of price format.**

Notes:

1. This document details the Un-priced price schedule format for the enquiry. No other format will be entertained.
2. Bidder to indicate " **Quoted**" or " **Not Quoted** " in the column "**Bidder Confirmation**" against each line items.
3. Duly signed & stamped un-priced price schedule format shall be submitted by vendor in the technical offer as a token of concurrence that price schedule would be submitted in this format. Any tampering / modification / additions, etc. are NOT allowed and not considered binding and is liable for rejection of the offer.
4. The price quoted by the bidder shall be inclusive of the following:
  - i) Scope of Supply (Cl. 3 of PY51410 Rev-03)
  - ii) Testing (Cl. 5 of PY51410 Rev-03)
  - iii) Marking & Packing (Cl. 7 of PY51410 Rev-03) and Forwarding
  - iv) Documentation (Cl. 6 of PY51410 Rev-03)
  - v) Freight
5. The price quoted by the bidder shall be exclusive of the GST, Third party inspection (TPI) and Insurance Charges.
6. For addition/reduction of quantity, unit rate quoted in the present offer shall be considered during ordering and shall be valid up to execution of the contract to the extent of  $\pm 20\%$  of order Value. All accessories required for this purpose shall be included in the price quoted.
7. Offer will be evaluated based on Item wise prices of price format.

BIDDER'S SIGNATURE  
NAME:  
DATE  
COMPANY SEAL

**PRE-QUALIFICATION CRITERIA (Technical)**


<b>JOB</b>	<b>SOLENOID OPERATED VALVE OF ----- PROJECT</b>
<b>CONTRACT DURATION</b>	SUPPLY : ----- SUPERVISION SERVICES : -----
<b>APPROXIMATE COST (NOT TO BE PUBLISHED IN THE WEBSITE)</b>	SUPPLY: : Rs ----- SUPERVISION SERVICES : Rs -----


BIDDER SHALL NOTE & COMPLY WITH THE POINTS REFERRED UNDER 'NOTE' BELOW.


<b>SL NO</b>	<b>CRITERIA</b>
1.0	<p>BIDDER SHOULD HAVE AVERAGE MINIMUM ANNUAL TURNOVER OF Rs ..... LAC DURING THE LAST 3 (THREE) YEARS, ENDING ON 31-03-2011. AUDITED BALANCE SHEET AND PROFIT &amp; LOSS ACCOUNT FOR THE LAST 3 YEARS, ENDING ON 31-03-2011 SHALL BE SUBMITTED IN SUPPORT OF ABOVE.</p> <p>IN CASE AUDITED FINANCIAL STATEMENTS HAVE NOT BEEN SUBMITTED FOR ALL THE 3 YEARS AS INDICATED ABOVE, THEN THE APPLICABLE AUDITED STATEMENTS SUBMITTED BY THE BIDDERS AGAINST THE REQUISITE 3 (THREE) YEARS, WILL BE AVERAGED FOR 3 (THREE) YEARS.</p>
2.0	<p><b>BIDDER SHOULD HAVE DESIGNED, IN-HOUSE MANUFACTURED, TESTED, INSPECTED AND SUPPLIED SOLENOID OPERATED VALVES (SOV) IN INDUSTRIAL INSTALLATIONS.</b></p> <p><b>DOCUMENTARY EVIDENCE FOR ABOVE,</b></p> <p><b>(I) TWO PURCHASE ORDERS COMPRISING OF SOLENOID OPERATED VALVES IN INDUSTRIAL INSTALLATIONS IN LAST 3 YEARS PRIOR TO THE DATE OF TECHNO-COMMERCIAL BID OPENING.</b></p> <p><b>(II) COMPANY CATALOGUE/FACTORY LICENSE/CERTIFICATION.</b></p>
3.0	<p>BIDDER SHOULD HAVE VALID PAN.</p> <p>RELEVANT SUPPORTING DOCUMENT SHALL BE SUBMITTED.</p>
4.0	<p>IN CASE OF BIDDING WITH CONSORTIUM/ TIE-UP/ LICENCE AGREEMENT <b>AS APPLICABLE / MENTIONED IN SL. NO. 2 ABOVE</b>, FOLLOWING POINTS SHALL BE COMPLIED.</p> <p>RELEVANT SUPPORTING DOCUMENT SHALL BE SUBMITTED.</p>
4.1	NO. OF PARTNERS INCLUDING PRIME BIDDER SHALL NOT BE MORE THAN 2.
4.2	PRIME BIDDER ALONG WITH CONSORTIUM/ TIE-UP/ LICENCE AGREEMENT PARTNER SHALL ENTER INTO AGREEMENT, WHICH SHALL BE VALID TILL HANDING OVER OF WATER BASED FIRE PROTECTION SYSTEM PACKAGE TO OWNER.
4.3	PRIME BIDDER SHOULD COMPLY WITH CRITERIA UNDER SL NO 1.0.
4.4	PRIME BIDDER SHALL COMPLY WITH MINIMUM ONE OF THE CRITERIA AT 2.1 & 2.2 CONSORTIUM/ TIE-UP/ LICENCE AGREEMENT PARTNER SHALL COMPLY WITH BALANCE CRITERIA AT SL NO 2.1 & 2.2.
4.5	PRIME BIDDER AND CONSORTIUM/ TIE-UP/ LICENCE AGREEMENT PARTNER EACH SHALL COMPLY WITH CRITERIA UNDER SL NO 3.0.

**NOTE**


A	BIDDER SHOULD BE AN ENGINEERING ORGANIZATION/ MANUFACTURER/ OEM FOR <b>FIRE PROTECTION &amp; DETECTION SYSTEM</b>						
B	BIDDER SHALL SUBMIT REQUISITE DOCUMENTS, TO COMPLY WITH AFORESAID CRITERIA, PROPERLY INDEXED, ALONG WITH OFFER.						
C	AFTER SATISFACTORY FULFILLMENT OF ALL THE ABOVE CRITERIA/ REQUIREMENT, OFFER SHALL BE CONSIDERED FOR FURTHER EVALUATION AS PER NIT AND ALL OTHER TERMS OF THE TENDER.						
D	BIDDER(S) ALREADY REGISTERED WITH BHEL OTHER UNITS OR BHEL-PE&SD FOR SUBJECT PACKAGE, ALSO NEED TO SUBMIT CREDENTIALS FOR CRITERIA INDICATED IN SL. NO. '2.0' ABOVE. ALSO, THEY MUST SUBMIT THE RELEVANT DOCUMENTS AS THE PROOF OF THEIR REGISTRATION WITH BHEL-OTHER UNITS FOR SUBJECT PACKAGE.						
E	CONSIDERATION OF OFFER WILL BE SUBJECT TO CUSTOMER'S APPROVAL OF BIDDER.						
F	BIDDER SHALL SUBMIT DETAILS OF EXPERIENCE, IE JOBS EXECUTED, JOBS IN PROGRESS IN THE FOLLOWING FORMAT.						
	SL NO	NAME OF PROJECT	BRIEF SCOPE OF WORK	ORDER REF NO & DATE	DATE OF COMPLETION AS PER ORDER	PERFORMANCE CERTIFICATE ENCLOSED (Y/N)	REMARKS


TTTD-106-1 Rev No. 5 Form No.		<b>PROJECT ENGINEERING &amp; SYSTEM DIVISION</b> <b>BHEL, HYDERABAD –32.</b>			<b>PY51410</b>					
					Rev No. 03					
					Page 1 of 7					
<p> <b><u>TECHNICAL SPECIFICATION</u></b>  <b><u>OF SOLENOID VALVE</u></b> </p>										
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						<b>Revisions :</b>	<b>Prepared by:</b>	<b>Checked by:</b>	<b>Approved By:</b>	<b>Date</b>
						<b>00</b>	<b>Anupam</b>	<b>Amit/PCS</b>	<b>MNSR</b>	<b>31.07.18</b>


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<div> <div>1. SCOPE/INTENT:</div> <div> <p>1.1. This specification covers the technical requirements of constructional features, accessories, inspection, tests, test certificates, documentation, preservation, packing and forwarding of Solenoid Valve.</p> <p>1.2. Scope of supply shall include design, manufacture, inspection, shop testing, shop painting, packing and delivery.</p> <p>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.</p> <p>APPLICATION: These items suitable for fire protection systems (Water &amp; Foam based protection system).</p> </div> <div>2. VARIANT TABLE:</div> <table border="1"> <thead> <tr> <th>Var. No.</th><th>Description</th><th>Material Code</th></tr> </thead> <tbody> <tr> <td>01</td><td>Solenoid Valve – 15 NB</td><td>PY9751410010</td></tr> <tr> <td><del>02</del></td><td><del>Solenoid Valve – 32 NB</del></td><td><del>PY9751410029</del></td></tr> <tr> <td>03</td><td>Solenoid valve – 15 NB (UL Listed)</td><td>PY9751410045</td></tr> <tr> <td>04</td><td>Solenoid valve – 25 NB (UL Listed)</td><td>PY9751410037</td></tr> </tbody> </table> <p>Note: Bidder to quote as per Material Code as mentioned in the Enquiry.</p> </div> <div> <div>3. TECHNICAL REQUIREMENTS:</div> <div>3.1 Solenoid valve- 15 NB</div> <table border="1"> <thead> <tr> <th>Sl. No.</th><th>Requirements</th><th>Compliance</th></tr> </thead> <tbody> <tr> <td>1</td><td>Operating Principle</td><td>Electromagnetic (noiseless)</td></tr> <tr> <td>2</td><td>Type of Valve</td><td>2/2 Internal Pilot Diaphragm Operated Normally Closed Valve</td></tr> <tr> <td>3</td><td>End Connection</td><td>1/2" NPT (F)</td></tr> <tr> <td>4</td><td>Body Material</td><td>Stainless Steel Bar stock</td></tr> <tr> <td>5</td><td>Trim</td><td>AISI Stainless Steel 316</td></tr> <tr> <td>6</td><td>Coil Enclosure</td><td>Stainless Steel</td></tr> <tr> <td>7</td><td>Sealing</td><td>Airtight and leak proof</td></tr> <tr> <td>8</td><td>Manual operator</td><td>In built</td></tr> <tr> <td>9</td><td>Media</td><td>Foam/ Foam + Water</td></tr> </tbody> </table> </div>	Var. No.	Description	Material Code	01	Solenoid Valve – 15 NB	PY9751410010	<del>02</del>	<del>Solenoid Valve – 32 NB</del>	<del>PY9751410029</del>	03	Solenoid valve – 15 NB (UL Listed)	PY9751410045	04	Solenoid valve – 25 NB (UL Listed)	PY9751410037	Sl. No.	Requirements	Compliance	1	Operating Principle	Electromagnetic (noiseless)	2	Type of Valve	2/2 Internal Pilot Diaphragm Operated Normally Closed Valve	3	End Connection	1/2" NPT (F)	4	Body Material	Stainless Steel Bar stock	5	Trim	AISI Stainless Steel 316	6	Coil Enclosure	Stainless Steel	7	Sealing	Airtight and leak proof	8	Manual operator	In built	9	Media	Foam/ Foam + Water
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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><b>6. DOCUMENTATION:</b></p> <p><b>6.1. Along with the offer:</b></p> <p>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></p> <p>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"> <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.</p> <p>Each item / equipment after end protection should be wrapped in polythene sheet before packing in the cases.</p>			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*
	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*										
Ref. Doc												

TD-106-2 Rev.No. 5	Form No.		<b>PROJECT ENGINEERING &amp; SYSTEM DIVISION</b> <b>BHEL, HYDERABAD –32.</b>	<b>PY51410</b> Rev No. 03 Page 6 of 7																											
<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 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> <p><b>8. PRICE BID FORMAT</b></p> <p><b>8.1.</b> Price bid format is enclosed as Annexure-1, bidder to furnish the offer in line with the same.</p> <p><b>8.2.</b> Prices quoted by the bidder shall remain firm till the successful handing over of the Fire Protection plant to end customer. Any request for upward revision of price during any intermediate stage before handing over the plant to end customer will be summarily rejected by BHEL.</p> <p><b>8.3.</b> Bidder to quote only base rates for all the items, Applicable taxes and duties shall be indicated separately.</p> <p><b>8.4.</b> The Priced Bid shall be submitted in Original (without any copy) duly signed and stamped on each page in a separate sealed envelope super scribing "Price Bid –Do not Open" This shall not contain any condition whatsoever failing which the Bids shall be liable to be rejected. In case of any correction, the bidder shall put its signature and its stamp. Eraser fluid will not be allowed for making any correction.</p> <p><b>8.5.</b> Bidder shall confirm to the unpriced bid as part of their offer.</p> <p><b>8.6.</b> Offer will be evaluated based on Item wise prices of price format.</p> <p><b>9. LIST OF ANNEXURES:</b></p> <table border="1" data-bbox="349 1486 1393 1822"> <thead> <tr> <th colspan="3">LIST OF ANNEXURES</th> </tr> <tr> <th>Sl. No</th> <th>Drawings/Documents</th> <th>Drg/Doc no</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Price Bid Format</td> <td>Annexure-1</td> </tr> <tr> <td>2</td> <td>Guidelines for preparation of Quality Assurance Plan</td> <td>Annexure-2</td> </tr> <tr> <td>3</td> <td>Manufacturing Quality Plan Format</td> <td>Annexure-3</td> </tr> <tr> <td>4</td> <td>Format for Dispatch details</td> <td>Annexure-4</td> </tr> <tr> <td>5</td> <td>Pre-Bid Query Format</td> <td>Annexure-5</td> </tr> <tr> <td>6</td> <td>Deviation Format</td> <td>Annexure-6</td> </tr> <tr> <td>7</td> <td>Check List</td> <td>Annexure-7</td> </tr> </tbody> </table>			LIST OF ANNEXURES			Sl. No	Drawings/Documents	Drg/Doc no	1	Price Bid Format	Annexure-1	2	Guidelines for preparation of Quality Assurance Plan	Annexure-2	3	Manufacturing Quality Plan Format	Annexure-3	4	Format for Dispatch details	Annexure-4	5	Pre-Bid Query Format	Annexure-5	6	Deviation Format	Annexure-6	7	Check List	Annexure-7
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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>				<b>PY51410</b>	
						Rev No. 03	
						Page 7 of 7	
<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	31.07.2018	First Issue	-SD-	-SD-	-SD-	
	01	24.09.2020	Revised	-SD-	-SD-	-SD-	
	02	08.02.2022	Revised	-SD-	-SD-	-SD-	
	03	25.10.2022	Revised	Kamal/Amit		PCS	
	Ref. Doc.						

TD-201 Rev No. 00	Form No.		<b>PRODUCT STANDARD</b> PROJECT ENGINEERING & SYSTEMS DIVISION HYDERABAD	ANNEXURE-4 Rev No. 00 Page 1 of 3
<div data-bbox="170 940 203 1291"><b>COPYRIGHT AND CONFIDENTIAL</b></div> <div data-bbox="203 646 259 1585">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 data-bbox="592 367 1161 409"><b>QAP GUIDELINES &amp; FORMAT</b></div> <div data-bbox="625 514 1128 546">(ANNEXURE-4 TO SPECIFICATION)</div> <div data-bbox="300 646 1445 724">The QAP format and Guidelines for filling up the format shall be used by vendor for preparation and submission of QAP after order placement.</div>				

Form No.	 HYDERABAD	<p align="center"><b>PRODUCT STANDARD</b></p> <p align="center">PROJECT ENGINEERING &amp; SYSTEMS DIVISION HYDERABAD</p>	ANNEXURE-4
	Rev No. 00		
	Page 2 of 3		
<p align="center"><b>COPYRIGHT AND CONFIDENTIAL</b></p> <p align="center">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 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> </ol>	
	Ref. Doc		

Form No.	 HYDERABAD	<p align="center"><b>PRODUCT STANDARD</b></p> <p align="center">PROJECT ENGINEERING &amp; SYSTEMS DIVISION HYDERABAD</p>	ANNEXURE-4
	Rev No. 00		
	Page 3 of 3		
<p align="center"><b>COPYRIGHT AND CONFIDENTIAL</b></p> <p align="center">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


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)  
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. **QAP Format enclosed.**

VENDOR'S NAME & ADDRESS:			<b>MANUFACTURING QUALITY PLAN</b>						QP. NO.:						
			CUSTOMER: BHEL, HYDERABAD – 32.			BHEL P.O.NO.:			REV NO:		DATE:				
			PROJECT:			P.O.DATE:									
			PRODUCT:			BHEL SPEC:			REV:		PAGE 1 OF 1				
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	<b>RAW MATERIALS &amp; BOUGHT OUT ITEMS</b>														
2.0	<b>INPROCESS INSPECTION</b>														
3.0	<b>FINAL INSPECTION &amp; TESTING</b>														
4.0	<b>PRESERVATION &amp; PACKING</b>														

**VENDOR TO NOTE:** THIS FORMAT IS IN MICROSOFT WORD. HEADER & FOOTER SHALL BE AVAILABLE IN EACH PAGE OF QP. QP SHALL BE IN LANDSCAPE & A4 SIZE ONLY. FONT SIZE SHALL BE MIN 10. VENDOR SHALL SIGN & STAMP IN EACH PAGE OF QP. LOI REF. & DATE ARE NOT ACCEPTABLE. P.O.NO. & DATE SHALL BE INDICATED. QP NO. SHOULD BE UNIQUE AND SHALL NOT REPEAT. ALL THE TESTS / CHECKS INDICATED IN THE BHEL SPEC. SHALL BE INDICATED IN THE QP.

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

## ANNEXURE-3

		MANUFACTURING QUALITY PLAN							MQP. NO.: SMQP/FPS/07/092013				
		PROJECT ENGINEERING & SYSTEMS DIVISION BHEL, RC PURAM, HYD-502032				PRODUCT: SOLENOID VALVE			REV NO: 00		DATE: 01/09/2013		
		PAGE 1 OF 3											
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</b>	<b>RAW MATERIALS &amp; BOUGHT OUT ITEMS</b>												
	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	
<b>2.0</b>	<b>INPROCESS INSPECTION</b>												
	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	
<b>3.0</b>	<b>FINAL INSPECTION &amp; TESTING</b>												
		VISUAL & DIMENSION CHECK	Major	Visual	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	

LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. 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

VED BY

APPROVED BY



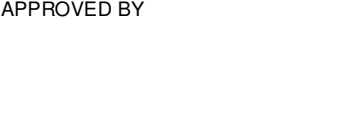



BHEL QA SIGNATURE &amp; STAMP

BHEL QA SIGNATURE &amp; STAMP

CUSTOMER'S SIGNATURE &amp; STAMP


<div>बी एच ई एल</div> <div>BHEL</div>		MANUFACTURING QUALITY PLAN							MQP. NO.: SMQP/FPS/07/092013				
PROJECT ENGINEERING & SYSTEMS DIVISION BHEL, RC PURAM, HYD-502032						PRODUCT:SOLENOID VALVE			REV NO: 00		DATE:01/09/2013		
PAGE 2 OF 3													
SL NO	COMPONENTS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	* D	AGENCY			REMARKS
										P	W	V	
		HV TEST	Major	Hydro Test	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
		SEAT LEAKAGE TEST	Major	Leakage	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
		IR TEST	Major	Electrical	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
		PNEUMATIC TEST	Major	Pneumatic	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1		
		OPERATIONAL TEST INCLUDING VERIFICATION OF PICKUP AND DROP VOLTAGE	Major	Operational test	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1		
		BOM CHECK	Major	Verification	100%	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	1		

LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. 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	VED BY	APPROVED BY
	 BHEL QA SIGNATURE & STAMP	 BHEL QA SIGNATURE & STAMP	 CUSTOMER'S SIGNATURE & STAMP

		<b>MANUFACTURING QUALITY PLAN</b>							MQP. NO.: SMQP/FPS/07/092013				
									REV NO: 00		DATE:01/09/2013		
		PROJECT ENGINEERING & SYSTEMS DIVISION BHEL, RC PURAM, HYD-502032					PRODUCT:SOLENOID VALVE			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	

**NOTE:-**

1. This standard MQP should be read along with specification (latest revision), approved drawings & approved data sheet.
2. 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. All type test reports submitted shall not be older than 5 yrs from the date of purchase order.
5. Any project/customer specific requirements which shall be notified have to be fulfilled by the vendor at the time of execution of order.

LEGEND: P: PERFORM, W: WITNESS, V: VERIFICATION. 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		VED BY	APPROVED BY
	BHEL QA SIGNATURE & STAMP		BHEL QA SIGNATURE & STAMP	CUSTOMER'S SIGNATURE & STAMP

# ANNEXURE-4


## BILL OF MATERIALS

(SUB-VENDOR PACKAGES)

(NOTE: ASSEMBLED UNITS AND ALL LOOSE DESPATCHABLE ITEMS IDENTIFIED IN THIS BOM)

<b>System Name</b>		<b>Supplier:</b>	<b>Project:</b>			<b>Supplier Doc. No.</b>		
			<b>Supplied Job No.</b>	<b>BHEL P.O.No.</b>	<b>Rev. No.</b>		<b>sh.</b>	<b>of</b>
				Date		Date	<b>1</b>	
Item Despatch Tag-No.	Ref. Drg. No.	Item No.	Item Description	Qty. (Nos./mts)	Wt (Kg)	Despatch Details		Remarks
						Packing box	LR No.	Date
	Rev.	Rev.	Prepared By:		Approved By:		<b>Supplier Doc. No.:</b>	
					(xxx)			
			Sign :		Sign :			
			Date :		Date :			

# ANNEXURE-5

TD-106-2	Rev. No. 5 Form No.		<b>PROJECT ENGINEERING &amp; SYSTEMS DIVISION</b> <b>BHEL, HYDERABAD –32.</b>	PESD/HYD-776
				Rev No.: <b>00</b>
				Page 1 of 1

<p style="text-align: center;"><b>COPYRIGHT AND CONFIDENTIAL</b></p> <p>The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED .</p> <p>It must not be used directly or indirectly in any way detrimental to the interest of the company.</p>		<p style="text-align: center;"><u>PRE-BID QUERRIES FROM SPECIFICATION</u></p> <p>If the proposal submitted has got any Queries from the technical stipulations in the bidding document, the Bidder shall tabulate below the full particulars of such Queries and shall sign below. Additional sheets may be enclosed, if necessary. Queries are to be furnished with mention of specific clause numbers. Technical and commercial Queries to scope of supply and services shall be indicated separately.</p> <table border="1" data-bbox="292 714 1469 1396"> <thead> <tr> <th>SL.No.</th><th>Clause No.</th><th>Description as per specification</th><th>Queries by Bidder</th></tr> </thead> <tbody> <tr> <td style="height: 250px;"></td><td></td><td></td><td></td></tr> </tbody> </table> <p>We confirm that all the Pre-Bid Queries to the Technical Specification, Job Specification and enclosures including reference documents attached are listed in this Annexure only. No other Pre-Bid Queries even if mentioned elsewhere shall be considered for any technical/ commercial evaluation or for ordering.</p> <p>Bidder's Signature.....</p> <p>Date:.....</p>	SL.No.	Clause No.	Description as per specification	Queries by Bidder				
SL.No.	Clause No.	Description as per specification	Queries by Bidder							

ANNEXURE - 6						
LIST OF DEVIATIONS						
Sl. No.	Part No./ Volume	Page no.	Clause No.	Subject	Deviation/Clarification	Reason for Deviation
1						
2						
3						
4						
5						
6						

**NOTES:**

1. Deviations, if any, shall be clearly brought out only in this format. Deviations mentioned / taken elsewhere or in any other format will be ignored.
2. Additional sheets in the same format can be attached by the vendor, if necessary.
3. Nature of Deviations shall only be of Design / Manufacturing constraints and non-availability of items / components / makes in market.
4. No price implications shall be entertained for deviations withdrawn during the technical scrutiny. If any deviations are accepted by BHEL during technical scrutiny then also there will be no price implication. Hence, in no case there will be consideration of Price implications.
5. Reasons for the deviations shall be specified in the Remarks column.
6. If there are no deviations from the specifications, bidder still has to submit the signed copy of this format by writing "NO Deviations" on this format.
7. If the "Deviation Schedule" is not submitted along with the offer, the bidder's offer is likely to be rejected without any further interaction with the bidder. Only the accepted deviations in conjunction with the original tender shall constitute the contract document for the award of job to the bidder

**ANNEXURE - 7****CHECK LIST FOR OFFER SUBMISSION**

<b>SL No</b>	<b>Description</b>	<b>Bidder's Confirmation</b>
1	Bidder to confirm to the scope of supply and scope of services as per BHEL spec: PY51410	
2	Bidder to submit the No Deviation letter w.r.t. BHEL spec: PY51410 along with offer.	
3	Bidder to quote as per BHEL price format only. Bidder to attached unpriced bid format by indicating "QUOTED" against each item in the technical offer.	
4	For addition/reduction of quantity, unit rate quoted in the present offer shall be considered during ordering and shall be valid up to execution of the contract to the extent of $\pm 20\%$ of order Value.	
5	In case of deviation, vendor to confirm that these are technically not feasible deviations and same are submitted in BHEL format.  In case technically feasible deviations are proposed by the bidder and subsequently withdrawn, no commercial implications can be claimed by the bidder.	
6	It shall be bidder's responsibility to get all his queries and deviations addressed by the purchaser during the pre-bid stage itself. No queries / deviations shall be accepted by purchaser from the bidder after the closure of pre-bid.	
7	Bidder to note that the fire extinguishers shall have staggered delivery. The exact delivery dates and quantities to be delivered at each of the dates shall be informed during detail engineering. Bidder to confirm.	