

**QUALITY PLAN**

BHEL	QP NO.	QA_BI_QP_101	REV.	00	DESCRIPTION		LEGENDS			
	SPEC. NO.	AS PER PO	REV.	AS PER PO	DOUBLE THREE WAY VALVE		P- PERFORMED BY	1- BHEL REP		
	DRG. NO.	APPROVED DRAWING AS PER PO	REV.	AS PER PO			W- WITNESSED BY	2- VENDOR		
SL. NO.	COMPONENT OPERATION	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY	REMARKS
								P	W	V

1	GENERAL	WELDING PROCEDURE, WELDER, TESTING FACILITY	MAJOR	VISUAL	100%				2	1	SUB-VENDORS CERTIFICATE & SUPPORTING DOCUMENTS
RAW PARTS / SEMI FINISHED PRODUCTS											
2	CHANGE-OVER HOUSING	i	CHEMICAL ANALYSIS	CHEMICAL	100%	APPROVED DRAWING / DATA SHEET / SPECIFICATION		TC	3		2,
		ii	MECHANICAL PROPERTIES	MECHANICAL	100%						1
		iii	D.P TEST or ULTRASONIC TEST	NDT	100%						2,
		iv	DIMENSION	MEASUREMENT	100%						1
3	BALL	i	CHEMICAL ANALYSIS	CHEMICAL	100%	APPROVED DRAWING / DATA SHEET / SPECIFICATION		TC	3		2,
		ii	MECHANICAL PROPERTIES	MECHANICAL	100%						1
		iii	DIMENSION	MEASUREMENT	100%						2,
4	SPINDLE	i	CHEMICAL ANALYSIS	CHEMICAL	100%	APPROVED DRAWING / DATA SHEET / SPECIFICATION		TC	3		1
		ii	MECHANICAL PROPERTIES	MECHANICAL	100%						2,
		iii	DIMENSION	MEASUREMENT	100%						1
5	FLANGE	i	CHEMICAL ANALYSIS	CHEMICAL	100%	APPROVED DRAWING / DATA SHEET / SPECIFICATION		TC	3		2,
		ii	MECHANICAL PROPERTIES	MECHANICAL	100%						1
		iii	DIMENSION	MEASUREMENT	100%						2,
6	PIPE	i	CHEMICAL ANALYSIS	CHEMICAL	100%	APPROVED DRAWING / DATA SHEET / SPECIFICATION		TC	3		2,
		ii	MECHANICAL PROPERTIES	MECHANICAL	100%						1

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	AS PER PO			AS PER PO				2- VENDOR			
	APPROVED DRAWING AS PER PO			AS PER PO				3- SUBVENDOR			

SL. NO.	COMPONENT OPERATION	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY	REMARKS
7	HEX-BOLTS	iii DIMENSION i CHEMICAL ANALYSIS ii MECHANICAL PROPERTIES iii DIMENSION	MAJOR	MEASUREMENT	100%	APPROVED DRAWING / DATA SHEET		TC	2	1
8	CHANGE-OVER VALVE'S FLANGE ASSEMBLY (WELDING)	i DIMENSION	MAJOR	MEASUREMENT	100%	APPROVE DRAWING		INSPECTION REPORT	2/3	2, 1
		ii D.P.TEST	MAJOR	DPT	100%	VENDOR SPECIFICATION		COC	2/3	2, 1
		iii DIMENSION	MAJOR	MEASUREMENT	100%	APPROVE DRAWING		TC	2	1
		iv DIMENSION	MAJOR	MEASUREMENT	100%	APPROVE DRAWING		TC	2	4
9	CHANGE OVER VALVE ASSEMBLY	i DIMENSION	MAJOR	MEASUREMENT	100%	APPROVE DRAWING		TC	2	4
		ii SEAT LEAKAGE TEST (time 5 minutes)	MAJOR	LEAKAGE TEST	100%	VENDORS TENDOR	APPROVED DRAWING / DATA SHEET / SPECIFICATION	TC	2	4
		iii FUNCTIONAL TEST TO CHECK SMOOTH OPENING / CLOSING	MAJOR	VISUAL	100%	VENDORS TENDOR	APPROVED DRAWING / DATA SHEET / SPECIFICATION	TC	2	4
		iv HYDRO STATIC TEST (1.5 TIMES OF WORKING PRESSURE FOR 30 MINUTES)	MAJOR	HYDRAULIC TEST	100%	VENDORS TENDOR	APPROVED DRAWING / DATA SHEET / SPECIFICATION	TC	2	4
		v PAINTING	MAJOR	VISUAL	100%	VENDORS TENDOR	APPROVED DRAWING / DATA SHEET / SPECIFICATION	TC	2	4


NOTE: COLOR MACTHING IS NOT REQUIRED AS THERE IS NO METAL TO METAL CONTACT BETWEEN BALL AND SEAL CUP.


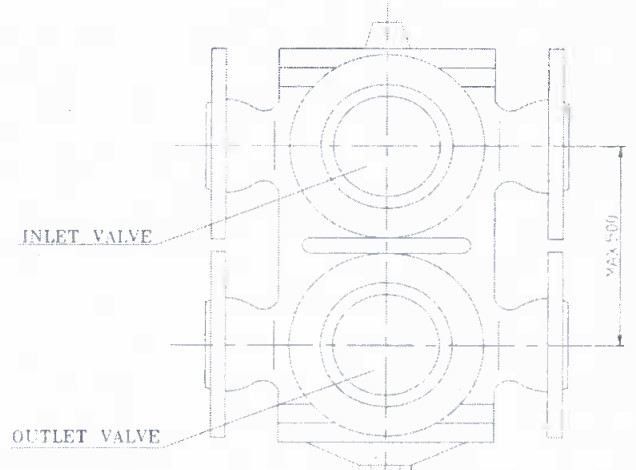
VIBHUTI SHAH

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ET (QAX)



दिनांक एवं समय SIGN & DATE		<b>उत्पाद मानक</b> <b>PRODUCT STANDARD</b> (STEAM TURBINE ENGINEERING)	<b>ST- 47028</b> पृष्ठ 03 का 02 Page 2 of 3																								
SUPERSEDES INVENTORY	सामग्री सूची संख्या को अधिकारित करता है	7.0 The bidder shall furnish Quality Plan in specified format. However the min. test requirement envisaged by BHEL are as follows :  7.1 <b>Testing of Materials :-</b> The material of components of valve such as body, bonnet, stem & fasteners shall be tested as per relevant specification for its chemical composition & mechanical properties. For remaining components compliance certificate shall be furnished.  7.2 DPT on body, stem & seat and all welded joints.  7.3 Color matching of valve seat & plug in case of metal contact.  7.4 Function test. (Functional test to be furnished by vendor with offer for BHEL's approval)  7.5 All welding to be carried out as per qualified procedures and welders in according with ASME Sec. IX.  7.6 Hydraulic test at 1.5 times the design pressure.  7.7 <b>Seat leakage test:</b> - It shall be carried out at 1.1 times of the design pressure for 5 minutes. Acceptance norms shall be NIL leakage as per class rate 'A' of standard EN12266.  8.0 <b>Painting Scheme :-</b>																									
<b>COPYRIGHT AND CONFIDENTIAL</b> The information on this document is the property of Bharat Heavy Electrical Limited. It must not be used directly or indirectly in any way detrimental to the interest of the company.																											
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Paint (Cost)</th> <th style="width: 25%;">Paint Type</th> <th style="width: 25%;">No. of coat</th> <th style="width: 25%;">DFT*</th> </tr> </thead> <tbody> <tr> <td>Primer Paint</td> <td>Epoxy base Zinc rich primer paint</td> <td>2 Coats</td> <td>70</td> </tr> <tr> <td>Intermediate Paint</td> <td>Epoxy TiO2 Pigmented Polyamide Cured Paint</td> <td>1 Coat</td> <td>70</td> </tr> <tr> <td>Finish (Final) Paint</td> <td>Aliphatic Acrylic 2 Pack Polyurethane finish paint</td> <td>2 Coats</td> <td>60</td> </tr> <tr> <td>Shade as per IS:5 or Equivalent</td> <td>Smoke Grey ISC 692</td> <td></td> <td></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: right;">Total</td> <td style="text-align: right;">DFT 180</td> </tr> </tbody> </table> <p>*DFT-Dry Film Thickness (Final) in microns.</p> <p>Color shade may be changed during execution of contract.</p>				Paint (Cost)	Paint Type	No. of coat	DFT*	Primer Paint	Epoxy base Zinc rich primer paint	2 Coats	70	Intermediate Paint	Epoxy TiO2 Pigmented Polyamide Cured Paint	1 Coat	70	Finish (Final) Paint	Aliphatic Acrylic 2 Pack Polyurethane finish paint	2 Coats	60	Shade as per IS:5 or Equivalent	Smoke Grey ISC 692					Total	DFT 180
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स्वत्वधिकार एवं गोपनीयता इस प्रलेख में दी गई सूचना भारत के ही हितों के लिए है। इसका प्रयोग एवं आरक्षण केवल ही भारत के ही हितों के लिए है।	दिनांक एवं समय SIGN & DATE 16/3/13	9.0 <b>GUARANTEE:-</b> The supplier shall guarantee trouble free and satisfactory operation of the equipment for a period of 18 months after delivery or 12 months after commissioning which ever is earlier.																									
सामग्री सूची संख्या INVENTORY NO. 2-5513	REV. NO. 07	(SUPERSEDES	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;">निर्माणकर्ता WORKED BY</td> <td style="width: 25%;">A.KUMAR</td> <td style="width: 25%;">16/3/13</td> </tr> <tr> <td>जांचकर्ता CHECKED BY</td> <td>ANUJ JAIN</td> <td>16/3/13</td> </tr> </table>	निर्माणकर्ता WORKED BY	A.KUMAR	16/3/13	जांचकर्ता CHECKED BY	ANUJ JAIN	16/3/13																		
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सामग्री सूची संख्या को अधिकृतित करना है SUPERSEDES INVENTORY	<b>10.0 DOCUMENT</b>  <b>10.1 DOCUMENTS REQUIRED ALONGWITH OFFER-</b> Acts of following documents in English language - (i) Cross sectional and dimensional drawing along with Bill Of Material and end connection details. (ii) Quality Plan. (iii) List of spares for 3 years of operation										
<b>COPYRIGHT AND CONFIDENTIAL.</b> The information on this documents 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>10.2 DOCUMENTS AFTER PLACEMENT OF ORDER</b> (i) Four copies of finalized contract drawings-within four weeks of placement of order. (ii) Ten copies of operation and maintenance instructions-within 12 weeks of placement of order. (iii) Six copies of test certificates.										
स्वत्वधिकार एवं गोपनीय इस दस्तावेज में दी गई सूचना भारत हेवी इलेक्ट्रिकल्स की संपत्ति है इसका प्रयोग एवं आरक्षण इस से किसी भी तरह प्राप्ति, जो कि कंपनी के हित में हानिकारक हो न किया जाए।	<div style="text-align: center;">  <p>GENERAL VIEW</p> </div> <p><b>Cross referred standard:-</b> ASME sec. IX            DIN 2633            IS: 5            ISC 692            EN 12266</p>										
दिनांक एवं तिथि SIGN & DATE 16/3/13	<b>REV. NO.</b> 07 <div style="text-align: center; font-size: 2em; font-weight: bold;">(SUPERSEDES)</div>										
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