

BHEL		STANDARD MANUFACTURING QUALITY PLAN							MQP. NO.: SMQP/FPS/24/092013				
PROJECT ENGINEERING & SYSTEMS DIVISION BHEL, RC PURAM, HYD-502032						PRODUCT: VALVES			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	*	AGENCY			REMARKS
									D	P	W	V	
1.0 RAW MATERIALS & BOUGHT OUT ITEMS													
	Casting and forging (Body, Bonnet, Disc, Stem, Body Rings,)	Surface Quality MPT for Hydrogen Service. Dimension, Chemical and Mechanical Properties (Not Special Requirements of heat treatment, Hardness, Impact, Bend, Tensile Test etc. for H2 service and NACE)	Major	Analysis Test	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	All Castings Materials	Heat Treatment as per Specs	Major	Analysis Test	One/Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	Casting, forgings for Austenitic Stainless Steel body and bonnet only.	Inter Granular Corrosion (IGC) Test and Stabilisation Heat Treatment	Major	Analysis Test	Per Heat /Per solution Annealed Lot	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	All Castings	Radiography Examination	Minor	Analysis Test	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	Bars for Trim Materials	Chemical Analysis	Minor	Chemical Analysis	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
	Stems, Gaskets, Gear Unit, Fastener, Gland, Packing etc.	Surface Defects, Dimension, Physical and chemical properties	Major	Chemical Analysis	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	Lab. /Supp. Certificate	√	2	2	1	
2.0 INPROCESS INSPECTION													
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.					PREF			APPROVED BY					
					BHEL	IMP		BHEL	IMP				
					APPROVED BY								
					CUSTOMER'S SIGNATURE & STAMP								

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		WPS/PQR/WPQ	Major	Chemical Analysis	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IIR	√	2	2	1	
3.0	FINAL INSPECTION & TESTING												
		Shell Test Gate/Globe/Check Back Seat-Gate/Globe	Major	Visual	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
		Seat Test- Gate/Globe/Check											
		Functional/Operational Test (For motor Operated /Actuator Operated)	Major	Functional Test	100%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
		PMI Check Finished Valve (Body, Bonnet, Stem)	Major	PMI Check	10%	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	

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	BHEL	IMP BHEL	IMP

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	Finished Valve (Body, Bonnet, Stem)	Visual (TC Verification, Sino Marking, Flange Finish, Tag no) Bevel, Dimension and Special Requirements in PR, Painting of Carbon and Low alloy Steel and provision of bypass arrangement (if applicable)	Major	Test	Visual 100% by Supplier and PURCHASER / END CUSTOMER. Dimension-100% by supplier and at random by PURCHASER / END CUSTOMER subject to a minimum of 10 %	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1	-	
	Pre-qualification Test	Fire safe test (soft seated ball, plug, butterfly and lubricated plug valves) cryogenic test	Major	Test	1 valve per Type/size and order	Approved BHEL Spec./Drawing/datasheet	Approved BHEL Spec./Drawing/datasheet	IR	√	2	1		

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		BOM CHECK	Major	Visual	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	2	1	

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.

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