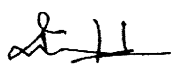
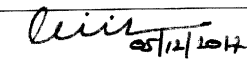


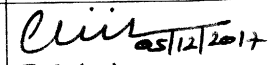
S.NO		COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY		REMARKS
										M	B	
1		2	3	4	5	6	7	8	9	**	10	11

1. INCOMING INSPECTION/RAW MATERIALS/BROUGHT OUT												
1.1	Connecting rod, Crankshaft, Plunger, Valve, Stuffing box, Liquid end, Power frame, Cross head, Flange, etc.	Chem & Mech Properties	Major	Chem & Mech	100%	APSQ/ Approved Drawing	Material test certificate	P	V	*Plates of thickness more than 40mm and Rounds of dia more than 50mm shall be UT Tested.		
		UT*/RT/DP Test	Major	NDT	100%	APSQ/ Approved Drawing	Inspection report	P	V			
1.2	Fasteners	Physical, Chemical Properties	Major	Chem & Mech	100%	Material test certificate/Manufacturer test/compliance certificate	Material test certificate	P	V			
		Dimensional conformity	Major	Measure ment	100%			P	V			

Prepared By 	LEGEND: M: MANUFACTURER/SUB-SUPPLIER, B: BHEL /BHE AIA P: PERFORM W: WITNESS AND V: VERIFICATION. TC:TEST CERTIFICATE	REVIEWED BY	APPROVED BY
			 25/12/2017 C. Srinivasan DGM/RA&CC (Proc)

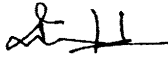
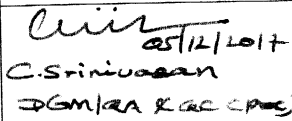
		Manufacturer Name & Address: M/s BHEL BAP RANIPET TAMIL NAIDU -632406		STANDARD QUALITY PLAN							
				ITEM : Triplex High Plunger Pump with Motor & Accessories		QP NO: APH:114 REV. NO: 00 DATE: 05.12.2017		REF: APSQ: RAH-520/Latest Revision Page 2 of 6			
S.NO	COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY		REMARKS
									M	B	
1	2	3	4	5	6	7	8	9	**	10	11

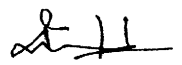
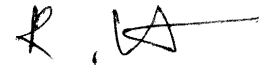
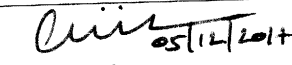
1.3	Electrical LT Motor	As indicated in applicable customer approved QP as per QP column 7 & 8	Major	Electrical & Mechanical	100%	APSQ/Spec/Drawing/Approved Datasheet. a) For NTPC Projects: NTPC approved RQP/MQP b) For NON NTPC Projects: our SQP ref: QP:E:813 Rev02 dated 27/09/2014.	TC& IR	P	W	1) For NTPC project: Joint inspection along with NTPC is applicable at Motor Manufacturer's works. 2) For NON NTPC project: BHEL/TPI inspection is applicable at Motor Manufacturer's works.
-----	---------------------	--	-------	-------------------------	------	---	--------	---	---	--

Prepared By		LEGEND: M: MANUFACTURER/SUB-SUPPLIER, B: BHEL /BHE AIA P: PERFORM W: WITNESS AND V: VERIFICATION. TC:TEST CERTIFICATE	REVIEWED BY	APPROVED BY
 				 25/12/2017 C. Srinivasan DGM (QA & QC) (Proc)

STANDARD QUALITY PLAN										
		Manufacturer Name & Address: M/s BHEL BAP RANIPET TAMIL NAIDU -632406		ITEM : Triplex High Plunger Pump with Motor & Accessories		QP NO: APH:114 REV. NO: 00 DATE: 05.12.2017		REF: APSQ: RAH-520/Latest Revision Page 3 of 6		
S.NO	COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY M B	REMARKS
1	2	3	4	5	6	7	8	9	** 10	11

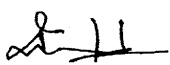
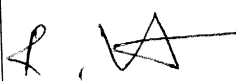
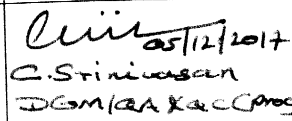
1.4	Flanges	Dimensional conformity	Major	Measure ment	100%	Manufacturer test certificate/compliance certificate	Dimension Report	P	V	
1.5	Relief valve	Physical, Chemical Properties	Major	Chem & Mech Properties	100%	APSQ/Drawing/Approved Datasheet	TC	P	V	
		Set pressure/Reset pressure	Major	Testing of Set pressure/ Reset pressure	100%	APSQ/Drawing/Approved Datasheet	Test report	P	V	
2. IN PROCESS										
2.1	All components	Workmanship and finish	Major	Visual	100%	APSQ/Drawing/Approved Datasheet	Inspection Report	P	V	

Prepared By 	LEGEND: M: MANUFACTURER/SUB-SUPPLIER, B: BHEL /BHE AIA P: PERFORM W: WITNESS AND V: VERIFICATION. TC:TEST CERTIFICATE	REVIEWED BY	APPROVED BY
			 25/12/2017 C.Srinivasan DGM/RA & QC (P&G)

 Manufacturer Name & Address: M/s BHEL BAP RANIPET TAMIL NAIDU -632406			STANDARD QUALITY PLAN								
			ITEM : Triplex High Plunger Pump with Motor & Accessories			QP NO: APH:114 REV. NO: 00 DATE: 05.12.2017		REF: APSQ: RAH-520/Latest Revision Page 4 of 6			
S.NO	COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY		REMARKS
									M	B	
1	2	3	4	5	6	7	8	9	**	10	11
		Dimensional conformity	Major	Visual/Measurement	100%	APSQ/Drawing/Approved Datasheet	Inspection Report	P	V		
2.2	Welding of nozzles to fluid end and flanges [For suction and discharge connections] and any other welds in pressure containing parts.	Liquid penetrant inspection	Major	NDT	100%	APSQ/Drawing/Approved Datasheet	REPORT	P	V	Welders are Qualified to AWS D1.1 & Procedures are prequalified as per AWS D1.1.	
		Radiographic inspection	Major	NDT	100%	APSQ/Drawing/Approved Datasheet	REPORT	P	V		
3. FINAL INSPECTION											
3.1	Pump assembling	Orientation and dimensional conformity	Major	Visual, Measurement	100%	APSQ/Drawing/Approved Datasheet	REPORT	P	V		
Prepared By 						REVIEWED BY 		APPROVED BY  C. Srinivasan DGM (QA KACC)			
LEGEND: M: MANUFACTURER/SUB-SUPPLIER, B: BHEL/BHE AIA P: PERFORM W: WITNESS AND V: VERIFICATION. TC:TEST CERTIFICATE											

S.NO		COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY		REMARKS
										M	B	
1		2	3	4	5	6	7	8	9	**	10	11

		Critical running clearances of assembled pump	Major	Measurement	100%	APSQ/Drawing/Approved Datasheet	REPORT	P	W	
3.2	Hydrostatic test	Hydrostatic	Major	Visual check	100%	No leakage	REPORT	P	V	
3.3	Performance test	Capacity Vs Head, Power Vs Head, Efficiency Vs head	Major	Hydraulic	100%	As per Manufacturer document. To specify document no. Test report, Performance curves	REPORT	P	W	
3.4	Endurance test	Bearing temperature, Vibration, Noise level, oil/water leakage, motor current	Major	Measurement	100%	Bearing temp. should be less than 80 deg C. Vibration limit as per ISO 10816/15: 4729. Motor current as per IS 325: 1996/ IS 8789 : 1996. No oil leakage. Allowable water leakage as per Mfg. document	REPORT	P	W	
4. PAINTING, PACKING RELEASE AND SHIPMENT										
4.1	PAINTING Preservation and	Visual and paint thickness	Major	Visual	100%	APSQ/Drawing/Approved Datasheet	REPORT	P	V	

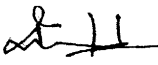
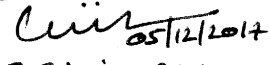
Prepared By 	LEGEND: M: MANUFACTURER/SUB-SUPPLIER, B: BHEL /BHE AIA P: PERFORM W: WITNESS AND V: VERIFICATION. TC: TEST CERTIFICATE	REVIEWED BY	APPROVED BY
			 C. Srinivasan DGM/RA&C (Proc)

S.NO		COMPONENTS & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY		REMARKS
										M	B	
1		2	3	4	5	6	7	8	9	**	10	11

Packing											
---------	--	--	--	--	--	--	--	--	--	--	--

Note:

1. Calibrated instruments shall be used for inspection, examination and testing.
2. End document/History docket shall consist as the following as minimum:
 - a) As built drawing
 - b) All non-destructive test reports
 - c) Material test certificates
 - d) Hydrostatic, performance and endurance test reports.
 - e) Guarantee Certificate from manufacturer
 - f) Copy of purchase order
 - g) Copy of technical specification
 - h) Shipping Release Certificate.
 - i) Catalogue and pump operation/maintenance /installation manual
 - j) Quality Assurance Plan.

Prepared By	LEGEND: M: MANUFACTURER/SUB-SUPPLIER, B: BHEL /BHE AIA P: PERFORM W: WITNESS AND V: VERIFICATION. TC:TEST CERTIFICATE	REVIEWED BY	APPROVED BY
			 05/12/2017 C.Srinivasan DGM/QA KACCPray