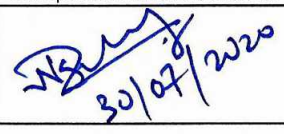
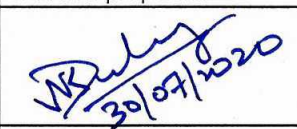


		MANUFACTURER'S NAME AND ADDRESS :		STANDARD MANUFACTURING QUALITY PLAN					PROJECT : ARUN-3 HEP				
				ITEM : SHAFT SEAL- AXIAL TYPE			QP NO. : QA/HT/2048 REV.NO. : 00 DATE : 28/07/2020 PAGE : 02 OF 02		PO/ PI NO.: 240204313 DT. 30.07.2020				
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REF. DOC.	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY		REMARKS
					M	B				D*	M	B	
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	**	10.	11.
2.0	In-process inspection												
2.1	Fabrication & welding	Welding process- WPS, PQR & WPQ	Major	Verification	100%	100%	ASME section IX		TC	√	P	V	
2.2		Post weld heat treatment	Major	Verification	100%	100%	-do-	-do-	TC	√	P	V	
2.3		UT /MPI / DPT as per weld grade	Major	NDT	100%	100%	-do-	-do-	TC	√	P	V	
2.4	Dimension and Surface finish check of Components	Dimensional and surface finish check	Major	Measurement	100%	100%	Vendor's Component drawing		TC	√	P	V	
3.0	Final inspection												
3.1	Shaft seal assembly	Test ring and instrumentation	Major	Verification	100%	100%	Calibration certificate		TC	√	P	V	
3.2		Assembly & Dismantling	Major	Visual	100%	100%	Shaft seal Erection Manual		QCR	√	P	W	
3.3		Dimensional check	Major	Measurement	100%	100%	As per Approved Drawing		QCR	√	P	W	
3.4		Seal static test / Performance test	Critical	Hydraulic Pressure Test	100%	100%	-do-	-do-	QCR	√	P	W	
3.5		Hydraulic test	Critical		100%	100%	-do-	-do-	QCR	√	P	W	
3.6		Inflatable seal test	Critical	Air Test	100%	100%	-do-	-do-	QCR	√	P	W	
3.7	Control Panel	Functional check	Major	Test	100%	100%	-do-	-do-	QCR	√	P	W	
3.8	Tools and Consumables	Physical verification	Major	Visual	100%	100%	-do-	-do-	QCR	√	P	W	
3.9	Spares	Physical verification	Major	Visual	100%	100%	-do-	-do-	QCR	√	P	W	
4.0	Painting & Packing	Compliance with standard	Major	Visual	100%	100%	-do-	-do-	TC	√	P	V	
 30/7/2020 Asst. QA Engineer (QA HYDRO) वरिष्ठ अभियंता (विद्युत डायनेमिक) गुणवत्ता नियंत्रण विभाग, कोयला		 30/07/2020 H.T.E.		LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER, B:BHEL/ BHEL APPOINTED INSPECTION AGENCY P: PERFORM W: WITNESS AND V: VERIFICATION IR-INSPECTION REPORT QCR-QC REPORT TC-TEST CERTIFICATE RR – REVIEW OF RECORD, COC- CERTIFICATE OF COMPLIANCE					ACCEPTED BY (VENDOR'S QC REPRESENTATIVE)				
PREPARED & REVIEWED BY (BHEL QA & DESIGN)													

		MANUFACTURER'S NAME AND ADDRESS : 		STANDARD MANUFACTURING QUALITY PLAN					PROJECT : PO/ PI NO.:				
												ITEM : SHAFT SEAL- AXIAL TYPE	
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REF. DOC.	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY		REMARKS	
					M	B				M	B		
1.	2.	3.	4.	5.	6.		7.	8.	9.	D*	** 10.	11.	
1.0	Raw Material & Bought- out items												
1.1	Plate Material / Castings	Chemical composition	Major	Chemical	Sample	Sample	Approved drg. of shaft seal assembly		TC	√	P	V	
1.2		Mechanical Properties	Major	Mechanical	Sample	Sample	-do-	-do-	TC	√	P	V	
1.3		Ultrasonic testing	Major	NDT	100%	100%	-do-	-do-	TC	√	P	V	
1.4	Pipe & Fittings	Chemical composition	Major	Chemical	Sample	Sample	-do-	-do-	TC	√	P	V	
1.5		Mechanical Properties	Major	Mechanical	Sample	Sample	-do-	-do-	TC	√	P	V	
1.6		Hydro test or suitable NDT	Major	Test	100%	100%	-do-	-do-	TC	√	P	V	
1.7	Strainer	Hydro test	Major	Test	100%	100%	-do-	-do-	TC	√	P	V	
1.8	Booster Pump	Performance test	Major	Test	100%	100%	-do-	-do-	TC	√	P	V	
1.9	Motor For Pump	Routine tests, HV & IR	Major	Test	100%	100%	-do-	-do-	TC	√	P	V	
1.10	Instruments- Wear indicators, temperature sensor, flow meters , flow switches, pressure transducers / transmitters etc.	Calibration, Functional test (as applicable)	Major	Test	100%	100%	-do-	-do-	TC/CoC	√	P	V	
1.11	Valves- air release, isolating, NRV, PRV etc.	Hydro pressure test & operational test	Major	Test	100%	100%	-do-	-do-	TC/CoC	√	P	V	
1.12	Rubber items	Material properties	Minor	Test	Sample	Sample	-do-	-do-	TC / CoC	√	P	V	
 QA-HYDRO		 H.T.E.		LEGEND: * RECORDS, IDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. ** M: MANUFACTURER/SUB-SUPPLIER, B:BHEL/ BHEL APPOINTED INSPECTION AGENCY P: PERFORM W: WITNESS AND V: VERIFICATION IR-INSPECTION REPORT QCR-QC REPORT TC-TEST CERTIFICATE RR – REVIEW OF RECORD, COC- CERTIFICATE OF COMPLIANCE					ACCEPTED BY (VENDOR'S QC REPRESENTATIVE)				
PREPARED & REVIEWED BY (BHEL QA & DESIGN)													