MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN			TO BE FILLED BY BHEL	
	Main Contractor Approved Sources (As per BHEL PO)	ITEM	**Turbine Oil Coolers (Plate Type Heat Exchangers)**	QP No.:	QA/BE/QP/346/Talcher	Page 1 of 3	Project: Talcher Package: - TG Contract No: 4540-001 Main Contractor: BHARAT HEAVY ELECTRICALS LIMITED Doc No.:- 4540-001-110-QVM-Q-306
				Rev. No.:	00		
		DRG. NO.	BHEL APPROVED DRAWING				
		SPEC NO.:	HE57075				

SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS		AGENCY M	AGENCY B	AGENCY N	REMARKS
1	2	3	4	5	6	7	8	9	D	10			11
1.0	**Incoming Raw Material / BOIs Inspection;**												
1.1	Plates (Frame Plates & Pressure Plates), Lower & Upper Guiding Bar, Support Column	Mechanical Properties	Major	Mechanical	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC	√	P	V	V	Correlated Mill Test Certificates (MTCs) to be Provided for Verification.
		Chemical Properties	Major	Chemical	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC	√	P	V	V	
		Dimensions	Major	Measurement	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	V	V	
		Workmanship and finish	Major	Visual	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	V	V	
		Lamination (applicable for frame and pressure plate only)	Critical	Ultrasonic	100%	TG 60591	ASME SEC VIII DIV 1	Inspection Report	√	P	V	V	Applicable for Plate Thickness More Than 25 mm only.
1.2	Connection Flange with Pipes.	Mechanical Properties	Major	Mechanical	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC	√	P	V	V	Correlated MTCs to be Provided for Verification.
		Chemical Properties	Major	Analysis	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC	√	P	V	V	
		Dimensions	Major	Measurement	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	V	V	
1.3	Heat Transfer Plates	Mechanical Properties	Major	Mechanical	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC or Lab Test Report	√	P	V	V	Correlated MTCs to be Provided for Verification.
		Chemical Properties	Major	Analysis	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC	√	P	V	V	
		Dimensions	Major	Measurement	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	V	V	
1.4	Gaskets	Mechanical Properties	Major	Mechanical	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	COC	√	P	V	V	
		Chemical Properties	Major	Analysis	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	COC	√	P	V	V	

MAIN CONTRACTOR/ MANUFACTURER/	Nishant Kumar Digitally signed by Nishant Kumar Date: 2023.08.03 14:44:44 +05'30'	LEGEND: ! RECORDS IDENTIFIED WITH 'TICK' (√) SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER ADS: BHEL APPROVED DATA SHEET INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	APPROVED BY

MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN			TO BE FILLED BY BHEL	
	Main Contractor Approved Sources (As per BHEL PO)	ITEM	**Turbine Oil Coolers (Plate Type Heat Exchangers)**	QP No.:	QA/BE/QP/346/Talcher	Page 2 of 3	Project: Talcher Package: - TG Contract No: 4540-001 Main Contractor: BHARAT HEAVY ELECTRICALS LIMITED Doc No.:- 4540-001-110-QVM-Q-306
				Rev. No.:	00		
		DRG. NO.	BHEL APPROVED DRAWING				
		SPEC NO.:	HE57075				

SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	D	AGENCY M	AGENCY B	AGENCY N	REMARKS
1	2	3	4	5	6	7	8	9		10			11
		Material, Dimensions, Workmanship and Finish, Contour & Hardness	Major	Visual & Measurement	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	COC	√	P	V	V	
1.5	Tightening bolts and nuts, drain and vent valves	Mechanical Properties	Major	Mechanical	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC or Lab Test Report	√	P	V	V	
		Chemical Properties	Major	Analysis	1 Per Heat / HT Batch	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	MTC	√	P	V	V	
2.0	**In Process Inspection:**												
2.1	Heat Transfer Plates	Plate Pressed in Single Operation	Major	Visual	100%	Vendor's Procedure	Vendor's Procedure	Inspection Report	√	P	V	V	
		Gasket Groove Depth on each Plate	Major	Visual & Measurement	100%	Vendor's Procedure	Vendor's Procedure	Inspection Report	√	P	V	V	Gasket Groove in each Plate Should be able to Support The Gasket from three Sides
		Workmanship and Finish	Major	Visual	100%	-------	No Scratches, Crack, etc	Inspection Report	√	P	W	W	
		Surface Defects and Cracks	Critical	Light Box / Vacuum Chamber Test	100%	Approved Procedure	Approved procedure	Test Report	√	P	W *	W *	BHEL approved Test procedure to be followed (* 10% of total order quantity)
2.2	Welding Procedure Specification (WPS)	Correctness	Major	Process	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Records	√	P	V	V	Approved WPS Shall be used For Welding
2.3	Procedure Qualification Records (PQR)	Suitability	Major	Visual	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Records	√	P	V	V	
2.4	Welder Performance Qualification	Welder Performance Soundness of Welds	Major	Visual / RT & Mechanical	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Records	√	P	V	V	NOTE

MAIN CONTRACTOR/ MANUFACTURER/	Nishant Kumar Digitally signed by Nishant Kumar Date: 2023.08.03 14:45:01 +05'30'	LEGEND: ! RECORDS IDENTIFIED WITH 'TICK' (√) SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER ADS: BHEL APPROVED DATA SHEET INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	APPROVED BY

MANUFACTURER'S NAME AND ADDRESS			STANDARD QUALITY PLAN			TO BE FILLED BY BHEL	
	Main Contractor Approved Sources (As per BHEL PO)	ITEM	**Turbine Oil Coolers (Plate Type Heat Exchangers)**	QP No.:	QA/BE/QP/346/Talcher	Page 3 of 3	Project: Talcher Package: - TG Contract No: 4540-001 Main Contractor: BHARAT HEAVY ELECTRICALS LIMITED Doc No.:- 4540-001-110-QVM-Q-306
				Rev. No.:	00		
		DRG. NO.	BHEL APPROVED DRAWING				
		SPEC NO.:	HE57075				

SL. NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS		AGENCY M	AGENCY B	AGENCY N	REMARKS
1	2	3	4	5	6	7	8	9	D	10			11
2.5	Welding	Welding Joint Soundness	Major	Visual	100%	HE57075/ BHEL Appd drg / ADS	No Defects	Inspection Report	√	P	V	V	
		Fillet Welds	Major	DPT	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Test Report	√	P	W	V	
		Butt Welds	Major	RT	10%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Test Report	√	P	V*	V	*Film Review
2.7	Plate Gaskets	Presence of Gaskets	Major	Visual	100%	Mfg. Spec	Mfg. Spec	Inspection Report	√	P	-	-	
2.8	Plate Arrangement to Flow Diagram	Correctness	Critical	Visual as Per Flow Diagram	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	V	V	
3.0	**Final Inspection:**												
3.1	Complete Assembly	Conformance to GA Drawing.	Major	Measurement	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	W	W	
3.2	Hydraulic test – (Primary & Secondary Side)	Leakage	Major	Hydraulic	100%	HE57075/ BHEL Appd drg / ADS	No Leakage	Test Report	√	P	W	W	
3.3	Painting	Shade & Dry Film Thickness (DFT)	Major	Visual & Measurement	100%	HE57075/ BHEL Appd drg / ADS	HE57075/ BHEL Appd drg / ADS	Inspection Report	√	P	V	V	
4.0	**Identification, Marking & Inspection:**												
4.1		Identification, Marking & Packing	Major	Measurement & Visual	100%	HE57075/ Approved Drawings	HE57075/ Approved Drawings	Internal Records	√	P	V	V	

NOTE: 1 – Welding to be done by qualified welder and approved welding procedures.

MAIN CONTRACTOR/ MANUFACTURER/	Nishant Kumar Digitally signed by Nishant Kumar Date: 2023.08.03 14:45:12 +05'30'	LEGEND: ! RECORDS IDENTIFIED WITH 'TICK' (√) SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER ADS: BHEL APPROVED DATA SHEET INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	APPROVED BY