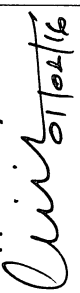


 Ranipet-6		Quality Assurance Department Boiler Auxiliaries Plant BHEL – RANIPET- 632 406		STANDARD QUALITY PLAN FOR CHAIN ITEM / SUBSYSTEM: CHAIN FOR GUILLOTINE GATE (Type W78, W82, W124, W132 & R0622, R04824)				QP:NO:SQP: DAM: 501 REV:NO: 01 DATE: 28/12/2015 Page : 1 of 5		
SLNO	COMPONENT & OPERATION	CHARACTERISTICS	CL	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF REGARDS	AGENCY	REMARKS
1	2	3	4	5	6	7	8	9	M C B 10	11

1.0 RAW MATERIALS										
1.1	a) Connecting Pin / Bearing Pin b) Link Plate / Offset Plate c) Bush d) Roller e) T Pin / Split Pin	Chemical properties	M	Analysis	1 No per lot	As per BHEL approved Drg.	* Mill TC	-	V V	* If mill TC is not available, vendor has to test the sample at Govt / BHEL appvd labs. Chemical and mechanical properties, hardness, case depth are to be checked at NABL approved labs during first time inspection/surveillance audit.
2.0 INPRCOSS INSPECTION										

LEGENDS: M-Manufacturer/Subcontractor, C-Contractor's/ Subcontractor's QC/Authorized Inspection Agency, B- BHEL/Authorized inspection agency P- Perform, W- Witness ,CL-Class (M-Major, C-Critical) V-Verification, TC-Test Certificate, R-Report.		Prepared By: 	QA	Approved By:  Head/QA	
		Reviewed By: 	QA		
		Reviewed By: 	QC (Proc)		

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SLNO	COMPONENT & OPERATION	CHARACTERISTICS	CL	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENTS	ACCEPTANCE NORMS	FORMAT OF REGARDS	AGENCY	REMARKS						
1	2	3	4	5	6	7	8	9	<table border="1"> <tr> <td>M</td> <td>C</td> <td>B</td> </tr> <tr> <td colspan="3">10</td> </tr> </table>	M	C	B	10			11
M	C	B														
10																

2.0	INPRCOSS INSPECTION									
2.1	a) Connecting Pin / Bearing Pin b) Link Plate / Offset Plate c) Bush d) Roller e) T Pin / Split Pin	i) Critical Dimension ii) Hardness after Heat Treatment	M M	Measurement	1% per lot 1% per HT batch/Heat no	-do- -do-	R R	P P	V V	@ Random check by BHEL during final inspection
2.2	Case hardening of bush, bearing pin, connecting pin. (as applicable)	Case depth (as applicable)	C	Destructive test #	1 No per HT batch	As per BHEL approved Drg.	Report	P	V	# Random check by BHEL during final inspection
3.0	FINAL INSPECTION									
3.1	Assembly of chain	a) Critical Dimension b) No of pitches	M	Measurement & count	1% per lot	-do-	R	P	W W	-do-

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	Reviewed By: 			Head/QA		
	Reviewed By: 					

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4.0	TESTING OF CHAIN	a) Pre-load	M	Mechanical	100%	BHEL appd drg. & No physical damage for chain	R	P	W	W\$	\$ 5% checking by BHEL
		b) Measuring load & length	M	Length measurement	100%	BHEL appd drg. & +0.25%-0.00%L. of chain	R	P	W	W\$	
		c) Breaking load	C	Mechanical testing	2 test per P.O.	BHEL appd drg. & Ref. Note below	R	P	W	W	
		d) Articulation	M	Visual	100%	---		P	W	W\$	
Note : 1 The test length of chain for breaking load shall have a minimum of Three free pitches 2 If the in-house load test facility is not available , same has to be done at M/s CMRI Dhanbad or NABL approved labs.											

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	Reviewed By:	QA	
	Reviewed By:	QC (Proc)	

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5.0	PRESERVATION & PACKING	a) Marking	M	Visual	100%	Stamping of vendor symbol/emblem and type of chain No. before heat treatment of off set plate / link plate has to be ensured	-	P	V	V*	* Random witness by BHEL
		b) Oiling	M	Visual	100%	Rust preventive oil servo compound chain Grease	-	P	V	V*	
		c) Packing	M	Visual	100%	Chain shall be packed tightly in separate polythene bags and stacked in a wooden Box. Packing slip should contain P.O.NO,TC.No & Quantity	-	P	V	V*	

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	Reviewed By: <i>Q. S. S. S.</i>		QA	Head/QA
	Reviewed By: <i>P. S. S. S.</i>		QC (Proc)	

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									10		

General Notes:

1. All reports marked as "R" to be submitted for BHEL during final inspection.
2. Length measuring report to be furnished with serial no. Serial No to be put on metal tag and shall be fixed on each length of chain.
3. Additional connecting Pin and 'T' Pin shall be supplied along with packing boxes as per the BHEL appd drg.requirement.

Record of Revisions:

Rev.No	Date	Revision Details
00	02/07/2001	Original Issue.
01	28/12/2015	Based on MOM Dt. 22.09.2014, chain break load test at NABL Approved Labs is added in Note 2 and Feed back from QC(Proc), Remarks added in SI.No. 1.1.

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