




A Maharatna Company

एन टी पी सी लिमिटेड  
(भारत सरकार का उद्यम)  
NTPC Limited  
(A Govt. of India Enterprise)  
(Formerly National Thermal Power Corporation Ltd.)  
(केंद्रीय कार्यालय नोएडा)  
Corporate Center NOIDA

Reference : CC-ENGG-1150-001-201-QVE-B-688

Date : 12/12/2024

<b>From :</b> PUNEET SHARMA SENIOR MANAGER	<b>To :</b> BHEL PEM,NOIDA
<b>Cc :</b>	
<b>Subject :</b> EPC package of Singrauli Stage-III Please find enclosed following drawings/ documents for necessary action at your end.	
<b>Vendor Drg. No. :</b> BP-QP-512-300-003 <b>Orgn. Drg. No. :</b> 1150-001-201-QVE-B-688 <b>Revision No. :</b> 00 <b>Drg. Title :</b> MQP FOR Shunt Reactor <b>App. Category :</b> CAT-I <b>Release Date :</b> 12/12/2024	 Scan to verify
<b>Comments :</b> CAT-I with minor comment. Comments in drawing	



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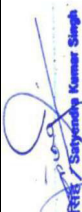

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**ENDORSEMENT SHEET FOR QP  
REFERENCE/ STANDARD/ FIELD QUALITY PLAN (RQP/ SQP/ RFQP/SFQP)**

TO BE FILLED IN BY SUPPLIER AT TIME OF SUBMISSION		To be filled in by NTPC	
BHEL Ref No.: QA/TCB/31/1711 Rev 00			
PROJECT NAME	M/s NTPC – SINGRAULI STPP (2X800 MW STAGE III)	REVIEW & ENDORSEMENT BY NTPC	
CONTRACT NO.	PO. No: CS-1150-001(R)-2-SC-NOA-7407 DATE: 05/03/2024	PROJECT SPECIFIC QP NUMBER ALLOTTED	
MAIN SUPPLIER	M/S BHEL BHOPAL	QP NO.: 1150-001-201-QVE-B-688	
MANUFACTURER WORKS & ADDRESS	M/S BHEL BHOPAL	REV. NO.:00 DATE:	
ITEM/EQUIPMENT/SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/ SIZE/ RATING etc.	125 MVAR, 420KV 3-PH, SHUNT REACTOR BHEL WO: 63259-A-517-01		
APPROVED QP NO.:	0000-999-QVE-P-412 REV. NO.:01 DATE: 04.12.2024		
RQP/SQP/RFQP/SFQP			
Confirmation by Main Supplier (TICK WHICH EVER APPLICABLE)			
i. That the item/ component is identical considered for QP approval .OR.			
ii. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same do not affect the contents of QP. OR.			
iii. That there are minor changes in the item/ component with respect to that considered for QP approval, however the same affect the QP slightly, as indicated below/ in attached sheet.			
<b>NOTE:-</b>	<p>1) END Frame checks/tests against RQP Clause no. 2. 01 shall be as per Annexure -1 enclosed. Manufacturing of End frame shall be done at NTPC approved Fabrication (Transformer Tanks) Vendors.</p> <p>2) Marshelling Box &amp; RTCC Panel (4.02'e): Functional/Continuity checking of WTI, OTI, Buchholz relay, etc. at clause 4.02'e' shall be carried out at vendor works (Clause 1.15) to ensure defect finding and correction at manufacturing stage.</p> <p>3) For CRGO lamination Processors, Inspection shall be as per BHEL bought out QAP.</p> <p>4) Clause 2.01 (p,q) shall be type test and 1st tank of each design shall be offered to NTPC for Witness.</p> <p>5) Vendor list Drg No. QA/TCB/24/1711 Rev00 is attached.</p> <p align="right">SHEET 1 OF 1</p>		
<p><b>As per technical specification Part-B-04 clause no. 1.11.05, QP clause no. 2.01(p,q) are covered under routine test. Therefore, requirement of QP is to be complied</b></p>			
 Sushant Kumar Singh Engineer Quality Assurance-TCB BHEL, BHOPAL	 Abhishek Kumar Sharma Sr. Manager QA & ITR, TCB BHEL, BHOPAL	SIGN. : (Main Supplier)	DATE: 06/12/2024
SIGN. : (Manufacturer)	DATE: 06/12/2024	SIGN. : (Manufacturer)	DATE: 06/12/2024
FORMAT NO.: QS-01-QAI-P-10/ F5-R0		NTPC (Reviewed/ approved by/ Date & Seal	

MANUFACTURER'S NAME & ADDRESS:		REFERENCE QUALITY PLAN				#VALUE# TO BE FILLED IN BY NTPC	
<b>BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL</b> (Transformer Division, Pipani, BHOPAL - 462 022)		OP NO: QA/TCB/31/162		SIGN OF MFR. 		QI NO.: 0000-999-QVE-P-412	
		REV: 01		DATE: 04/12/2024		REVIEWED BY: RAHUL KUDJGRAMA	
ITEM:		SHUNT REACTOR Up to 765 kV CLASS		DATE: 04.12.2024		APPROVED BY: SUDHANSU UJSEKHAR MISHRA / S K LAL	
CHARACTERISTICS		CLASS		REFERENCE DOCUMENT		AGENCY	
3		4		7		M C N	
COMPONENT & OPERATIONS		5		8		10**	
2		6		9		D*	
1.0 RAW MATERIAL & BOUGHT OUT ITEMS:		QUANTUM OF CHECK		ACCEPTANCE NORMS		REMARKS	
1.01 MS Steel Plates & Pipes (Stock Item)		M C/N		TRE 164/ AA 10152		11	
a) Thickness		1 sample / thick / lot		No lamination		In case Tank & accessories are off-loaded to sub-vendor, Raw material TC review shall be done by BHEL for confirmation	
b) Surface defects		100%		BHEL Drawing & AA10108/AA10119		Verification-CHP. Refer Clause:1.00	
c) Chemical composition		1 sample/Heat		BHEL Drawings / ASTM A 240 M		In case Tank & accessories are off-loaded to sub-vendor, Raw material TC review shall be done by BHEL for confirmation	
d) Mechanical Properties		100%		BHEL Drawings & AA10115/BP10147/AA10152		Verification-CHP. Refer Clause:1.00	
e) Hydraulic Test of Pipes		100%		Aprvd drgs & data sh/ BP10987/BP10988/ BP10988/BP10984/AA10905 BP10985/AA10914		Random check testing can be done by BHEL for confirmation	
f) UT Test for lamination check on Tank MS plate of thickness >12mm		100%		Cutting: 15 micron max. Slitting: 20 micron max.		Random check testing can be done by BHEL for confirmation	
1.02 Austenitic Stainless Steel Plates (if used) (Stock Item)		Measure		-do-		As per CEA specification	
a) Thickness		1 sample / thickness / lot		-do-		As per CEA specification	
b) Surface defects		Visual		-do-		As per CEA specification	
c) Chemical composition		1 sample/Heat		-do-		As per CEA specification	
d) Mechanical Properties		1 sample/Heat		-do-		As per CEA specification	
1.03 Radiator - Pipe Material & Cold rolled steel sheet (for radiator fins) (stock material)		Mech. Test		-do-		As per CEA specification	
a) Mechanical Properties		1 sample/Heat		-do-		As per CEA specification	
b) Chemical composition		Chem analysis		-do-		As per CEA specification	
c) Pressure test of pipes/tube		Test		-do-		As per CEA specification	
1.04 CRGO Steel (Stock Item)		Measure		-do-		As per CEA specification	
a) Dimensions & finish		1 sample/lot		-do-		As per CEA specification	
b) Grade of CRGO		Verify		-do-		As per CEA specification	
c) Edge camber		Measure		-do-		As per CEA specification	
d) Specific core loss		Test		-do-		As per CEA specification	
e) Surface resistivity		-do-		-do-		As per CEA specification	
f) Stacking factor		-do-		-do-		As per CEA specification	
g) Permeability at 800A/m		-do-		-do-		As per CEA specification	
h) Bend Test / Ductility		-do-		-do-		As per CEA specification	
i) Aging Property		-do-		-do-		As per CEA specification	
j) Edge Burr Level		-do-		-do-		As per CEA specification	
1.05 Press Board / Insulation & Press Board Moulding (Stock Item)		Measure		-do-		As per CEA specification	
a) Thickness		5pc / lot		-do-		As per CEA specification	
b) Width / Dia & Length		-do-		-do-		As per CEA specification	
c) Density		1pc/lot/type		-do-		As per CEA specification	
d) Compressive Strength		-do-		-do-		As per CEA specification	
e) Elongation		-do-		-do-		As per CEA specification	
f) Tensile strength		-do-		-do-		As per CEA specification	
g) Moisture content		-do-		-do-		As per CEA specification	
h) Sprinkleage in air		-do-		-do-		As per CEA specification	
i) pH value		-do-		-do-		As per CEA specification	
j) Ash content		-do-		-do-		As per CEA specification	

