# BHARAT HEAVY ELECTRICALS LIMITED MATERIALS MANAGEMENT/BOUGHT OUT ITEMS

### **CORRIGENDUM**

Date: 04.08.2025

**TENDER REFERENCE: 1802500267** 

TENDER ID: 2025\_BHEL\_51351\_1

Enquiry for procurement of Gravimetric Feeder for Lara, Singrauli and Sipat Projects

Following Corrigendum is issued

1. NTPC approved RQP (Reference Quality Plan) is applicable. Applicable QP are attached for each project.



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

From: RAMESH CHANDRA SHIAL

**ENGINEER** 

To: BHARAT HEAVY ELECTRICALS LTD

NEW DELHI 110049 IN

Cc: singhjp@bhel.in

Subject: EPC Package

Please find enclosed following drawings/ documents for necessary action at your end.

**Vendor Drg. No.**: HPBP-00-9587-171

Orgn. Drg. No. : 9587-001-102-QVM-Q-042

Revision No. : 00

Drg. Title : MQP for Gravimetric feeder

App. Category : CAT-I

Comments

**Release Date** : 17/04/2024

Reviewed for approval in Cat I.



IO BE FILLED IN BY SUPP	PLIER AT TIME OF SUBMISSION
Project Name	LARA SUPER THERMAL POWER PLANT - STAGE-II (2x800 MW)
Contract No	CS-9587-001R-2-FC-NOA-7332 Dated :29/08/23
	(BHEL Work order no 1834 &1835)
Package Name	EPC PACKAGE -SG
Main Supplier	BHEL
Manufacturer Name	M/S BHEL-TIRUCHIRAPPALLI / NTPC APPROVED
	SUBCONTRACTORS/VENDORS OF BHEL
Project/package Specific Document No.	9587-001-102-QVM-Q-042 Rev-00 (CQP:6702 Rev-00)
Drawing Title	MQP for Gravimetric Feeders
Reference Project Name	PATRATU STPP —PHASE 1 (3X800 MW)-
Reference Contract No	01 /PVUNL-CS-9585-001-2/NOA -SC
Reference Package Name	EPC PACKAGE -SG
Reference Main Supplier	BHEL
Reference Manufacturer	M/S BHEL-TIRUCHIRAPPALLI / NTPC APPROVED
Name	SUBCONTRACTORS/VENDORS OF BHEL
Reference Project/package	9585-001-102-QVM-Q-067 Rev00 (CQP:5980 Rev-00)
Specific document No.	
Reference Drawing Title	Gravimetric Feeders
	omponent is identical to that considered for reference document approval.
	anges in the item/ component with respect to that considered for reference
	the same affect the reference document slightly as indicated below

SIGN: (Main Supplier) Date: 10.04.2024 NTPC (Approved by/Date/Seal)

Md. Fahad, Dy.Manager/QA

CTF

BHEL CUSTODIAN NAME





Reference: null102:486 Date:01-08-18

From: SAMIR KUMAR BHOWMICK To: BHEL

GM(TF)

केन्द्रीय कार्यालय नोएडा Corporate Centre NOIDA

BHEL sirifort New delhi

CC:

SUBJECT: PSTPP, EPC - STEAM GENERATOR

Please find enclosed following drawings/documents for necessary action at your end as indicated

in purpose code.

VENDOR DRG NO: null

NTPC DRG NO: 9585-001-102-QVM-Q-067

**REVISION NO:** 

DRG TITLE: MQP for Gravimetric feeder

APP CATEGORY:

RELEASE DATE: 01-08-18

COMMENTS: Cat-I



अभियांत्रिकी कार्यालय परिसर, प्लाट नं.- ए 8ए, सैक्टर-24, पोस्ट बाक्स नं.- 13, नीएडा (उ प्र) पिन-201 307 टेलिफोन नं.- 0120-2410333, 2410116 फैक्स-0120-2410136, 2410137

पंजीकृत कार्यालय: एनटीपीसी भवन, स्कोप काम्पलेक्स, 7 इन्स्टीट्रयूशनल एरिया, लोधी रोड, नई दिल्ली-110 003

टेलिफोन नं.- 011-24361018 फैक्स-011-24361018, वेबसाइट: www.ntpc.co.in

ENGINEERING OFFICE COMPLEX, Plot No: A-8A, Sector-24, Post Box No: 13, Noida (UP), Pin-201 307 Telephone No: 0120-2410333, 2410116 Fax-0120-2410136, 2410137

Registered Office: NTPC Bhawan, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-110 003 Telephone No: 011-24360100 Fax-011-24361018, Website: www.ntpc.co.in

REFE		RSEMENT SHEET FOR QP o/field quality plan ( <u>rqp</u> /sqp/r	FQP/SFQP)	
TO BE FILLED IN BY SUPPLIER AT TI	ME OF SUBMISSION	BHEL QP No. CQP:5980 Rev. :00 Date: 26-06-2018	एनश्चेपीसी NTPC	To be filled in by NTPC
PROJECT NAME	PATRATU STPP PHASE	E-1 (3X800MW)		ENDORSEMENT BY NTPC PECIFIC QP NUMBER ALLOTTED
CONTRACT NO.:	01/PVUNL-CS-9585-001- BHEL WORK ORDER N			55-001-102-QVM-Q-067
MAIN SUPPLIER	M/S BHEL-TIRUCHIRA	APALLI	REV. NO.:	DATE:
MANUFACTURER WORKS & ADDRESS	M/S BHEL-TIRUCHIRA SUBCONTRACTORS O	APALLI /NPTC APPROVED F BHEL	REV. NO	DATE.
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/SIZE/RATING etc.		P:1488 REV. 01 DATED 18/06/2014)		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	0000-999-QVM-P259	REV. NO.: 03 DATE: 19/10/2015	(TICK APPLICA	ARIF)
Confirmation by Main Supplier (TICK WHICHE  I. That the item/ component is identical to that co	VER APPLICABLE)	)P 1/		endorsed for this project without any
II. That there are minor changes in the item/ conaffect the contents of OP. OR	nponent with respect to that mponent with respect to that	considered for QP approval, however the same do not considered for QP approval, however the same affect		ndorsed for this project with changes as
		Signatur	A) RQP/SQ I. MAIN SUP. 2. MANUFAC 3. RIO 4. CQA-SPL 5. CQA-O/C Pigitall S	PLIER (WITH A COPY OF QP)
J.V.V.Aruna Rumar, SDGM/ QA SIGN.: (Main Supplier) DATE: 26-06/20 FORMAT NO.: QS-01-QAI-P-10/ F5-R0	K.Nagarajan, SQAE 816N.: (Manufacturer	) DATE: 26-06/2018	6. CQA-O/C  NTPC (Revi	ewed /Approved by/ Date & Seal) ENGG. DIV./ QA&I

	MANUFACTURER'S NAME AND ADDRESS:		REF	ERENC	E QUAL	ITY P	LAN	Φ.	7	H BUTPC			то в	E FIL	LED IN BY NTPC
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1.0	MATERIAL #	# Materials shall be	as per	Drawing.									
1.1	PLATES: IS 2062 Gr A & B, IS 1079, ASTM A36, SA 240 TP 304	Chemical and Mechanical Properties.	A	T.C. Verification	100%	@	As per material Specification.	TC	F	,	V	V	@ Verification for SS &Alloy steel only
1.2	CASTINGS: ASTM A216 WCB IS305Gr AB1, ASTM A48 Cl. 30A, 35A & Cast AL 319	Chemical (#) and Mechanical Properties	A	T.C. Verification	100%		-do-	TC	F		V	V	(#) No chemical Analysis for cast iron/ SG iron.
1.3	Tubes & Pipes SA 213 TP 304, SA 106 Gr. B & C, SA 210 Gr.A1	Chemical and Mechanical Properties	A	T.C. Verification	100%	@	As per Material Specification.	тс	F	,	V	V	5
1.4	FORGINGS: SA105 AISI-C-1020	Chemical & Mechanical Properties	A	T.C. Verification	100%	@	As per Material Specification.	TC	F	,	V	V	
		Soundness (UT) *	A	T.C. Verification	100% *	@	ASTM A388/ ASME Sec VIII Div. 2, Clause 3.3.4	TC	F	,	V	V	* For dia. > 50mm

<u>LEGEND:</u> \* **RECORDS**, INDENTIFIED WITH "TICK" ( $\sqrt{\ }$ ) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. **CLASS**: A- CRITICAL B – MAJOR C- MINOR

\*\* M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE. CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

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1.5	Rounds SA 193 B7 ASTM A27& A47	Chemical & Mechanical properties	A	T.C Verification@	100%	@	As per Material Specification	R	P	V	V	@ Verification for SS &Alloy steel only
		Soundness (UT*)	Α					TC	P	v	v	* For Dia. > 50mm
1.6	Sub-Deliveries			_			e e			11		
1.6.1	Feeder Belts, Bulls eye lens	Compliance to purchase order	A	Review of Documents	100%	100%	BHEL Purchase Specification (CAT-III Item) \$	CC	P	V	V	
1.6.2	Gear box Assembly including motor, Feeder Main & Clean-out Conveyor Drives.	Run test, Type & Routine test for motors	A	Review of Documents	100%	100%	BHEL Purchase Specification. (CAT-III Item) & IS :325 \$	TC	P	V	v	\$ Procured with TC from BHEL approved sources.
1.6.3	Remote and local Cabinets,	Overall Dimensions Functional Test H.V. Test	С	Review of Documents	100%	100%	NTPC approved QP & CHP Clearance reports.	TC	P	V	V	
1.6.4	Feeder Electronics such as Load cell etc.	Compliance to P.O	С	Review of Documents	100%	100%	BHEL purchase specification (Cat-III Item)	CC	P	V	V	

**LEGEND:** \* **RECORDS**, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. **CLASS**: A- CRITICAL B – MAJOR C- MINOR

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2.0	INPROCESS					727	ar.					
2.1	Cold rolling: Body Shell	Length & Diameter	В	Measurement	100%	100%	As per Drawing	R	P	V	V	9 5
2.2	Welding	Procedure & Personnel Qualification	В	Review of Documents	100%	100%	AWS D 1.1	WPS & List	P	V	V	
2.3	Weld joints	Weld size	C	Visual	100%		Note 1	-	P	P	-	
		Weld quality		LPI/MPI	10%	10%	BHE: NDT: PB: PT01/13 BHE: NDT: PB: MT01/11	R	P	P	v	Welds in the casing / pulley fabrication shall be checked with MPI
2.4	Machining	Overall dimensions. Orientation and Finish	В	Measurement	100%	100%	As per relevant Drawings	R	P	P	V	
2.5	Feeder body	Strength	A	Hydro test * (Explosion proof test)	#	#	Test pr. At 50 PSI as per Drawing (Type test):	R	P	W	V	# Type test already Performed for 24" & 36" Feeders. Hence, review of test report clearance from NTPC Engineering.
2.6	Weigh span roller, Head Pulley & Take up pulley	Dimensions	С	Measurement	100%	100%	As per Drawing	OPS	P	P	V	4

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1.	2.	3.	4.	5.		6.	7.	8		9.	D*		** 10		11.
2.7	CALL SERVICE SERVICE IN THE SERVICE SERVICES	Feeder housing leakage	A	Air test	100%	100%	As per drawing			R		P	P	W	
2.8	Feeder & Cabinet Final & Electrical test	Functional & Calibration	Α	Visual & Measurements	s 100%	\$	As per drawing VQP	& appro	ved	R		P	P	W	\$ Random Two numbers per boiler
2.9	Feeder performance	Weighing accuracy	A	Type test	#	#	QA:CI:STD:PF	R:11/ Rev	.02	R		P	P	V	# Type test already performed for 24" & 36" Feeders. Hence review of test report clearance from NTPC Engg
3.0	FINAL			196			-								
3.1	completion	Orientation, Completeness, Overall dimensions & All accessories intact in its position	В	Measurement Verification	s 100%	100%	As per drawing approved QP	& the	м	R	9	P	P	W	
3.2	,	Paint Finish Coat thickness Identification	С	Visual Measuremen Visual	100% Random 100%		As per specific scheme* & D			R		P	V	-	*Approved by NTPC Engg.
3.3	Data folder	QP Compliance Project	В	Compliance of records	100%		TC s for SS & NTPC CHPs cl			R		P	V		,

<u>LEGEND:</u> \* RECORDS, INDENTIFIED WITH "TICK" ( $\sqrt{\ }$ ) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. CLASS: A- CRITICAL B − MAJOR C- MINOR

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SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK		NTUM HECK C/N	REFERENCE DOCUMENT#	ACCEP <sup>1</sup> NOR		(	RMAT OF CORD	М	AGENC	Y I N	REMARKS
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### **NOTE 1: VISUAL INSPECTION**

- a) Visual inspection of welds shall be performed after completion of all welding and subsequent cooling to room temperature.
- b) All welds shall be cleaned to remove the slag, spatter etc. and visually examined for defects like crack, undercut, porosity lack of fusion etc.
- c) The welds shall be examined as below for size, shape and Reinforcement.

Nature of defects	Accepted norms	Disposition
i) Crack, Lack of fusion & overlap	Not accepted	To be repaired & retested by LPI/MPI
ii) Crater	Not accepted.	Fill up by weld deposit.

iii) Undercut	up to 0.8 accepted	Eill and awind amouth
	>0.8 mm not accepted	Fill and grind smooth
iv) Porosity for	One pore of Dia. <=2.4	·
butt / fillet welds	mm in every 100mm	
	length is permitted.	e
	However, pore Dia. >2.4	
, and the second	mm is not permitted	To be repaired
v) WELD CONTOU	R	
Face of fillet	Flat or concave accepted.	9
	Convexity up to $< 0.1S + 1$	1.5mm
	is acceptable, where S is the	•
	fillet size	ψ.
Size (Minimum)	As per drawing.	
	Under size up to 1.6mm for	a
	cumulative length of 10% of	of
	total length permitted	
Reinforcement:	Maximum 3mm up to 19m	m;
	Maximum 5mm above 19m	ım
C		м — — — — — — — — — — — — — — — — — — —

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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-1150-001-102-QVM-Q-042 Date: 30/07/2024

From: Anirudh Sood To: BHEL PEM,NOIDA

SENIOR MANAGER

Cc:

Subject: EPC package of Singrauli Stage-III

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No.: CQP6745

Orgn. Drg. No. : 1150-001-102-QVM-Q-042

Revision No. : 00

Drg. Title : MQP for Gravimetric Feeders

App. Category : CAT-I

Release Date : 30/07/2024

Scan to verfiv

Comments : Approved as endorsed

1150-001-102-QVM-Q-042/00/CAT-I/Page: 1 of 8

TO BE FILLED IN BY SUPP	LIER AT TIME OF SUBMISSION
Project Name	Singrauli Thermal Power Plant - 2x800 MW (Stage III)
Contract No	CS-1150-001(R)-2-FC-NOA-7407 Dated :05/03/24
Package Name	(BHEL Work order no 1840 &1841) EPC PACKAGE -SG
Main Supplier	BHEL
Manufacturer Name	M/S BHEL-TIRUCHIRAPPALLI / NTPC APPROVED SUBCONTRACTORS/VENDORS OF BHEI
Project/package Specific Document No.	1150-001-102-QVM-Q-042 (CQP:6745 Rev-00)
Drawing Title	MQP for Gravimetric Feeders
Reference Project Name	PATRATU STPP —PHASE 1 (3X800 MW)-
Reference Contract No	01 /PVUNL-CS-9585-001-2/NOA -SC
Reference Package Name	EPC PACKAGE -SG
Reference Main Supplier	BHEL
Reference Manufacturer	M/S BHEL-TIRUCHIRAPPALLI / NTPC APPROVED
Name	SUBCONTRACTORS/VENDORS OF BHEL
Reference Project/package Specific document No.	9585-001-102-QVM-Q-067 Rev00 (CQP:5980 Rev-00)
Reference Drawing Title	Gravimetric Feeders
✓ Cortified that the item/s	omponent is identical to that considered for reference document approval.
	anges in the item/ component with respect to that considered for reference the same affect the reference document slightly as indicated below
·	R CHANGES , CHECK BOX TO BE MARKED AS ABOVE)

SIGN: (Main Supplier) Date: 16.07.2024 NTPC (Approved by/Date/Seal)

Md. Fahad, Dy.Manager/QA

CTF

BHEL CUSTODIAN NAME





केन्द्रीय कार्यालय नोएडा Corporate Centre NOIDA

Reference: null102:486 Date:01-08-18

From: SAMIR KUMAR BHOWMICK To: BHEL

GM(TF) BHEL sirifort New delhi

CC:

SUBJECT: PSTPP, EPC - STEAM GENERATOR

Please find enclosed following drawings/documents for necessary action at your end as indicated

in purpose code.

VENDOR DRG NO: null

NTPC DRG NO: 9585-001-102-QVM-Q-067

REVISION NO: 00

DRG TITLE: MQP for Gravimetric feeder

APP CATEGORY: I

RELEASE DATE: 01-08-18

COMMENTS: Cat-I



अभियांत्रिकी कार्यालय परिसर, प्लाट नं.- ए 8ए, सैक्टर-24, पोस्ट बाक्स नं.- 13, नीएडा (उ प्र) पिन—201 307 टेलिफोन नं.- 0120-2410333, 2410116 फैक्स-0120-2410136, 2410137

पंजीकृत कार्यालय: एनटीपीसी भवन, स्कोप काम्पलेक्स, 7 इन्स्टीट्यूशनल एरिया, लोधी रोड, नई दिल्ली-110 003

टेलिफोन नं.- 011-24361018 फैंक्स-011-24361018, वेबसाइट: www.ntpc.co.in

ENGINEERING OFFICE COMPLEX, Plot No: A-8A, Sector-24, Post Box No: 13, Noida (UP), Pin-201 307 Telephone No: 0120-2410333, 2410116 Fax-0120-2410136, 2410137

Registered Office: NTPC Bhawan, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi-110 003 Telephone No: 011-24360100 Fax-011-24361018, Website: www.ntpc.co.in

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

REFE	ERENCE / STANDARD	/ FIELD QUAI	LITY PLAN ( <u>RQP</u> / SQP.	(KFQF/SFQF)	
TO BE FILLED IN BY SUPPLIER AT T	TIME OF SUBMISSION	BHEL QP No CQP:5980 R	ev. :00 Date: 26-06-2018	एनश्चेपीसी NTPC	To be filled in by NTPC
PROJECT NAME	PATRATU STPP PHASE	E-1 (3X800MW)			NDORSEMENT BY NTPC
CONTRACT NO.:	01/PVUNL-CS-9585-001- BHEL WORK ORDER N	2/NOA-SC	30		PECIFIC QP NUMBER ALLOTTED 5-001-102-QVM-Q-067
MAIN SUPPLIER	M/S BHEL-TIRUCHIRA	APALLI		REV. NO.:	DATE:
MANUFACTURER WORKS & ADDRESS	M/S BHEL-TIRUCHIRA SUBCONTRACTORS O		PPROVED	REV. NO	DATE.
ITEM /EQUIPMENT / SYSTEM/ SUB-SYSTEM DETAILS i.e. MODEL TYPE/SIZE/RATING etc.	GRAVIMETRIC FEEDE (BHEL REF. QP NO. CQ		ATED 18/06/2014)		
APPROVED QP NO.: RQP/SQP/RFQP/SFQP	0000-999-QVM-P259	REV. NO.: 03	DATE: 19/10/2015		
Confirmation by Main Supplier (TICK WHICH)				(TICK APPLICA	
I. That the item/ component is identical to that c	considered for QP approval. C	OR. √			endorsed for this project without any
II. That there are minor changes in the item/coaffect the contents of QP. OR III. That there are minor changes in the item/coaffethe QP slightly, as indicated below/ in attache	component with respect to that				dorsed for this project with changes as
				A) RQP/SQI	PLIER (WITH A COPY OF QP)
			Signat	ure Nigitallyesi	
			John Jan	PO I I I O I I I I I I I I I I I I I I I	BIOBIO(with a copy of QP) DIRER (with a copy of QP)
			24	OA-SPL	ion (with a copy of QP)
J.V.V.Aruna Kumar,SDGM/QA SIGN.: (Main Supplier)  DATE: 26-06/2	K.Nagarajan, SQAE SIGN.: (Manufacturer	)	DATE: 26-06/2018	6. CQA-O/C	ewed /Approved by/ Date & Seal)

	MANUFACTURER'S NAME AND ADDRESS:		REF	ERENC	E QUAL	ITY P	LAN	2	7	HE TPC			то в	E FILI	LED IN BY NTPC
HHE	BHEL: TIRUCHIRAPPALLI/ APPROVED SUB-	ITEM /EQUIPMENT GRAVIMETRIC FI		S.	QP NO.: CQ REV. NO.: 0		SIGN. OF MF		QP No.:					VIEWEI	V . C. 3
5	CONTRACTORS/ VENDORS	SUB-SYSTEM : SG			DATE: 18/0 Page 1 of		P. P.	** a >	Page '		8.10%	2018	T	Mpes	Mary Control of the second of
SL. NO	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	F OF C	NTUM HECK C/N	REFERENCE DOCUMENT#	ACCEPT NOR		(	RMAT OF ORD	М	AGENC	Y	REMARKST
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1.0	MATERIAL #	# Materials shall be	as per	Drawing.									
1.1	PLATES: IS 2062 Gr A & B, IS 1079, ASTM A36, SA 240 TP 304	Chemical and Mechanical Properties.	A	T.C. Verification	100%	@	As per material Specification.	TC	F	,	V	V	@ Verification for SS &Alloy steel only
1.2	CASTINGS: ASTM A216 WCB IS305Gr AB1, ASTM A48 Cl. 30A, 35A & Cast AL 319	Chemical (#) and Mechanical Properties	A	T.C. Verification	100%		-do-	TC	F		V	V	(#) No chemical Analysis for cast iron/ SG iron.
1.3	Tubes & Pipes SA 213 TP 304, SA 106 Gr. B & C, SA 210 Gr.A1	Chemical and Mechanical Properties	A	T.C. Verification	100%	@	As per Material Specification.	тс	F	,	V	V	5
1.4	FORGINGS: SA105 AISI-C-1020	Chemical & Mechanical Properties	A	T.C. Verification	100%	@	As per Material Specification.	TC	F	,	V	V	
		Soundness (UT) *	A	T.C. Verification	100% *	@	ASTM A388/ ASME Sec VIII Div. 2, Clause 3.3.4	TC	F	,	V	V	* For dia. > 50mm

<u>LEGEND:</u> \* **RECORDS**, INDENTIFIED WITH "TICK" ( $\sqrt{\ }$ ) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. **CLASS**: A- CRITICAL B – MAJOR C- MINOR

\*\* M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE. CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS "W"

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HIJE	APPROVED SUB- CONTRACTORS/ VENDORS	GRAVIMETRIC FI	EEDER	.S	REV. NO.: (	53.5	Q.Qe	0	Rev.:			0201	5	R	THE STATE OF
		SUB-SYSTEM: SG			Page 2 of		(R-RAMAS)		VALID	- CANADAM 18 34		2018	7	V.	A CALLAND
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1.5	Rounds SA 193 B7 ASTM A27& A47	Chemical & Mechanical properties	A	T.C Verification@	100%	@	As per Material Specification	R	P	V	v	@ Verification for SS &Alloy steel only
		Soundness (UT*)	Α				s <sup>2</sup>	TC	P	v	v	* For Dia. > 50mm
1.6	Sub-Deliveries						67					
1.6.1	Feeder Belts, Bulls eye lens	Compliance to purchase order	Α	Review of Documents	100%	100%	BHEL Purchase Specification (CAT-III Item) \$	CC	P	v	V	
1.6.2	Gear box Assembly including motor, Feeder Main & Clean-out Conveyor Drives.	Run test, Type & Routine test for motors	A	Review of Documents	100%	100%	BHEL Purchase Specification. (CAT-III Item) & IS:325\$	TC	P	V	v	\$ Procured with TC from BHEL approved sources.
1.6.3	Remote and local Cabinets,	Overall Dimensions Functional Test H.V. Test	С	Review of Documents	100%	100%	NTPC approved QP & CHP Clearance reports.	TC	P	v	v	
1.6.4	Feeder Electronics such as Load cell etc.	Compliance to P.O	С	Review of Documents	100%	100%	BHEL purchase specification (Cat-III Item)	CC	P	V	v	

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2.0	INPROCESS					727	ar.					
2.1	Cold rolling: Body Shell	Length & Diameter	В	Measurement	100%	100%	As per Drawing	R	P	V	V	g 2.
2.2	Welding	Procedure & Personnel Qualification	В	Review of Documents	100%	100%	AWS D 1.1	WPS & List	P	V	V	-
2.3	Weld joints	Weld size	C	Visual	100%		Note 1	-	P	P	-	1
		Weld quality		LPI/MPI	10%	10%	BHE: NDT: PB: PT01/13 BHE: NDT: PB: MT01/11	R	P	P	V	Welds in the casing / pulley fabrication shall be checked with MPI
2.4	Machining	Overall dimensions. Orientation and Finish	В	Measurement	100%	100%	As per relevant Drawings	R	P	P	V	
2.5	Feeder body	Strength	A	Hydro test * (Explosion proof test)	#	#	Test pr. At 50 PSI as per Drawing (Type test):	R	P	W	V	# Type test already Performed for 24" & 36" Feeders. Hence, review of test report clearance from NTPC Engineering.
2.6	Weigh span roller, Head Pulley & Take up pulley	Dimensions	С	Measurement	100%	100%	As per Drawing	OPS	P	P	V	4

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जा एवं इ.ए. स्ट्राइट	BHEL : TIRUCHIRAPPALL	GRAVIMETRIC	FEED	ERS	QP NO.: CQ REV. NO.: 0 DATE: 18/0 Page 4 of 9	1 6/2014	SIGN. OF MF	S 11 Pag	9-	: 0000-9 3 Date 4 of 5				YIEWE Time I	DBY: APPROVED BY SITE OF A PROVED BY SITE OF A
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1.	2.	3.	4.	5.		6.	7.	8.		9.	D*		** 10		11.
2.7	Feeder leak test	Feeder housing leakage	A	Air test	100%	100%	As per drawing	8		R		P	P	W	
2.8	Feeder & Cabinet Final & Electrical test	Functional & Calibration	Α	Visual & Measurement	s 100%	\$	As per drawing VQP	& approv	ved	R		P	P	W	\$ Random Two numbers per boiler
2.9	Feeder performance	Weighing accuracy	A	Type test	#	#	QA:CI:STD:PF	R:11/ Rev	.02	R		P	P	V	# Type test already performed for 24" & 36" Feeders. Hence review of test report clearance from NTPC Engg
3.0	FINAL			196			-						10		
3.1	Verification of completion	Orientation, Completeness, Overall dimensions & All accessories intact in its position	В	Measurement Verification	s 100%	100%	As per drawing approved QP	& the	м	R	3	P	P	W	
3.2	Painting, & Preservation	Paint Finish Coat thickness Identification	С	Visual Measuremen Visual	100% Random 100%		As per specific scheme* & D			R		P	V		*Approved by NTPC Engg.
3.3	Data folder	QP Compliance Project	В	Compliance of records	100%		TC s for SS & NTPC CHPs cl			R		P	v		,

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### **NOTE 1: VISUAL INSPECTION**

- a) Visual inspection of welds shall be performed after completion of all welding and subsequent cooling to room temperature.
- b) All welds shall be cleaned to remove the slag, spatter etc. and visually examined for defects like crack, undercut, porosity lack of fusion etc.
- c) The welds shall be examined as below for size, shape and Reinforcement.

Nature of defects	Accepted norms	Disposition
i) Crack, Lack of fusion & overlap	Not accepted	To be repaired & retested by LPI/MPI
ii) Crater	Not accepted.	Fill up by weld deposit.

iii) Undercut	up to 0.8 accepted	
	>0.8 mm not accepted	Fill and grind smooth
iv) Porosity for	One pore of Dia. <=2.4	
butt / fillet welds	mm in every 100mm	
	length is permitted.	8
	However, pore Dia. >2.4	
	mm is not permitted	To be repaired
v) WELD CONTOUR	t .	
Face of fillet	Flat or conceve accepted	a
race of fillet	Flat or concave accepted. Convexity up to $< 0.1S + 1$	5mm
	is acceptable, where S is the	
	fillet size	
Size (Minimum)		
Size (Minimum)	As per drawing.	560
	Under size up to 1.6mm for	
	cumulative length of 10% o	of
	total length permitted	
Reinforcement:	Maximum 3mm up to 19mm	n;
	Maximum 5mm above 19mr	m

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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-8003-001-102-QVM-Q-004A Date: 24/02/2025

From: Vikas Khare To: BHARAT HEAVY ELECTRICALS LTD

NEW DELHI 110049 IN

Cc: pmgvijay@bhel.in

ksbura@bhel.in

Subject: EPC Package, Sipat-Stage-III

ADDL. GENERAL MANAGER

Please find enclosed following drawings/ documents for necessary action at your end.

Vendor Drg. No.: CQP6745

Orgn. Drg. No. : 8003-001-102-QVM-Q-004A

Revision No. : 00

Drg. Title : MQP for Gravimetric Feeders

App. Category : CAT-I

Comments

**Release Date** : 24/02/2025

CAT-I with minor comments



IER AT TIME OF SUBMISSION
Sipat Super Thermal Power Project, Stage III (1X800 MW)
CS-8003-001-2-FC-NOA-7491 Dated :20/09/24
(BHEL Work order no 1856)
EPC PACKAGE -SG
BHEL
M/S BHEL-TIRUCHIRAPPALLI / NTPC APPROVED SUBCONTRACTORS/VENDORS OF BHE
8003-001-102-QVM-Q -004A (CQP:6848 Rev-00)
CQP for Gravimetric Feeders
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BHEL
M/S BHEL-TIRUCHIRAPPALLI / NTPC APPROVED SUBCONTRACTORS/ <del>VENDORS OF BHE</del> L
0000-999-QVM-P-259, Rev-04 (CQP:1488 Rev-02)
RQP for Gravimetric Feeders
mponent is identical to that considered for reference document approval.
nges in the item/ component with respect to that considered for reference
the same affect the reference document slightly as indicated below
İ

SIGN: (Main Supplier) Date: 15.02.2025 NTPC (Approved by/Date/Seal)

Md. Fahad, Dy.Manager/QA

CTF

BHEL CUSTODIAN NAME

	MANUFACTURER'S NAME		REF	ERENC	E QUAL	ITY P	LAN		7	सर्ववस NTPC			то в	E FILL	ED IN	BY NTPC
की एवं ई ए	AND ADDDECC	ITEM /EQUIPMENT GRAVIMETRIC FEE			QP NO.: CQ REV. NO.: C	)2	SIGN. OF MF		QP No. Rev.: 0	4 Date				A RAO Digitally at RAO RAO Liste Date: 2025 ALA	signed by SBINIVASA BKAYALA 5.01.28 11:43:05	APPROVED BY: HEMA  Opening sparts by element 7-Profice. Serv.  NT
	CONTRACTORS/VENDORS	SUB-SYSTEM: SG			DATE: <b>20.0</b> <sup>o</sup>		MD FAHAD		VALID (				RAJEEV JAIN	KUMAR		PAWGI  The cost of the space of
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1.0	MATERIAL #	# Materials shall be a In case of outsourcing, register shall be mainta shall be carried out on	all the	raw materials for	fabrication s orks for rece	shall be suript of raw	pplied by BHEL. The sub-contractor s material. Hard stamping / stenciling/	shall ensi engravin	ure trace g (as ap	eability plicab	y of ratele) of t	w materia	al grades at their works. A ial specification and grade
1.1	PLATES	Chemical and Mechanical Properties. UT**	A	T.C. Verification	100%	100%	As per material Specification.  ASTM A 578 /Level B	TC	1	P	V	V@	@ TC verification for AS & SS only **For t >40 mm
1.2	CASTINGS	Chemical (#) and Mechanical Properties	A	T.C. Verification	100%	100%	-do-	TC		P	V	V@	(#) No chemical Analysis for cast iron/ SG iron.
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		Soundness (UT) *	A	T.C. Verification	100% *	100%	ASTM A388/ ASME Sec VIII Div. 2, Clause 3.3.4	TC		P	V	V	* For dia. > 50 mm

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C: MAIN SUPPLIER, N: NTPC P: PERFORM W: WITNESS AND V: CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'

Note:# NTPC Inspection Engineer to check, approval date/ revision no. of reference documents at the time of Inspection

VERIFICATION. AS APPROPRIATE.

FORMAT NO.:QS-01-QAI-P-09/F1-R1

\*\* M: MANUFACTURER/SUB-SUPPLIER

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B) JE	AND ADDRESS BHEL: TIRUCHIRAPPALLI/	ITEM /EQUIPMENT GRAVIMETRIC FEE			REV	NO.: CQI . NO.: 0:	2	SIGN. OF MF		QP No. Rev.: 0					ALA Digitally (ALA Digitally 405'30'		APPROVED BY:  Digitally signed by HEMANT PAWGI OFFENDAL, OFFENDAL, OFFENDAL,
	APPROVED SUB – CONTRACTORS/VENDORS	SUB-SYSTEM: SG				E: 20.01 e 2 of 6	.2025	MD FAHAD	13	Page :				RAJEEV KU	MAR JAIN		NT serial Number 10/28/974 (cd. 8) 68/68-4/28/58/48/67/07/97/97/97/97/97/97/97/97/97/97/97/97/97
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BHE	AND ADDRESS BHEL: TIRUCHIRAPPALLI/	ITEM /EQUIPMENT GRAVIMETRIC FEI		,		NO.: <b>CQP: 1488</b> V. NO.: <b>02</b>	SIGN. OF MF		QP No. Rev.: 0					A RAO Digitally SRINIVAS ALA LA POSTO	20.000	APPROVED BY: HEMA Digitally signed by HEMANT PAWGI Dit: con-HEMANT PAWGI, collin Dit: Con-HEMANT PAWGI, collin Dit: Con-Hemant Pawging Paradesh, 1, 1
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2.0	INPROCESS											
2.1	Cold rolling: Body Shell	Length & Diameter	В	Measurement	100%	100%	As per Drawing	R	P	V	V	
2.2	Welding	WPS, Procedure & Personnel Qualification	В	Review of Documents	100%	100%	AWS D 1.1/ASME SEC IX	WPS & List	P	V	V	
2.3	Weld joints	Weld size	C	Visual	100%		Note 2	-	P	P	-	y .
		Weld quality		LPI/MPI	10%	10%	BHE: NDT: PB: PT01 BHE: NDT: PB: MT01	R	P	P	v	Welds in the casing / pulley fabrication shall be checked with MPI
2.4	Machining	Overall dimensions. Orientation and Finish	В	Measurement	100%	100%	As per relevant Drawings	R	P	P	V	Consider with the
2.5	Feeder body	Strength	A	Hydro test (Explosion proof test)	# one /type and size	# one /type and size	Test pr. At 50 PSI as per Drawing (Type test):	R	P	W	V	# If Type test has already been performed for the same type and size of Feeders, clearance from NTPC

 LEGEND: \* RECORDS, INDENTIFIED WITH "TICK" (√) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. CLASS: A- CRITICAL B – MAJOR C- MINOR R-RECORD TC- TEST CERTIFICATE COC – CERTIFICATE OF CONFORMANCE
 Note:# NTPC Inspection Engineer to check, approval date/revision no. of reference documents at the time of Inspection

 \*\* M: MANUFACTURER/SUB-SUPPLIER C: MAIN SUPPLIER, N: NTPC P: PERFORM W: WITNESS AND V: VERIFICATION. AS APPROPRIATE.
 CHP: NTPC SHALL IDENTIFY IN COLUMN "N" AS 'W'

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2.6	Weigh span roller, Head Pulley & Take up pulley	Dimensions	С	Measurement	100%	100%	As per Drawing	R	P	P	V	engineering will be provided based on review of type test report. Else, type test shall be performed and witnessed by NTPC
2.7	Feeder leak test	Feeder housing leakage	A	Air test	100%	100%	As per drawing	R	P	P	W	
2.8	Feeder & Cabinet Final & Electrical test	Functional & Calibration	A	Visual & Measurements	100%	\$	As per drawing & approved separate quality plan	СНР	P	P	-	
2.9	Feeder performance	Weighing accuracy & Repeatability	A	Type test	#One/ type and size	#One/ type and size	QA:CI:STD:PR:11, QA:CI:STD:PR:19, Drawings	R	P	P	V#	# If Type test has already been performed for the same type and size of Feeders, clearance from NTPC engineering will be provided based on review of type test report. Else, type test

**LEGEND:** \* **RECORDS**, INDENTIFIED WITH "TICK" ( $\sqrt{\ }$ ) SHALL BE ESSENTIALLY INCLUDED BY SUPPLIER IN QA DOCUMENTATION. **CLASS**: A- CRITICAL B − MAJOR C- MINOR R-RECORD TC- TEST CERTIFICATE COC − CERTIFICATE OF CONFORMANCE

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3.0	FINAL														shall be performed and witnessed by NTPC
3.1	Verification of completion  Painting, & Preservation	Final Assembly, Orientation, Completeness, Overall dimensions & All accessories intact in its position Paint Finish	В	Measurements Verification	100%	100%	As per drawing approved QP  As per specific			R	1	P	P	w 	*Approved by NTPC
3.3	Data folder	Coat thickness Identification  QP Compliance Project	В	Measurement Visual Compliance of records			scheme* & D  TCs for SS & A  NTPC CHPs c	rawing AS Mater		R		P	v		Engg.

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	CONTRACTORS/VENDORS	SUB-SYSTEM : SG			Page 6 of 6		MD FAHAD		VALID	A			RAJEEV KU	JMAR JAIN		PAWGI 8bb4/27996/bb8/34/Tail, pseudoryn-0300/56/bcb-13-5e pseudoryn-0300/56/bcb-13-5e pseudoryn-0300/56/bcb-13-5e pseudoryn-0300/56/bcb-13-5e pseudoryn-0300/56/bcb-13-5e pseudoryn-0300/56/bcb-13-5e pseudoryn-0300/56/bcb-13-5e
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Note 1: For all NDT and other BHEL procedures referred in this RQP, the latest versions are applicable.

#### **NOTE 2: VISUAL INSPECTION**

- a) Visual inspection of welds shall be performed after completion of all welding and subsequent cooling to room temperature.
- b) All welds shall be cleaned to remove the slag, spatter etc. and visually examined for defects like crack, undercut, porosity lack of fusion etc.
- c) The welds shall be examined as below for size, shape and Reinforcement.

Nature of defects	Accepted norms	Disposition
i) Crack, Lack of fusion & overlap	Not accepted	To be repaired & retested by LPI/MPI
ii) Crater iii) Undercut, porosity, undersize and weld reinforcement	Not accepted. AWS D1.1	To be repaired

## iv) WELD CONTOUR

Face of fillet

Flat or concave accepted.

Convexity up to < 0.1S + 1.5mm

is acceptable where S is the

fillet size

Size (Minimum)

As per drawing.

Reinforcement

As per AWS D 1.1

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VERIFICATION. AS APPROPRIATE. FORMAT NO.:QS-01-QAI-P-09/F1-R1