

Buyer Specific Special Terms and conditions

Item Name: NRV with Aluminium Flap,
Projects: 2X800 MW Mahan TPP, Bandhaura
Scope of Enquiry

E-bids on GeM portal are invited from bidders for the supply of NRV with AI Flap 1 SET (2-NOS) for **Mahan TPP, Bandhaura Project** as per requirement mentioned below:

Sl. No.	Material Code & Item Description	Total Quantity (set)	Lot	Date for Supply Completion
<u>1</u>	W90313137684, NRV with Aluminium Flap, NB 200 2X800 MW Mahan TPP, Bandhaura	2-SET (1 SET = 2 Nos)	Lot-1 Lot-2	20.03.2025 20.07.2025

Consignee:

Mahan Energen Limited. 2x800 MW (Phase-II) Thermal Power Project
Village: Bandhaura, Karsulal, Tehsil: Waidhan
District. Singrauli, Pin-486886, Madhya Pradesh

Sl. No.	Terms	Description	Your confirmation
1.	Confirmation to compliance of General terms and conditions on GeM 4.0 (Version 1.12)	General terms and conditions on GeM 4.0 (Version 1.12) or subsequent rules/policies issued by GeM shall be applicable. Please confirm.	
2.	Evaluation criteria	Evaluation will be done on the basis of total landed cost to BHEL, with cost involved for delivery up to BHEL Mahan TPP, Bandhaura Project site (considering material cost, taxes & duties, Freight etc.).	
3.	Price basis & Evaluation Currency	Prices should be quoted on F.O.R. Destination up to Mahan TPP, Bandhaura Project basis i.e. including freight, packing & forwarding charges, GST etc. Please mention here the applicable GST rate included in the price quoted by you. The evaluation currency for this tender shall be INR.	
		Applicable GST etc. should be indicated separately and clearly in the quotation, else it will be considered that the offer is inclusive of same.	
		Transit insurance would be arranged by BHEL. Please send your offer keeping this in view.	
4.	Pre-Qualification Requirements (PQR)	The Pre-Qualification Requirements have been compiled and placed at ANNEXURE-2. All the bidders should ensure submission of complete details and documents as called for in these requirements. The Offers submitted by the bidders would be scrutinized with respect to Pre-Qualification Requirements first. Techno-Commercial offer of only those bidders shall be evaluated who meet the Pre-Qualification Requirements.	
5.	Engineering Document/ Document approval	Drawings/Data sheets/Documents/ Quality Plan etc, as called for in the specifications shall be submitted for approval to BHEL for BHEL/customer approval within 30 days of purchase order. Any delay in delivery on account of late submission of drawings shall be to vendors account. BHEL will arrange the approval of the drawings/data sheets/ documents within 30 days of their receipt provided those are complete in all respect. Delays in approval shall be dealt on merit basis.	
6.	Payment terms	Payments shall be made to the Seller within 90 days of issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills. For Micro/ small & Medium (covered under MSME Act), payment will be made within 45 days & 60 days respectively after on-line submission of bills and issue of consignee receipt-cum-acceptance certificate (CRAC).	

7.	Manufacturing Period	Kindly quote your minimum delivery period in no. of weeks/months from the date of issue manufacturing clearance.	
8.	Manufacturing clearance from BHEL	Lot wise/unit wise manufacturing shall be start only after lot wise/unit wise manufacturing clearance from BHEL. Please confirm.	
9.	Liquidated Damages	Liquidated Damages (LD) for Late Deliveries shall be applicable @ 0.5% per week or part thereof on the value of respective delayed supplies subject to a maximum of 10% of the value of respective delayed supplies. Value of delayed supplies will mean the gross value to the vendor (Before LD) against such supplies excluding taxes and duties.	
		The date of GR/ LR would be treated as the date of delivery for penalty purposes	
		In case of any deviation to the above penalty clause, BHEL reserves the right to load the offers to the extent to which it is not agreed by vendors (at offered value).	
10.	MDCC clause	Please note that, material shall be dispatched only after issue of Material dispatch clearance certificate (MDCC) end customer. For issue of MDCC, vendors are required to submit all test certificates (TC) and inspection report of third party (IR) to BHEL. After review & acceptance of the quality document, BHEL will forward the same to end customer for issuance of MDCC. Material shall be dispatched within 7 days from the the date of issuance of MDCC.	
11.	Packing Instructions	1. Vendor to ensure proper and sturdy packing suitable for handling during transportation up to site in healthy condition. 2. Vendor to submit packing list (box-wise) for BHEL review before dispatch.	
12.	Quality Requirements & Inspection	1. Please confirm acceptance for QAP No. QA/BI/QP/117 Rev 00 and submit endorsed copy of this QAP along with offer. 2. Please confirm that inspection shall be by BHEL Nominated inspection agency (Intertek) as per BHEL approved quality plan. 3. Please note that BHEL will pay directly to BHEL's nominated TPI. 4. Inspection call shall be raised by the vendor at least 07 days in advance of readiness of material. If inspection is not attended by the inspection agency within 07 days of inspection call, delivery shall be re-scheduled accordingly.	
13.	Other Information	8 Digit HSN code may please be mentioned in Your offer.	
14.	Guarantee	Guarantee/ Warranty Period: 24 months from the date of commissioning or 36 months from dispatch, whichever is earlier. Guarantee certificate is to be provided along with shipping / dispatch documents. Please confirm.	
15.	Technical Requirements	Material specification as per Spec ST 47034 & ST47025 rev 02 & its ADDENDUM only.	
		Required quantity is defined as set (ST) and one ST is equal to 2 Nos. of NRV with Aluminium Flap.	
		Kindly confirm that quoted offer by you have been complied all technical requirements as given in tender documents and submit all documents to BHEL as per tender specifications and drawings without any deviations.	
16.	Arbitration:	SETTLEMENT OF DISPUTES/ARBITRATION: In all cases of dispute the mater shall be referred for ARBITRATION by sole arbitrator to be appointed by the Unit Head of Bharat Heavy Electricals Ltd., at HARIDWAR. The award of the Arbitrator shall be final and binding on both the parties. The place of Arbitration shall be Haridwar . JURISDICTION: The courts of Haridwar, India, shall have exclusive jurisdiction.	
17.	Risk Purchase:	In case of abnormal delays (beyond the maximum late delivery period as per Penalty clause) in supplies /defective supplies or non-fulfillment of any other terms and conditions given in Purchase Order, BHEL may cancel the Purchase Order in full or part thereof, and may also make the purchase of such material from elsewhere /alternative source at the risk and cost of the supplier. BHEL will take all reasonable steps to get the material from alternate source at optimum cost. If bidder does not agree to the above Risk Purchase Clause, BHEL reserves the right to reject the offer. In case for compelling reasons BHEL accepts the offer without acceptance of this clause by the bidder and in the eventuality of Risk Purchase,	

		appropriate action will be taken as per BHEL extant rules. This will be without prejudice to any other right of BHEL under the contract.	
18.	Additional Conditions for Assessment	1. BHEL reserves the right to consider / Not-consider the offers based on the evaluation of documents submitted for the Pre-Qualification Criteria (PQR). 2. BHEL also reserves the right to have on-site assessment of the facilities at supplier's works during the bid evaluation.	
19.	Offer Validity	Please confirm offer validity for 120 days from the date of Part-1 opening.	
20	Firm prices	Price will remain firm and fixed during entire execution of tender/supply.	
21.	BID to RA	As per GeM NIT.	
22.	Bidder Contact details	Contact details of your representative: Mobile no. & Email id (minimum 2 person) 1. 2.	

Note: Please fill your confirmation in all relative boxes or mention deviation accordingly. Blank field may be understood as confirmed by bidder.

**BHARAT HEAVY ELECTRICALS LIMITED, HARIDWAR**

STE-TL ENGINEERING DEPARTMENT

**PRE-QUALIFICATION REQUIREMENT
NRV WITH ALUMINIUM FLAP**DOCUMENT NO.
TL/NRV/PQR/20200002
Rev:00 Dt:13.11.2021**Description:**

These valves are single plate (Material-aluminium) type valve and are installed in horizontal run of pipe after each vapour exhauster to prevent the backward flow of air+steam mixture in case of vapour exhauster is under maintenance.

Mandatory requirement for Pre-Qualification:

1. The vendor should have successfully designed, manufactured, tested & supplied of NRV with aluminum flap valves. Vendor should have supplied one (1) no. in at least one power or process plants in last seven (7) years from the date of issuance of enquiry with following technical details mentioned in table-1.

Table-1

Valve Type	Single Plate Check/NRV Valve
Valve Size Range	NB200 & above
Body Type	Wafer
Valve Rating	CL150 & above as per ASME B16.34 or equivalent
Valve Body Material	Cast Steel-A216Gr.B or higher grade
Flow Medium	Air+Steam Mixture

2. The vendor should furnish the following documents in line with criteria given in above **sl.no.1**.
 - a. Executed unpriced Purchase order (P.O.) should not be older than seven (7) years from the date of issuance of enquiry.
 - b. Dispatch document w.r.t above executed P. O. i.e. Approved valve GA drawing & data sheet, Delivery challan, Tax invoice, Inspection report & Lorry way bill for our review.
 - c. Those who have supplied above mentioned valve to BHEL-HARIDWAR to furnish only P.O. ref. for our review.

Note: -

1. BHEL reserves the right to verify the information submitted by vendor. Submission of false/incorrect information shall lead to rejection of offer.
2. BHEL reserves the right to ask for more pertinent information /documents / clarifications. Vendor shall provide this information to BHEL in a timely manner so that project schedule doesn't hamper.
3. All the documents furnished to BHEL shall be in Hindi/English language only. If the documents are not in Hindi/English, then they must be accompanied with duly certified Hindi/English translations of the same.

Prepared By	Checked By	Approved By
SUNIL KR. SHARMA Dy. Engineer/TL <i>Sunil Sharma</i> 13.11.21	ANIL KUMAR Sr. Engineer/TL <i>Anil kumar</i> 18/11/21	S.K SONKAR Sr. Manager/TL <i>Sankar</i> 18/11/2021

QUALITY PLAN

BHEL	QP NO.	QA_BI_QP_117	REV.	00	DESCRIPTION			LEGENDS				
	SPEC. NO.	AS PER PO	REV.	AS PER PO	NRV WITH ALUMINIUM FLAP			P- PERFORMED BY		1- BHEL REP		
	DRG. NO.	APPROVED DRAWING AS PER PO	REV.	AS PER PO				W- WITNESSED BY		2- VENDOR		
							V- VERIFIED BY		3- SUBVENDOR			
SL. NO	COMPONENT OPERATION	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS
									P	W	V	

1	MATERIAL											
1.1	BODY, DISC	CHEMICAL COMPOSITION MECHANICAL PROPERTIES	MAJOR	CHEMICAL MECHANICAL	1 / HEAT	ORDERING SPEC. / BHEL APPD. DRG.	ORDERING SPEC. / BHEL APPD. DRG.	MILL TC	3/2	-	2/1	
		SURFACE DEFECTS	MAJOR	VISUAL	100%	MSS-SP-55	MSS-SP-55	TC	2	-	1	
		DIMENSIONS	MAJOR	MEASUREMENT	100%	BHEL APPD. DRG.	BHEL APPD. DRG.	TC	2	-	1	
2. IN PROCESS INSPECTION												
2.1	MACHINING OF BODY, DISC	DIMENSIONS	MAJOR	MEASUREMENT	100%	BHEL APPD. DRG.	BHEL APPD. DRG.	IR	2	-	-	
		SURFACE DEFECTS	MAJOR	DPT	100%	ASTM E165 ASME B16.34	ASME B16.34	TC	2	-	1	
2.2	HARD FACING ON DISC & SEAT	HARDNESS	MAJOR	HARDNESS	10%	BHEL APPD. DRG.			2	-	1	IF CALLED IN DRAWING
3 FINAL INSPECTION												
3.1	ASSEMBLY OF VALVE	DIMENSIONS	MAJOR	MEASUREMENT	100%	BHEL APPD. DRG.	BHEL APPD. DRG.	TC	2	1		
3.2	FUNCTIONAL TEST	SMOOTH OPERATION OPENING & CLOSING	MAJOR	OPERATION	100%	SMOOTH OPERATION OF VALVE		TC	2	1*		* 10% (MIN. 2 NO.)
3.3	HYDRAULIC TEST	LEAKAGE	CRITICAL	HYDRAULIC	100%	ORDERING SPEC. / BHEL APPD. DRG	NO LEAKAGE	TC	2	1*	-	* 10% (MIN. 2 NO.)

MANUFACTURER/ SUBCONTRACTOR	LEGEND:	FOR CUSTOMER USE
	! RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	

QUALITY PLAN										Page 2 of 2		
BHEL	QP NO.	QA_BI_QP_117	REV.	00	DESCRIPTION				LEGENDS			
	SPEC. NO.	AS PER PO	REV.	AS PER PO	NRV WITH ALUMINIUM FLAP				P- PERFORMED BY		1- BHEL REP	
	DRG. NO.	APPROVED DRAWING AS PER PO	REV.	AS PER PO					W- WITNESSED BY		2- VENDOR	
									V- VERIFIED BY		3- SUBVENDOR	
SL. NO	COMPONENT OPERATION	CHARACTERISTICS	CLASSIFICATION	TYPE OF CHECK	QUANTUM	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORDS	AGENCY			REMARKS
									P	W	V	
3.4	SEAT LEAK TEST	LEAKAGE	CRITICAL	HYDRAULIC	100%	ORDERING SPEC. / BHEL APPD. DRG	NO LEAKAGE	TC	2	1*	-	* 10% (MIN. 2 NO.)
3.7	PRESERVATION & PAINTING		MAJOR	VISUAL	100%	BHEL SPEC		IR	2	-	-	

		LEGEND: ! RECORDS IDENTIFIED WITH 'TICK' SHALL BE ESSENTIALLY INCLUDED BY CONTRACTOR IN QA DOCUMENTATION. M: MANUFACTURER / SUBCONTRACTOR B: BHEL / NOM. INSPECTION AGENCY N: CUSTOMER INDICATE 'P' PERFORM 'W' WITNESS AND 'V' VERIFICATION ALL 'W' INDICATED IN COLUMN 'N' SHALL BE 'CHP' OF CUSTOMER	FOR CUSTOMER USE	
MANUFACTURER/ SUBCONTRACTOR				APPROVED BY



PRODUCT STANDARD
STEAM TURBINE ENGINEERING

ST 47034

PAGE 1 OF 3

Own Experience

SIGN & DATE

SUPERSEDES
INVENTORY No.

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**TECHNICAL SPECIFICATION OF NON-RETURN VALVES
FOR LUBE OIL AND FIRE RESISTANT FLUID VAPOUR
EXHAUST LINE.**

1.0 SCOPE

This specification covers design, manufacturing assembly, testing and supply of Non-return valves as per sketch 1.0 to be installed in turbine lube oil and FRF vapour exhaust line with identification number as tabulated below:

SL. NO.	Identification Number.	Size No	Flow medium	Working Para-meters	End conn-ection
1	MAV82AA001	125	Sorvo -prime 46 of 10C	Pressure 2 kg/cm ² abs. Temp. 70°C	To be fitted between flanges as per DIN 2633
2	MAV82AA002	125			
3	MAX82AA002	80	Fire resis- tant Fluid (Phosp- oric ester)		
4	MAX82AA003	80			

2.0 FUNCTION

These valves are to be installed on main oil tank and FRF tank after each vapour exhausters to prevent back flow of vapours in case one vapour exhauster is under maintenance.

SIGN & DATE	AGREED:	NAME	SIGN. & DATE
15/5/04		DRAWN	
	TSX	B.M.BANSAL	24.5.84
	QAX	H.CUPADHYA	9.3.84
	DEPT	NAME	SIGN. & DATE
		WORKED	A. K. JAIN
		CHECKED	K.C. SACHAN
		SUPERVISED	S.S. KULKARNI
		Approved:	ST
		ENG. DEV. MANAGER	8.20
		Prepared	Issue'd
		STE	STE (TL)
			HARDWAR
			Date
			26.3.84

REVISION : 02	Distribution	Qty.
Name	Sign	Date
S.K. Gupta	[Signature]	12.2.08
Reaffirmed Feb, 2008		



PRODUCT STANDARD
STEAM TURBINE ENGINEERING

ST 47034

PAGE 2 OF 3

SIGN & DATE

SIGN & DATE

SIGN & DATE

INVENTORY No. P-5515

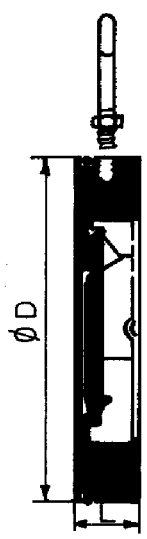
INVENTORY No. 15/10/04

INVENTORY No.

SUPERSEDES INVENTORY No.

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- 3.0 **RATING** : Nominal pressure rating = 16 kg/cm²
- 4.0 **MATERIAL** *flap of Aluminium* ^{other}
Body of Carbonsteel, Material of ^{other}internals to be selected by supplier and to be informed to purchaser for their comments, if any. Also refer clause 4.0 of ST 47025.
All gaskets shall be of VITON.
- 2.0 **END CONNECTIONS**
Valves are to be fitted between flanges as per DIN 2633.
- 6.0 **SPECIAL FEATURE:**
Maximum permissible pressure drop across the valve at sl.Nos. 1 & 2 with 0.11 m³/sec flow of air shall be 60 mmwc and across the valve at sl.Nos. 3 & 4 with 0.02 m³/sec flow of air shall be 20 mmwc.
- 7.0 For completion of this specification, read this specification alongwith general purchase specification of valves ST 47025.



SKETCH-1

NOM. DIA.	DIM. IN MM		WT. APPX. IN KG.
MM.	L	D	K.G.
80	24	134	1.80
100	27	154	2.50

Revision: 02



PRODUCT STANDARD
STEAM TURBINE ENGINEERING

ST 47034
PAGE 3 OF 3

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Am...

SIGN & DATE

INVENTORY No. P-5515

- 8.0 In continuation to clause 15.0 of Specification ST 47025, the min. test requirement envisaged by BHEL are as follows:-
- 8.1 Testing of Materials: The material of components of valve such as body & disc shall be tested as per relevant specification for its chemical composition and mechanical properties. For remaining components compliance certificate shall be furnished.
- 8.2 DPT on seat.
- 8.3 Functional test. *smooth movement of the flap.* 6

REVISION: 02

ADDENDUM TO ST47025**APPLICATION : STEAM TURBINE****Date : 16.11.2011****ITEM : GENERAL SPECIFICATION OF VALVES****Rev : 01****ADDITIONAL SPECIFICATION :**

- a) Pressure retaining parts of valves shall be subjected to NDT as per Table-I.
- b) Bar stock / forging above 50mm diameter for valve trim shall be subjected to UT.
- c) Hardened / stellitted valve disc and seat are to be subjected to LPI and hardness check.
- d) Colour matching of valve disc / plug and seat shall be carried out to ensure contact.
- e) Hydraulic pressure test and seat leak test shall be carried out as per ANSI 16.34.
- f) Air seat leak test shall be carried out as per applicable standards / codes.
- g) Functional testing shall be carried out on each valve to check the following as per the approved valve data sheet :
 - (i) Smooth operation
 - (ii) Valve travel, closing and opening time
 - (iii) Current drawn by actuators
- h) Springs for safety valves shall be tested with suitable NDT and for spring rate.
- i) Safety and safety relief valves shall be tested for performance.

TABLE-I

Valve Size NB in mm	ANSI Class UPTO 300	ANSI Class ABOVE 300 UPTO 600	ANSI Class ABOVE 600 BELOW 900	ANSI Class 900 & ABOVE & BELOW 4500
Less than 50	Visual	Visual	Visual	MPI
50 & above but below 100	Visual	Visual	MPI	MPI & RT (on 10% of valves on 100% area)
100 & above but less than 300	Visual	MPI	MPI & RT (on 10% of valves on change of section & weld ends)	MPI & RT (on 100% area)
300 & above	MPI	MPI	MPI & RT (on change of section & weld ends)	MPI & RT (on 100% area)

NOTE : 1. For body and bonnet forgings UT with MPI may be adopted in place of RT.

2. For austenitic steel MPI may be replaced by LPI.

3. Outer surface of valve shall be painted as per following painting scheme

Painting Scheme

Paint (Coat)	Paint Type	No. of coat	DFT*
Primer Paint	: Epoxy base Zinc rich primer paint	1 Coat	35
Intermediate Paint	: Epoxy TiO ₂ Pigmented Polyamide Cured Paint	1 Coat	70
Finish (Final) Paint	: Aliphatic Acrylic 2 Pack Polyurethane Finish paint	2 Coats	75
Total DFT			180

DFT – Dry Film Thickness (final) in microns.

- Shade as per RAL – Grey 9002
- Identification Tag/Band of white 9010 color. Legend in Black letters.

This supersedes clause 8 (i) of ST47025.

4. Valve made of stainless steel shall not be painted.

5. Valve body material for the following temperature parameter shall be as follows :-

- Upto 400°C - Carbon steel
- 401°C - 495°C - Alloy steel (15Mo3 or equivalent)
- 496°C - 550°C - Alloy steel (10CrMo910 or equivalent)
- Above 550°C - Alloy steel (X10CrMoVNb9-1 or equivalent)

6. Each type of Angle Drain valve (MAL valves) and Temperature control valve offered should have a minimum of two years of operational experience in similar application at the time of offer submission.


(S.K.Gupta)

QAX, BHEL, HARDWAR

PED, BHEL, HARDWAR

APPLICATION : STEAM TURBINE
ITEM : NRV WITH ALUMINIUM FLAP
DOC. NO. : 41313795992
MATERIAL CODE : W90313137684

REVISION-01

SCOPE:

NRV WITH ALUMINIUM FLAP DN200, PN16 TAG NO. MAW80AA031 & MAW80AA036.

FLOW THROUGH THE VALVE - $0.7\text{m}^3/\text{sec.}$

MEDIUM - HOT AIR/WATER VAPOUR

PRESSURE - $1.1\text{kg}/\text{cm}^2$

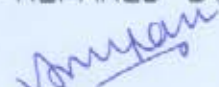
TEMPERATURE - 100°C

PD ALLOWED - 100 mmwc

GENERAL REQUIREMENTS - ST47025/ST47034

NOTE: ABOVE SCOPE REPLACES THE SCOPE GIVEN IN TABLE AT
CLAUSE NO. 1 OF ST47034.

PREPARED BY


(ANUPAM)

PED, BHEL, HARDWAR

APPROVED BY


(S.K.GUPTA)

PED, BHEL, HARDWAR