

Ref No. 77/24/6096/SEE/CORRIGENDA/02

Date: 29/04/2025

**CORRIGENDA / ADDENDUM-02**

**SUBJECT: TENDER ENQUIRY FOR FRAMEWORK AGREEMENT (RATE CONTRACT) OF AIR TRAPS.**

**OUR Ref. TENDER ENQUIRY NO.: 77/24/6096/SEE, dtd. 07/04/2025**

DUE DATE
09/05/2025
BY 12 PM

All Suppliers to note the following:

The last date of submission of offer against tender for Framework Agreement (Rate Contract) of **AIR TRAPS** invited vide Enquiry No. 77/24/6096/SEE, dtd. 07/04/2025 is **09/05/2025, 12 PM**. Part I Bid opening will be done on **09/05/2025, 4 PM**.

**Also technical details added to NIT.**

Additional Technical Details to NIT are included along with the corrigendum.

All the other terms and conditions of the tender enquiry shall remain unchanged. All the bidders are requested to quote accordingly.

All Suppliers are requested to visit the websites <https://eprocurebhel.co.in/nicgep/app>, [www.bhel.com](http://www.bhel.com) (Tender Notifications Section). All future corrigenda/ amendment and due date extension, if any, for this tender shall be hosted only on above websites.

Thanking You,

**With Regards,**

**For & on behalf of BHEL**

**SEEMA KHATRI**

**Sr. Mgr./CMM**

Please reply to:

**Seema Khatri, Sr. Manager/CMM**

BHEL Sadan, Power Project Engineering Institute Building  
Plot No. 25, Sector -16 A,  
Noida-201301 (U.P.)  
Mobile No. 9818216691



**BHARAT HEAVY ELECTRICALS LIMITED**  
PS - PROJECT ENGINEERING MGMT.

**PROJECT PURCHASE INDENT**

INDENT NO	: PEM-20/016	INDENT DATE :	03-MAR-25
PROJECT	: RATE CONTRACT FOR BHEL/PEM		
JOB NUMBER	: 20	DEPARTMENT :	MECHANICAL PIPING LAYOUT
PACKAGE CODE :	100-080	PACKAGE DESC :	AIR TRAPS

**BILL OF QUANTITY**

SL NO	ITEM CODE	ITEM DESCRIPTION	UOM	UNIT QTY	OTHER UNIT QTY	RISK & COST QTY	TOTAL QTY
1	100-0800000-00-B	AIR TRAPS-MS	SET	8	0	0	8
2	100-0800080-00-A	BF-EXT Y STRAINER-25NB (CS)-1000Kg/Hr	NOS	985	0	0	985
3	100-0800082-00-A	Y STRAINER-25NB (CS)-1000Kg/Hr	NOS	985	0	0	985

PARTICULARS	INDENTOR	REVIEWER	APPROVER
ACTION TAKEN	Indented	Reviewed	Approved
NAME	ROHIT CHAWLA	PRINCE MALIK	BIMAL KUMAR AGARWAL
	03-03-2025 10:07:48	25-03-2025 12:37:43	25-03-2025 14:22:17
DESIGNATION	Sr Manager	Dy GM	Addl GM

# **FRAMEWORK AGREEMENT**

## **TECHNICAL SPECIFICATION FOR AIR TRAP**

**SPECIFICATION No. PE-TS-020-555-M011  
ISSUE NO. 01  
REV NO. 00**



**BHARAT HEAVY ELECTRICALS LIMITED  
POWER SECTOR  
PROJECT ENGINEERING MANAGEMENT  
NOIDA, INDIA**



TECHNICAL SPECIFICATION  
AIR TRAP  
FRAMEWORK AGREEMENT

PE-TS-020-555-M011


Issue No: 01


Rev. No. 00

Date: 27.02.2025

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	<b>TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT</b>	PE-TS-020-555-M011
		Issue No: 01
		Rev. No. 00
		Date: 27.02.2024
<b>PROJECT INFORMATION</b>		
<b>SL.NO</b>	<b>DESCRIPTION</b>	<b>DETAILS</b>
1	<b>CUSTOMER</b>	DETAILS SHALL BE INFORMED DURING PROJECT SPECIFIC PO PLACEMENT
2	<b>CUSTOMER'S CONSULTANT</b>	
3	<b>LOCATION</b>	
3.1	COORDINATES	
3.2	NEAREST RAILWAY STATION	
3.3	NEAREST SEA PORT	
3.4	NEAREST AIRPORT	
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4	<b>METEOROLOGICAL DATA</b>	
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4.4	AVERAGE ANNUAL RAINFALL	
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5.2	RATED FREQUENCY	
5.3	FREQUENCY VARIATION	
5.4	AC VOLTAGE	
5.5	AC VOLTAGE VARIATION	
5.6	DC VOLTAGE	
5.7	DC VOLTAGE VARIATION	
5.8	FAULT LEVEL (KA/SEC)	

	<b>TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT</b>	PE-TS-020-555-M011
		Issue No: 01
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		Date: 27.02.2024


### SCOPE

#### SCOPE OF THIS PACKAGE COVERS THE FOLLOWING:


SL.NO	PARAMETERS	REQUIREMENT
1	Supply Including Design, Engineering, Manufacturing of	YES
a)	Main Supply	YES
b)	Commissioning Spares	NO
2	Galvanization	YES
3	Inspection & Testing	YES
4	Packing	YES
5	Transportation & Delivery To Site	YES
6	Erection & Commissioning	NO
7	Supervision of Erection & Commissioning	NO
8	Mandatory Spares	YES
9	Performance Guarantee (PG) Test	NO
10	O & M Service	NO
11	O & M Spares	NO

	<b>TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT</b>	PE-TS-020-555-M011
		Issue No: 01
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	<b>GENERAL TECHNICAL REQUIREMENT</b>
1	Bidder shall ensure that the offered traps & strainers shall comply with all applicable statutory and regulatory requirements.
2	In the event of any conflict between the requirements of two clauses of this specification, documents or requirements of different codes and standards specified, the more stringent requirement as per the interpretation of the BHEL shall apply.
3	Drawing/document submission shall be through web based Document Management System(DMS) of BHEL. Bidder would be provided access to the DMS for drawing/document submission. Bidder to ensure internet connectivity of min speed of 2Mbps at their end.
4	Drawings/ documents submitted by supplier at any stage shall be complete in all respects. Any incomplete drawing submitted shall be treated as non- submission with delays attributable to supplier.
5	Latest codes and standards shall be applicable as on date of techno-commercial bid opening.
6	All traps shall be suitable for removal of water from compressed air piping and shall be suitable for the service conditions i.e. flow, temperature and pressure under which they are required to operate. Those performing similar duties shall be interchangeable with each other unless otherwise specified.
7	The strainer shall have a screwed blow-off connection with a removable plug.
8	Straining area of strainer shall be kept as minimum four times of the pipe cross-
9	The traps should be suitable for horizontal/vertical mounting with internals easily
10	Arrow showing inlet should be cast on the body of traps and strainers.
11	The trap cover shall be such that it can be removed without breaking the inlet or
12	On line cleaning of the strainer element shall also be possible.
13	Seat diameter for Inverted Bucket trap shall be selected based on the required maximum condensate flow rate & working pressure.

	<b>TECHNICAL SPECIFICATION</b> <b>BALL FLOAT AIR TRAP WITH 'Y' TYPE STRAINER</b> <b>FRAMEWORK AGREEMENT</b>	PE-TS-020-555-M011
		Issue No: 01
		Rev. No. 00
		Date: 27.02.2024
<b>TECHNICAL DATA</b>		
<b>A. GENERAL INFORMATION</b>		
1	Type of Traps	Air Trap
2	Service Description	Instrument air & Service air
3	Codes and Standards	Supplier's own proven design
4	End Connection	Select any one: Screwed Female thread as per IS 554.
<b>B1. TECHNICAL PARAMETERS / DESIGN FEATURES (BALL FLOAT AIR TRAP (WITHOUT STRAINER) COMPLETE ASSLY.)</b>		
5	Body and Cover	Cast carbon steel as per ASTM A216 Gr. WCB (Hot dip Galvanized).
6	Valve , Valve sheet	AISI 420 (Hardned to minimum 40 RC) Differential hardness shall be maintained between seats .
7	Float Unit assembly, Valve seat, Gasket, Pivot frame , Support frame & Pivot pin.	AISI 304
<b>B2. TECHNICAL PARAMETERS / DESIGN FEATURES (EXTERNAL 'Y' TYPE STRAINER COMPLETE ASSLY)</b>		
8	Body & Cap	Cast carbon steel as per ASTM A216 Gr. WCB (Hot dip Galvanized)
9	Screen	SS to AISI 304 - 40 mesh
10	Gasket	Non - Asbestos type




	TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT	PE-TS-020-555-M011
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## QUALITY PLAN

	MANUFACTURER/BIDDER/SUPPLIER NAME & ADDRESS		QUALITY PLAN						SPEC. NO.: PE-TS-020-555-M011		DATE: 27.02.2025			
			CUSTOMER:						QP NO.: PE-QP-020-100-M011		DATE: 27.02.2025			
			PROJECT: FRAMEWORK AGREEMENT						PO NO.:		DATE: 27.02.2025			
			ITEM: AIR TRAPS (BALL FLOAT) & Y-TYPE STRAINER			SYSTEM: SERVICE AIR/ INSTRUMENT AIR			SECTION: II		PAGE 1 OF 2			
SL NO.	COMPONENT & OPERATIONS	CHARACTERIST- ICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK		REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD		AGENCY		REMARKS	
1	2	3	4	5	6		7	8	9	D	10			11
					M	B/C					M	B	C	

1.0 RAW MATERIAL INSPECTION														
1.1	Body, Cap/Cover <u>Applicable for Traps only:</u> Float Unit Assembly, Valve Seat, Pivot Frame, Support Frame, Pivot Pin, Gasket, Fasteners	Mechanical Properties & Chemical Composition	MA	Mech., Chemical Tests	One / Heat	---	Appd. Drg./ Material Std.	Appd. Drg./ Material Std.	MTC	√	V	V	-	Body & Cover should carry Heat Marks for co-relation with Mill Test Certificates
		Casting Defects	MA	Visual	100%	---	MSS-SP-55	MSS-SP-55	IR	√	P	V	-	
1.2	Screen (Strainer)	Chemical Properties	MA	Chemical Test	One / Sheet	---	Appd. Drg./ Rel. Std.	Appd. Drg./ Rel. Std.	TC	√	P	V	-	
		Mesh Size / Perforation Dia.	MA	Measurement		---	Appd. Drg.	Appd. Drg.	IR	√	P	V	-	
2.0 IN-PROCESS INSPECTION														
2.1	All Components (After Machining)	Dimensions	MA	Measurement	100%	---	Mfg. Drg.	Mfg. Drg.	Log Book	-	P	V	-	
		Surface Defects	MA	Visual	100%	---	-	Free from Defects	Log Book	-	P	V	-	
2.2	Valve, Valve Seat of Traps	Surface Defects	CR	LPT	100%	---	ASTM E165	No Defects	IR	√	P	V	-	
		Hardness	MA	Testing	100%	---	Appd. Drg./ Rel. Std.	Appd. Drg./ Rel. Std.	TC	√	P	V	-	
		Ball Impress	MA	By Air	100%	---	Seat Surface Shall Have Metal to Metal Contact			IR	√	P	V	-
3.0 TESTING														
3.1	Cover	Alignment	MA	Visual	100%	---	Manufacturer's Std.	Proper Fitting	Log Book	-	P	V	-	
3.2	Valve & Valve Seat of Traps	Leak Tightness	CR	Pneumatic/ Hydraulic	100%	---	Appd. Drg.	Appd. Drg.	TR	√	P	V	-	
3.3	Body Cover Shell Test	Leak Tightness of Body (Trap, Strainer)	CR	Hydraulic	100%	---	Appd. Drg./ Data Sheet	No Leakage	TR	√	P	V	-	Test to be Conducted Before Galvanization for CCS Material.
3.4	Hot Dip Galvanization of Body and Cover (Applicable for CCS Material Only)	Surface Preparation, Thickness of Galvanization & Uniformity	MA	Visual & Measurement	100%	Refer Note '1'	IS:2629	IS:2629 #	IR	√	P	W	-	#: Minimum Thickness of Galvanization shall Be 50 Microns

BIDDER/SUPPLIER		BHEL						FOR CUSTOMER REVIEW & APPROVAL				
Sign & Date		ENGINEERING			QUALITY			Doc No:				
Seal		Sign & Date	Name		Sign & Date	Name	Sign & Date		Name	Seal		
Checked by:	Rohit Chawla	Rohit Chawla	Checked by:	Gaurav Garg	Gaurav Garg	Reviewed by:						
Reviewed by:	Prince Malik	Prince Malik	Reviewed by:	Anju Arora	Anju Arora	Approved by:						

	MANUFACTURER/BIDDER/SUPPLIER NAME & ADDRESS		QUALITY PLAN					SPEC. NO.: PE-TS-020-555-M011		DATE: 27.02.2025				
			CUSTOMER:					QP NO.: PE-QP-020-100-M011		DATE: 27.02.2025				
			PROJECT: FRAMEWORK AGREEMENT					PO NO.:		DATE: 27.02.2025				
			ITEM: AIR TRAPS (BALL FLOAT) & Y-TYPE STRAINER			SYSTEM: SERVICE AIR/ INSTRUMENT AIR		SECTION: II		PAGE 2 OF 2				
SL NO.	COMPONENT & OPERATIONS	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			REMARKS		
1	2	3	4	5	6	7	8	9	10			11		
					M B/C				D	M	B	C		
3.5	Complete Assembly	Trap & Strainer: Leak Tightness of Body	CR	Hydraulic	100%	Refer Note '1'	Appd. Drg./ Data Sheet	No Leakage	TR	√	P	W	-	
		Functional Test of Trap (Visual Discharge of Condensate)	CR	Functional Test	100%		Appd. Drg./ Procedure Given On Note No. '3'	No Air Leakage	TR	√	P	W	-	
		Condensate Discharge (Flow Capacity of Trap)	CR	Discharge Flow	1 per Pr. Rating & Orifice Size		---	Appd. Drg.	Compliance Report/ Certificate	√	P	V	-	
4.0 FINAL INSPECTION														
4.1	Complete Trap & Strainer	End Connection & Overall Dimensions, Arrow Marking Threading Ends & Fixing of Name Plate	CR	Measurement, Visual	100%	Refer Note '1'	Appd. Drg.	Appd. Drg.	IR	√	P	W	-	
4.2	Packing	Packing Soundness	MA	Visual	100%		---	Tech. Specification	Tech. Specification	IR	√	P	V	-

**NOTES:**

- 10% or min. 2 nos. at random, whichever is higher, by BHEL/Customer for each type, size & rating.
- Welding and Impregnation of casting are not permitted.
- FUNCTIONAL TEST PROCEDURE:**
  - Compressed Air (At Min. 6 Kg/Cm<sup>2</sup> Pressure) to be supplied in a mixing chamber.
  - Water is added in the same chamber so that air in the chamber has sufficient moisture.
  - Trap is installed at the bottom of this chamber and its performance is checked. A good performing trap **Drains Out Only Water Droplets** and retains **Compressed Air Back In The System**.

**Legends:**

D: Documentation; Records identified with "Tick"(√), shall be essentially included by supplier in QA Documentation

M: Supplier/ Manufacturer/ Sub-Supplier

B: Main Supplier/BHEL/ Third Party Inspection agency

C: Customer

TPIA: Third Party Inspection Agency

DFT: Dry Film Thickness

MA: Major Characteristic

CR: Critical Characteristic

TC: Test Certificate

TR: Test Report

MTC: Mill Test Certificate

P: Perform

W: Witness

V: Verification

IR: Inspection Report

ADS: Actuator Data Sheet

HT: Heat Treatment

LPT: Liquid Penetrant Test

UT: Ultrasonic Test


RT: Radiography Test

MPI: Magnetic Particle Inspection

BIDDER/SUPPLIER	
Sign & Date	
Seal	


BHEL					
ENGINEERING			QUALITY		
	Sign & Date	Name		Sign & Date	Name
Checked by:	Rohit Chawla	Rohit Chawla	Checked by:	Gaurav Garg	Gaurav Garg
Reviewed by:	Prince Malik	Prince Malik	Reviewed by:	Anju Arora	Anju Arora

FOR CUSTOMER REVIEW & APPROVAL			
Doc No:			
	Sign & Date	Name	Seal
Reviewed by:			
Approved by:			

	TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT	PE-TS-020-555-M011
		Issue No: 01
		Rev. No. 00
		Date: 27.02.2024


**GALVANIZATION REQUIREMENT**


Package	Condition	Surface Preparation	Galvanization
AIR TRAP	Plain Area	SURFACE PREPARATION AND GALVANIZING/PAINTING	BODY AND COVER OF CAST CARBON STEEL AIRTRAP & Y-STRAINER WILL BE HOT DIP GALVANIZED AS PER IS:2629 HAVING MIN. THICKNESS OF COAT SHALL BE OF 50 MICRONS.

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## PACKING REQUIREMENT

Sl.no	DESCRIPTION
1	<b>Type of Packing:</b>
1.1	The traps & strainers shall be dispatched in total assembled form.
1.2	Body ends shall be suitably sealed to protect them against damage during transit and storage.
1.3	Traps & strainers with butt welding & socket welding ends shall be protected by means of polythene caps/ rubber and protectors to prevent damage of ends & also to avoid foreign material entering the valve while shipment & storage.
1.4	All the traps & strainers shall be packed suitably in wooden box in order to avoid damage during transit and also during storage at site.
3	<b>Cushioning material and moisture absorber:</b>
3.1	Suitable cushioning shall be provided by rubberized coir/ thermocol / expanded soft polyethylene foam.
3.2	Adequate quantity of packed desiccant shall be suitably placed inside the packing box.
4	<b>Packing slip &amp; holder:</b>
4.1	Packing slip kept in polyethylene bag shall be placed inside the wooden box at appropriate place.
4.2	One copy of packing slip wrapped in polyethylene bag covered in galvanized iron tin sheet/ aluminium packing slip holder shall be fixed on the external surface of the packing box.

		TECHNICAL SPECIFICATION AIR TRAP BOQ FRAMEWORK AGREEMENT									PE-TS-020-555-M011		
											Issue No.. 01		
											Rev. No. 00		
											Date: 27.02.2025		
1	2	3	4	5	6	7	8	9	10	11	12	13	
SL. NO.	DESCRIPTION	Body Matl.	Internals	Working Press. (kg/sq.cm)	Working Temp. (deg. C)	Condensate discharge capacity (Kg/Hr)	End Connection pipe Size (NB)	End Connection	SPECIAL FEATURE	Quantity MAINS (Nos.)	MANDATORY SPARES Complete Trap assly / Complete Y-type strainer assly (Nos.)	Remarks	
1	a.	BALL FLOAT AIR TRAP (WITHOUT STRAINER) COMPLETE ASSLY.	CAST CARBON STEEL AS PER ASTM A216 Gr. WCB	SS 304	8	50	1000	25	SCREWED FEMALE THREAD AS PER IS 554	HOT DIP GALVANIZED	985	32	Refer Page No. 8 for Galvanization Details
	b.	EXTERNAL 'Y' TYPE STRAINER COMPLETE ASSLY.	CAST CARBON STEEL AS PER ASTM A216 Gr. WCB	SS 304	8	50	1000	25	SCREWED FEMALE THREAD AS PER IS 554	HOT DIP GALVANIZED	985	32	
NOTES:-													
1. Ball float air traps without strainers are used with external 'Y'-type strainers. In this case traps and external 'Y'-type strainers will be considered as single unit for ordering. Offers will only be considered when both the items are quoted. 2. For detailed material of construction refer page 4 of this Technical Specification. 3. Inlet & outlet size of Air Trap & Strainer (both) shall be matched with connecting pipe size by bidder. Bidder to consider all reducer/expander as required, in their scope. 4. Bidder may also offer model of higher condensate discharge capacity. 5. Equivalent/ superior material is also acceptable.													

	<b>TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT</b>	PE-TS-020-555-M011
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## DOCUMENTATION REQUIREMENT

<b>DRAWINGS &amp; DOCUMENTS TO BE SUBMITTED BY ALL THE BIDDERS ALONG WITH THE BID</b>	
<b>Sl. No.</b>	<b>DOCUMENT TITLE</b>
1	PQR CREDENTIALS
2	COMPLIANCE SHEET (DULY SIGNED & STAMPED)

<b>DRAWINGS &amp; DOCUMENTS TO BE SUBMITTED BY SUCCESSFUL BIDDER AFTER AWARD OF CONTRACT FOR FRAMEWORK AGREEMENT ALONG WITH SUBMISSION SCHEDULE</b> (The below drawings/ documents will be considered as reference documents for different projects PO which will be placed later.)		
<b>Sl. No.</b>	<b>DOCUMENT TITLE</b>	<b>SUBMISSION SCHEDULE</b>
1	GA DRAWING	Within 15 days from PO
2	QUALITY PLAN DULY SIGNED & STAMPED	Within 15 days from PO

<b>BHEL/Customer comments/approval and SUPPLIER Re-submission schedule after project specific purchase order placement</b>	
Supplier Submission of project specific GA drawing, Quality plan	Within 7 days from project specific PO
BHEL/Customer comments/approval	Within 18 days of SUPPLIER submission.
SUPPLIER Re-submission	Within 5 days of BHEL / Customer comments.

<b>DRAWINGS &amp; DOCUMENTS TO BE SUBMITTED AS FINAL/AS-BUILT DOCUMENT AGAINST PROJECT SPECIFIC PURCHASE ORDER (To be furnished before final project specific billing)</b>	
<b>Sl. No.</b>	<b>DOCUMENT TITLE</b>
1	APPROVED DOCUMENTS
2	O&M MANUAL

	<b>TECHNICAL SPECIFICATION AIR TRAP FRAMEWORK AGREEMENT</b>	PE-TS-020-555-M011
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<b>COMPLAINE CERTIFICATE</b>	
1	It is hereby confirmed that the technical specification (sheet 1 to 11) has been read and understood. We confirm compliance to the tender specification including any prebid clarification and amendments issued prior to techno-commercial bid opening without any deviation.
2	It is hereby declared that any technical submittals which was not specifically asked by BHEL in NIT shall not to be considered as part of bid and shall not be evaluated by BHEL.


Signature of authorised Representative

Name and Designation :

Name & Address of the Bidder

Date



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## PRE QUALIFICATION REQUIREMENT (TECHNICAL)

	PRE - QUALIFYING REQUIREMENTS	DOCUMENT No.: PE-TS-020-000-M057
		REVISION No.: 00    DATE: 27.02.2025
		SHEET 1 of 3

Standard document No.: PE-TS-999-000-M059

**Project: FRAMEWORK AGREEMENT****Package: Air Traps****CRITERIA FOR EVALUATION (TECHNICAL):****1. Technical Pre-Qualifying Requirements:**

1.1 The bidder should have designed, in-house manufactured, tested, inspected and supplied CS/SS/AS ball float air traps (with external 'Y'-type strainer) with minimum condensate discharge capacity of 500Kg/Hr for use in a power plant or for similar application.

1.2 The item(s) mentioned in point 1.1 should have performed successfully for at least one year. To establish meeting this requirement, the bidder shall conform to any one of the following clauses through supporting documents:

- (i) One (1) Performance certificate along with correlated purchase order from End-user having the item(s) performing successfully for at least one (1) year from date of commissioning. The one-year period should have been completed prior to the date of bid submission as defined by BHEL-PEM in NIT.

**Documents Required:**

Performance certificate from End-user (duly signed & dated) specifying that the product is performing successfully for one (1) year from date of commissioning (also to be mentioned in certificate) along with correlated purchase order.

Or

- (ii) One (1) repeat contract from a purchaser (i.e. 2 Nos of Purchase orders from one purchaser). A contract shall be considered as repeat, when the second contract is given by the same purchaser after lapse of minimum one (1) year from date of placement of first executed contract. The contracts should have been placed prior to the date of bid submission as defined by BHEL-PEM in NIT.

**Documents Required:**

- a) Purchase order(s).  
b) Supply details like Material Dispatch Clearance Certificate (MDCC)/ Material Receipt Certificate (MRC)/Lorry receipt (LR)/ Invoice of first executed Purchase order.

**Note:**

All the documents as mentioned at CLAUSE 1.2(i) & (ii) shall be within 15 years from date of bid submission as defined by BHEL-PEM in NIT.

<b>PREPARED BY:</b>  <small>Digitally signed by Rohit Chawla DN: cn=Rohit Chawla, o=BHEL, ou=PEM, email=rchawla@bhel.in, c=IN Date: 2025.02.27 16:50:33 +05'30'</small> <b>NAME: ROHIT CHAWLA</b> <b>DESIGNATION: Sr. MANAGER</b> <b>DEPT.: PS-PEM/ MPL</b>	<b>REVIEWED BY:</b>  <small>Digitally signed by Prince Malik DN: cn=Prince Malik, o=BHEL, ou=PEM, email=princemalik@bhel.in, c=IN Date: 2025.02.27 17:24:44 +05'30'</small> <b>NAME: PRINCE MALIK</b> <b>DESIGNATION: DGM</b> <b>DEPT.: PS-PEM/ MPL</b>	<b>APPROVED BY:</b>  <small>Digitally signed by B K Agarwal DN: cn=B K Agarwal, o=BHEL, ou=PEM, email=binal@bhel.in, c=IN Date: 2025.02.27 17:43:19 +05'30'</small> <b>NAME: B K AGARWAL</b> <b>DESIGNATION: AGM (DH)</b> <b>DEPT.: PS-PEM/ MPL</b>
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	PRE - QUALIFYING REQUIREMENTS	DOCUMENT No.: PE-TS-020-000-M057
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		SHEET 2 of 3

1.3 In addition to above, bidder/supplier should have the following facilities for maximum size and material of construction *for each category* of Air Traps as per BHEL requirement as mentioned in BOQ of Technical Specification:

a) Capability of designing and manufacturing of the item(s).

**Documents required:**

Purchase order (s) / Certificate indicating capacity and details of manufacturing facilities

b) In-house testing facilities for carrying out tests as per relevant standards & Quality plan. In case, the in-house testing facilities are not available, then bidder shall furnish undertaking that test(s) will be carried out from govt. approved lab or test house recognized by reputed customers.

**Documents required:**

Details of testing facilities.



1.4 To establish business continuity, bidder is required to submit at least one (1) Purchase order of air traps and external "Y" type strainer in last 3 (three) years prior to the date of bid submission as defined by BHEL-PEM in NIT.

2. Bidder to also comply with general points mentioned below.

2.1 Offers of the JV companies/ Joint Bidders/ bidders having collaboration/ licensing agreement/ MOU/ Indian subsidiaries shall be evaluated as follows:

- If bidder happens to be an Indian subsidiary of foreign OEM, then the credentials of the foreign OEM can also be considered for meeting PQR.
- If bidder happens to be the Joint Venture Company, then the credentials of any of JV partners can be also considered for meeting PQR.
- If bidder happens to be the having valid collaboration agreement/ MOU/ licensing agreement with some other company, then the credentials of collaborator/ MOU partner/ licensing company can also be considered for meeting PQR.

**Note:** If bidder(s) qualifies on the basis of credentials of his principal/ JV partner/ Collaborator/ joint bidder etc., then the principal/ JV partner/ Collaborator/ MOU partner/ joint bidder shall be responsible for overall design vetting and warranty/ guarantee of the package. The scope matrix clearly defining their respective roles including design vetting, manufacturing of critical component, E&C etc. and warranty/ guarantee shall be submitted along with the offer.

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	<b>PRE - QUALIFYING REQUIREMENTS</b>	DOCUMENT No.: PE-TS-020-000-M057
		REVISION No.: 00    DATE: 27.02.2025
		SHEET 3 of 3

<p>2.2 Bidder to note that the arrangement of bidding (joint bid partners/ collaborator/ MOU partner/ licensing company etc.) once offered to BHEL as a part of bidding documents cannot be changed till the execution of contract(s).</p> <p>2.3 Consideration of offer shall be subject to customer's approval of bidders, if applicable.</p> <p>2.4 Bidder to submit all supporting documents in English. If documents submitted by bidder are in language other than English, a self-attested English translated document should also be submitted.</p> <p>2.5 After satisfactory fulfilment of all the above criteria/ requirement, offer shall be considered for further evaluation as per NIT and all the other terms of the tender.</p> <p>2.6 Bidder to ensure that Third Party/customer issued certificates being submitted as proof of PQR qualification should have verifiable details of document/ certificate issuing authority such as name &amp; designation of issuing authority and its organization contact number and email-id etc. In case the same found not available, purchaser has right to reject such document from evaluation.</p> <p>2.7 Attached annexure (<b><u>Annexure-1: Sub-vendor questionnaire</u></b>) to be filled by the bidders (i.e. Sub-vendors of Main Contactor) on quality &amp; general terms. Requisite Documents (like factory registration certificate, R&amp;D set-up details etc.) asked in the Annexure-1, shall also be attached as Annexure-F2.1 to Annexure F2.17 along with the filled response in the Annexure-1.</p> <p>2.8 Notwithstanding anything stated above, BHEL reserves the right to assess the capabilities and capacity of the bidder/collaborators to perform the contract, should the circumstances warrant such assessment in the overall interest of BHEL.</p>
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# ANNEXURE-1

## SUB-VENDOR QUESTIONNAIRE

i.	<b>Item/Scope of Sub-contracting</b>		
ii.	<b>Address of the registered office</b> 	<b>Details of Contact Person</b> <b>(Name, Designation, Mobile, Email)</b> 	
iii.	<b>Name and Address of the proposed Sub-vendor's works where item is being manufactured</b> 	<b>Details of Contact Person:</b> <b>(Name, Designation, Mobile, Email)</b> 	
iv.	<b>Annual Production Capacity for proposed item/scope of sub-contracting</b>		
v.	<b>Annual production for last 3 years for proposed item/scope of sub-contracting</b>		
vi.	<b>Details of proposed works</b>		
1.	<b>Year of establishment of present works</b>		
2.	<b>Year of commencement of manufacturing at above works</b>		
3.	<b>Details of change in Works address in past (if any)</b>		
4.	<b>Total Area</b>		
	<b>Covered Area</b>		
5.	<b>Factory Registration Certificate</b>	<b>Details attached at Annexure – F2.1</b>	
6.	<b>Design/ Research &amp; development set-up</b> <b>(No. of manpower, their qualification, machines &amp; tools employed etc.)</b>	<b>Applicable / Not applicable if manufacturing is as per Main Contractor/purchaser design</b> <b>Details attached at Annexure – F2.2</b> <b>(if applicable)</b>	
7.	<b>Overall organization Chart with Manpower Details</b> <b>(Design/Manufacturing/Quality etc)</b>	<b>Details attached at Annexure – F2.3</b>	
8.	<b>After sales service set up in India, in case of foreign sub-vendor</b> <b>(Location, Contact Person, Contact details etc.)</b>	<b>Applicable / Not applicable</b> <b>Details attached at Annexure – F2.4</b>	
9.	<b>Manufacturing process execution plan with flow chart indicating various stages of manufacturing from raw material to finished product including outsourced process, if any</b>	<b>Details attached at Annexure – F2.5</b>	
10.	<b>Sources of Raw Material/Major Bought Out Item</b>	<b>Details attached at Annexure – F2.6</b>	
11.	<b>Quality Control exercised during receipt of raw material/BOI, in-process, Final Testing, packing</b>	<b>Details attached at Annexure – F2.7</b>	

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## ANNEXURE-1

### SUB-VENDOR QUESTIONNAIRE

12.	<b>Manufacturing facilities</b> (List of machines, special process facilities, material handling etc.)	<b>Details attached at Annexure – F2.8</b>
13.	<b>Testing facilities</b> (List of testing equipment)	<b>Details attached at Annexure – F2.9</b>
14.	<b>If manufacturing process involves fabrication then-</b>	<b>Applicable / Not applicable</b>
	<b>List of qualified Welders</b>	<b>Details attached at Annexure – F2.10</b>
	<b>List of qualified NDT personnel with area of specialization</b>	<b>(if applicable)</b>
15.	<b>List of out-sourced manufacturing processes with Sub-Vendors' names &amp; addresses</b>	<b>Applicable / Not applicable</b>  <b>Details attached at Annexure. –F2.11</b> <b>(if applicable)</b>
16.	<b>Supply reference list including recent supplies</b>	<b>Details attached at Annexure – F2.12</b> <b>(as per format given below)</b>
<b>Project/ package</b>	<b>Customer Name</b>	<b>Supplied Item (Type/Rating/Model /Capacity/Size etc)</b>
17.	<b>Product satisfactory performance feedback letter/certificates/End User Feedback</b>	<b>Attached at annexure - F2.13</b>
18.	<b>Summary of Type Test Report (Type Test Details, Report No, Agency, Date of testing) for the proposed product</b> (similar or higher rating) <b>Note: - Reports need not to be submitted</b>	<b>Applicable / Not applicable</b>  <b>Details attached at Annexure – F2.14</b> <b>(if applicable)</b>
19.	<b>Statutory / mandatory certification for the proposed product</b>	<b>Applicable / Not applicable</b>  <b>Details attached at Annexure – F2.15</b> <b>(if applicable)</b>
20.	<b>Copy of ISO 9001 certificate</b> (if available)	<b>Attached at Annexure – F2.16</b>
21.	<b>Product technical catalogues for proposed item (if available)</b>	<b>Details attached at Annexure – F2.17</b>
<b>Name:</b>	<b>Desig:</b>	<b>Sign:</b>

**Company's Seal/Stamp: -**

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Page 2 of 2



**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**PROJECT ENGINEERING MANAGEMENT**

**ANNEXURE-I**

**AIR TRAPS (FRAMEWORK AGREEMENT)**

DTD. 01.03.2025

**PVC Clause:**

Ex-works prices shall be variable as per PVC formula given below:

$$\text{Current Price} = \text{Order Price} * (0.15 + 0.6 * M1/M0 + 0.25 * L1/L0)$$

Where

**M0** = INDICES AS PER RBI BULLETIN TABLE 21 (WHOLESALE PRICE INDEX) SL NO.: 1.3.14.4 (MILD STEEL – LONG PRODUCTS) FOR ONE MONTH PRIOR TO MONTH OF ORDERING OF FRAMEWORK AGREEMENT PO.

**M1** = INDICES AS PER RBI BULLETIN TABLE 21 (WHOLESALE PRICE INDEX) SL NO.: 1.3.14.4 (MILD STEEL – LONG PRODUCTS) FOR ONE MONTH PRIOR TO MONTH OF DISPATCH OF MATERIAL AGAINST PROJECT SPECIFIC PO.

**L0** = INDICES AS PER RBI BULLETIN TABLE 19 (ALL INDIA CONSUMER PRICE INDEX FOR INDUSTRIAL WORKER) FOR ONE MONTH PRIOR TO MONTH OF ORDERING OF FRAMEWORK AGREEMENT PO.

**L1** = INDICES AS PER RBI BULLETIN TABLE 19 (ALL INDIA CONSUMER PRICE INDEX FOR INDUSTRIAL WORKER) FOR ONE MONTH PRIOR TO MONTH OF DISPATCH OF MATERIAL AGAINST PROJECT SPECIFIC PO.

**NOTE:**

1. **Total PVC shall be limited to + 20% of Ex-Works Value actually supplied and -ve (negative) price variation shall be unlimited.**
2. **Latest Index Values**, as per RBI bulletin shall be considered, for all the factors.
3. The price adjustment i.e. either increase or decrease shall be applicable upto the contractual date of completion of supplies. Contractual delivery/dispatch date would mean the delivery/dispatch date mentioned in the order including amendments in delivery/dispatch date (if any). PVC will not be applicable for the period beyond the contractual delivery/dispatch date where delay is attributable for supplier.
4. The PVC shall be applicable for main, commissioning and mandatory spares.
5. Source link of RBI bulletin:  
[https://www.rbi.org.in/scripts/BS\\_ViewBulletin.aspx?Id=19681](https://www.rbi.org.in/scripts/BS_ViewBulletin.aspx?Id=19681)