



Purchase Department  
Bharat Heavy Electricals Limited  
(A Government of India Undertaking)  
Boiler Auxiliaries Plant, Ranipet – 632 406, INDIA

**ANNEXURE-A to OPEN TENDER to Enq No 3250359E/17.06.2015**

Open Tender for Procurement of **APH 25 Tons ANTI-BACKLASH WORM GEAR JACTUATOR WITH ROTARY LIMIT SWITCH WITH FIELD ADAPTER KIT**, as per Pre-Qualification Criteria and Specification RAH 446 for Jactuator and RAH 447 rev 01 for Rotary Limit Switch with Adapter kit.

**NOTICE INVITING TENDER**

Sealed Tenders are invited for the supply of **25 Tons Anti-Backlash worm gear Jactuato r with Rotary Limit Switch & field adapter kit**, as per the Specification / Standards / Pre Qualification Criteria and Quantities as listed below.

**SCOPE : SUPPLY OF APH 25 Tons ANTI-BACKLASH WORM GEAR JACTUATOR WITH ROTARY LIMIT SWITCH WITH FIELD ADAPTER KIT**, as per Pre-Qualification Criteria and Specification RAH 446 for Jactuato r and RAH 447 rev 01 for Rotary Limit Switch with Field Adapter kit.

Sl No	Description	Material Specification	Unit	Qty	Delivery Schedule
01	<b>25 Tons ANTI-BACKLASH WORM GEAR JACTUATOR , as per Pre-Qualification Criteria and Specification</b>	<b>RAH 446 for Jactuato r</b>	No.	84	24.10.15 – 12 nos 24.01.16 - 12 nos 24.02.16 - 24 nos 24.04.16 - 24 nos 24.10.16 - 12 nos
02	<b>ROTARY LIMIT SWITCH WITH FIELD ADAPTER KIT as per Pre-Qualification Criteria and Specification</b>	<b>RAH 447 rev 01 for Rotary Limit Switch with Field Adapter kit.</b>	No.	42 nos. each	24.10.15 – 6 nos 24.01.16 - 6 nos 24.02.16 - 12 nos 24.04.16 - 12 nos 24.10.16 - 6 nos

**NOTE: 2 (two) nos. of 25 Tons Anti-Backlash worm gear Jactuato r + 1(one) no. Rotary Limit switch + 1(one)no. Limit switch Field Adapter Kit will be considered as a SET.**

Destination : BHEL Stores, Ranipet 632406, Tamil Nadu

**This Tender – price bid will be opened through conventional sealed price bid opening method only**

New supplier/vendor shall submit SUPPLIER REGISTRATION FORM (SRF) thro' ONLINE PORTAL. You are requested to visit our Web Site : [www.bhel.com](http://www.bhel.com) and click under heading 'Supplier Registration' and fill up the 'Supplier Registration Form' which is available in the Online Supplier Registration Portal. (or Copy the following URL Link and paste in the web link address: [http://www.bhel.com/vender\\_registration/vender.php](http://www.bhel.com/vender_registration/vender.php) and proceed with). After successful submission, a hard copy of the same with all the annexures (as called for) may please be sent to undersigned.

K.Nagaraj, Senior Manager-Purchase, Supplier Development Cell,  
email: [knraj@bhelrpt.co.in](mailto:knraj@bhelrpt.co.in), phone: 04172 284474 / 4333  
Bharat Heavy Electricals Limited, RANIPET, T.N State, India. PIN:632 406

**QUALIFYING CRITERIA FOR THE VENDORS:**

**PRE-QUALIFICATION CRITERIA (PQC) for 25 Tons Anti-backlash worm gear Jactuator and Rotary Limit Switch with field adapter kit.**

The Bidder has to meet the provenness criteria for 25 Tons Anti-backlash worm gear jactuator and Rotary Limit Switch with field adapter kit required for Air Preheater application as per criteria stipulated below:

***“The Bidder should have previously designed, manufactured and supplied 25 Tons Anti-backlash worm gear jactuator and Rotary Limit Switch with field adapter kit or higher size for rotary Air Preheater sector plate movement application in a Boiler and shall be in successful operation in at least 1(one) plant for a period not less than 1 (one) year on the date of techno-commercial bid opening. OR, the bidder should have supplied similar Anti-backlash worm gear jactuator and Rotary Limit Switch with field adapter kit to BHEL, RANIPET”.***

The following information should be submitted by the vendor such as where the 25 Tons Anti-backlash worm gear jactuator and Rotary Limit Switch with field adapter kit has been supplied:

1. Name of the Customer where the 25 Tons Anti-backlash worm gear jactuator and Rotary Limit Switch with field adapter kit are installed
2. Size of the 25 Tons Anti-backlash worm gear jactuator and Rotary Limit Switch with field adapter kit and Quantity
3. Complete postal address of the Customer
4. Name, Designation and contact details of the contact person of the Customer
5. Month & Year of commissioning
6. Relevant Purchase Order copies

BHEL reserves the right to verify the information provided by the vendor. In case the information provided by vendor is found to be false / incorrect, the offer shall not be considered.



**Bharat Heavy Electricals Ltd**  
Boiler Auxiliaries Plant  
Ranipet - 632 406

EDC / AIR PREHEATERS  
**TECHNICAL SPECIFICATION**  
Effective Date: 15.12.2012

Specification No : RAH - 446

Rev. No : 00

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01.	Item	Anti-backlash worm gear Jactuator			
02.	Type	Inverted, Translating			
03.	Application	To use in Automatic Leakage Control System of air preheater.			
04.	Capacity	25 Tons			
05.	Raise	6 Inches			
06.	Worm Gear Ratio	32 : 1			
07.	Turns of worm for 1 inch raise	48			
08.	Worm shaft extension	At both sides, to be drilled for Rotary Limit switch mounting.			
09.	Screw end	End shall be threaded to a length of 6" with 3" - 4 UNC - 2A thread. Minimum closed extension shall be 7" from Jactuator base.			
10.	Bushing & Seals	Bronze bushing shall be provided at machine screw extending side. Oil seal shall be provided at each side of worm shaft.			
11.	Backlash	Anti-backlash nut with adjustment shall be provided.			
12.	Drawing	Drawing shall be submitted for approval prior to manufacture.			
13.	General	a) Cast steel shall be used for shell / casing. b) Dimensional drawing with Materials of construction/ catalogue shall be submitted along with the offer. c) Guarantee certificate and O&M manual shall be supplied after order.			
00	15.12.12	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	FRESH ISSUE
Rev.No	Date	Prepared	Checked	Approved	Record of Revisions.



**Bharat Heavy Electricals Ltd**  
Boiler Auxiliaries Plant  
Ranipet - 632 406

EDC / AIR PREHEATERS  
**TECHNICAL SPECIFICATION**  
Effective Date: 18.05.2013

Specification No : RAH - 447

Rev. No : 01

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01.	Item	<b>Rotary Limit Switch with field adapter Kit.</b>			
02.	Application	To use in Automatic Leakage Control System of Air Preheater.			
03.	Configuration	Shall have two micro – switches one for up and another for down stop. Actuated by individual limit switch nuts which travel laterally when screw is rotated.			
04.	Gear Ratio	10 : 1			
05.	Maximum input revolutions	300			
06.	Operating Temperature	50 deg C			
07.	Contact rating	15 amps at 240V, AC, 1 NO + 1 NC (SPDT)			
08.	Enclosure	NEMA – IV, water – tight and dust proof suitable for outdoor application in coal fired boiler dusty environment.			
09.	Lubrication	Shall be supplied with life–time lubrication.			
10.	Material of construction	Enclosure shall be made out of corrosion resistant material and housing With anodized aluminium.			
11.	Compatibility	Shall be suitable for use with machine screw jactuator.			
12.	Mounting	Field adapter kit shall also be supplied suitable for mounting on jactuator shaft.			
13.	Drawing	Dimensional drawing / catalogue shall be submitted along with the offer.			
14.	General	Guarantee certificate and O&M manuals shall be supplied after order.			
01	18.05.13	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	Operating temp was 65°C
00	15.12.12	-Sd- GA	-Sd- KP	-Sd- PPS	FRESH ISSUE
<b>Rev.No</b>	<b>Date</b>	<b>Prepared</b>	<b>Checked</b>	<b>Approved</b>	<b>Record of Revisions.</b>