



ANNEXURE-A to Enquiry [3271229E](#) dated 16.11.2017

Open Tender for Procurement of Multimedia cleaning device as per our Specification :RAH-513/Rev00 & RAH-519 Rev 01

NOTICE INVITING TENDER

Sealed Tenders are invited for the supply of Multimedia cleaning device as per the Specification, Standards and Quantities as listed below.

SCOPE : SUPPLY OF Multimedia cleaning device as per our Specification :**RAH-513/Rev00 & RAH-519/Rev01.**

SI No	Material code	Description	Model No	Material Specification	Unit	Qty	Delivery Schedule
01	R52709490001	Multimedia Cleaning device for 34 Size RAPH- Cold end	-	RAH-513/Rev00	No	4	24.12.17
02	R52709490002	Common PLC Control System with PLC Panel & Local Control Panel for SI No 01	-	RAH-513/Rev00	No	2	24.12.17
03	R52709500001	Multimedia Cleaning device for 34 Size RAPH- Cold end	-	RAH-513/Rev00	No	4	24.12.17
04	R52709500002	Common PLC Control System with PLC Panel & Local Control Panel for SI No 03	-	RAH-513/Rev00	No	2	24.12.17
05	R52709680001	Multimedia Cleaning device for 33.5 Size RAPH- Cold end	-	RAH-519/Rev01	No	6	24.12.17
06	R52709680002	Common PLC Control System with PLC Panel & Local Control Panel for 33.5 Size RAPH for SI No 05	-	RAH-519/Rev01	No	3	24.12.17

The supplier shall follow our Specn:RAH-513/00 & RAH-519/01

Destination : BHEL Stores, Ranipet 632406, Tamil Nadu

SI No 01 to 02 with Special Tools for Erection and Erection Supervision will be ordered as Set 1, SI No 03 & 04 with Special Tools for Erection and Erection Supervision will be ordered as Set 2 and SI No 05 & 06 with Special Tools for Erection and Erection Supervision will be ordered as Set 3. Hence, Composite Price of SI No 01 to 02 as Set 1, SI No 03 to 04 as Set 2 and SI No 05 to 06 as Set 3 will be considered for arriving at the rank of L1.

BHEL reserves the right that the Price Bid opening will be done through conventional sealed bid opening mode (OR) Reverse Auction method (English method).

New supplier/vendor shall submit SUPPLIER REGISTRTION FORM (SRF) thro' ONLINE PORTAL. You are requested to visit our Web Site : 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 and proceed with). After successful submission, a hard copy of the same with all the annexures (as called for) may please be sent to

Mr. K.Jothi Arulanandam, Manager-Purchase, Supplier Development Cell,
email: kj@bhelrpt.co.in, phone: 04172 284474 / 4333
Bharat Heavy Electricals Limited, RANIPET, Tamil Nadu, India. PIN:632 406

Qualifying criteria for the new vendors -Pre-qualification criteria

1. The supply shall be as per our Specification RAH-513 Rev 00 & RAH-519 Rev 01 only. Deviation if any, the "deviation summary" shall be submitted for our technical evaluation.
2. The Bidder is required to meet the proven-ness criteria for Multimedia cleaning device for Air Preheater application as per criteria stipulated below.

The Bidder should have previously designed, manufactured and supplied "Retractable type multimedia cleaning device with Control system" for Air Preheater application in a Boiler or Gas to Gas heater application in a Flue Gas Desulfurization system. The device should be capable of cleaning the heating elements using High pressure water, Steam & Air.

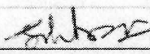
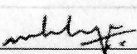
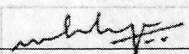
The device should have been designed for operating not less than 200 Kg/cm²(g) for Water and 12 Kg/cm²(g) at 300 deg C for Steam and flue gas at 100 deg C around the lance. It shall be in successful operation in at least one (1) plant for a period of not less than one (1) year on the date of techno-commercial bid opening.

3. The following information should be submitted by the vendor where the Multimedia cleaning device has been supplied:
 - a. Name of the customer & Project details where the Cleaning device is supplied.
 - b. Water pressure & Steam pressure for which the device is designed for
 - c. Complete postal address of the customer.
 - d. Name, designation and contact details of the contact person of the customer.
 - e. Month & Year of commissioning.
 - f. Relevant unpriced Purchase Order copies
 4. BHEL reserves the right to verify the information (supporting documents for points a to f) and other credentials provided by the Vendor. In case the information provided by vendor is found to be false / incorrect, the offer shall not be considered.
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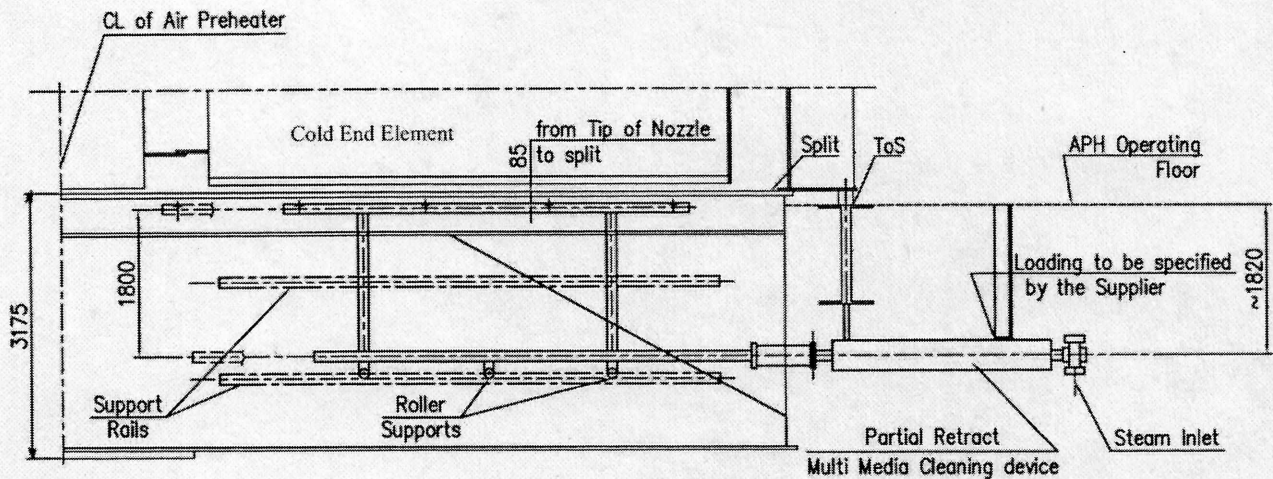
Bharat Heavy Electricals Ltd
Boiler Auxiliaries Plant
Ranipet-632 406

EDC / AIR PREHEATERS
TECHNICAL SPECIFICATION
Effective Date: 20.07.2017

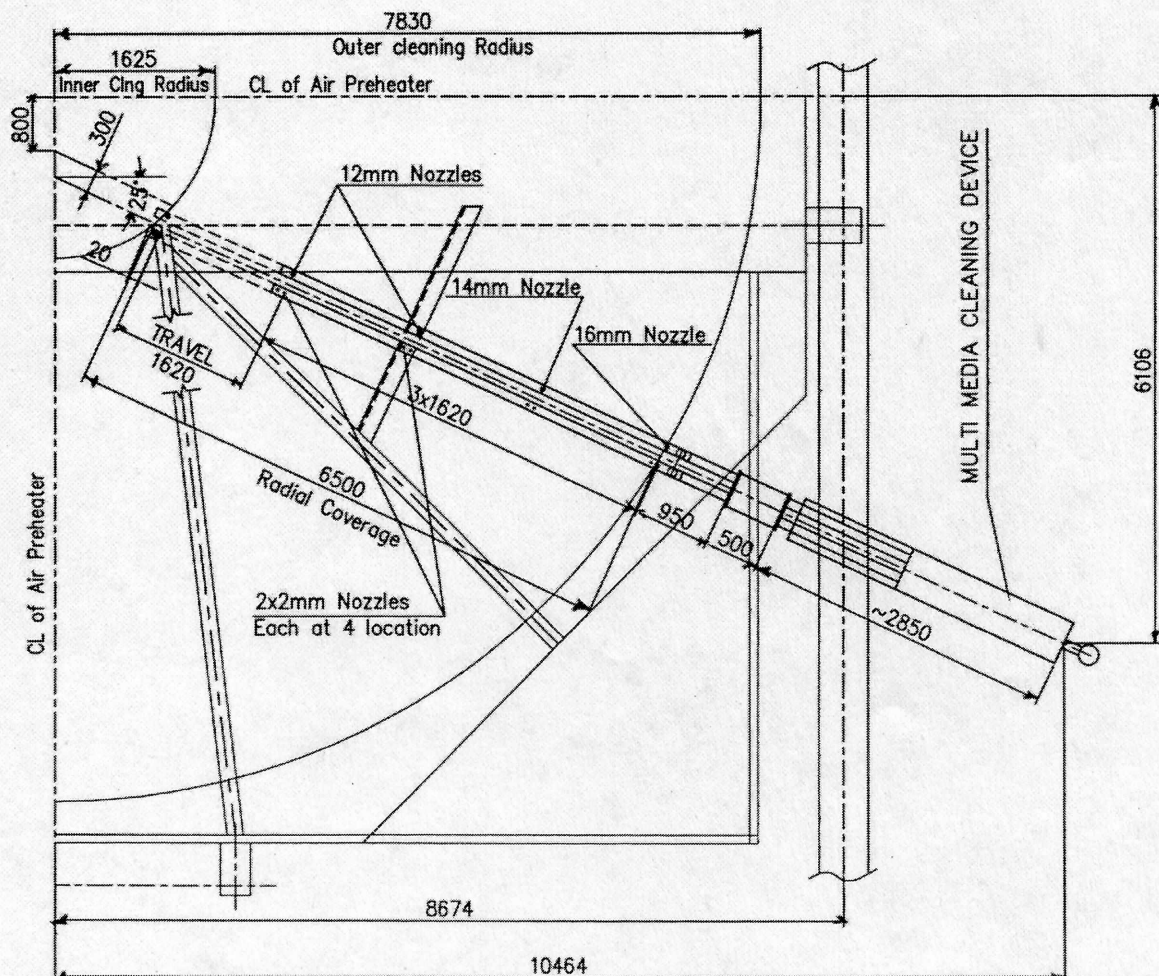
Specification No : RAH 519			Rev. No : 01	Page No : 01 of 03	
01	Item : Multimedia Cleaning Device for 33.5 size RAPH (Cold End)				
02	Application	Multimedia cleaning device would be used for cleaning the Air Preheater Heating elements 'On Load' with steam and 'Off Load' with high pressure water.			
03	Location	At Cold End in the Flue Gas duct as shown in page 03 of 03.			
04	Surroundings	Outdoor installation in dusty, humid and corrosive atmosphere of Coal Oil fired Utility / Industrial Boilers. Ambient Temperature 50°C.			
05	Power Supply	415 V, 3 Ph, 50 Hz, AC			
06	Duty / Duration of operation	Intermittent. Once in a shift of 8 hours or more frequently to suit site requirement.			
07	Flue Gas Temperature (Lance exposure Temp.)	Working Condition (at Gas Outlet) : 125°C. Design Condition (at Gas Outlet) : 100°C			
08	Flue Gas Pressure (Lance exposure Pre.)	Working Condition (at Gas Outlet) : - 250 mmWC Design Condition (at Gas Outlet) : - 660 mmWC			
09	Lance Design Pressure	250 kg/cm ² (g)			
10	Blowing Medium	1. Steam with 310 °C (110°C superheat) at 14 Kg/cm² (g) to a maximum of 17 kg/ cm² (g). 2. In the absence of steam, air at 6.33 Kg/cm² (g) will be used through steam nozzles. 3. Service water at pressure of 100 to 200 bar.			
11	Blowing time & traverse speed	Vendor to specify to suit the rotor speed of 1.24 rpm. Speed shall not exceed 75 mm per Minute for steam blowing.			
12	Blowing method	During forward/return travel with incremental movement and dwell periods for high pressure water. Continuous movement for Steam.			
13	Control Requirement	PLC Control Panel to be interfaced with DCS / DDCMIS.			
14	Local Push Button	Required.			
15	Scope of supply : a) Multimedia Cleaning device main assembly including steam lance & high pressure water lance complete with nozzles, Carriage / Drive mechanism, Limit Switches etc. b) Wallbox / Sleeve assembly. c) Poppet valve assembly with connecting tube for Steam and Valve for Water line. d) Companion flange together with gaskets studs and nuts, for connecting the blowing medium supply pipe to the poppet valve inlet flange. e) 2 x 90 deg elbows and mating connections for extension for Multimedia cleaning device. f) Air relief / scavenging valve. g) Pressure switch and Pressure Gauge with isolating valve for Steam and Water line. h) Support arrangement including roller supports.				
01	27.07.17				Page 03, Dimensions updated.
00	04.07.17	S.B	R.S.B	R.S.B	FRESH ISSUE
Rev.No	Date	Prepared	Checked	Approved	Record of Revisions.

Specification No : RAH 519	Rev. No : 01	Page No : 02 of 03
16	General : i) Common PLC Control System with PLC Panel and Local Contactor Panel. The incoming supply of 415 V, 3 Ph, 50 Hz, AC will be provided, supplier shall provide all applicable wiring of the equipment. Local stop / Emergency push button along with equipment. j) Erection & Commissioning supervision for one week. a) Codes & Standards applicable for Mechanical, Electrical components and Protection class of equipment against climatic condition also shall be specified. Only latest revision shall be referred for all the Standards specified. b) The vendors shall submit the technical offer for Multimedia cleaning device along with following details. i) Detailed scope of supply despatchable partwise with quantity and exclusions. ii) Vendor shall confirm the No. of nozzles and the travel length as shown in page 03 of 03. iii) Materials of construction for various components like drive components, lances, nozzles, PLC Panel etc. iv) Preliminary drawing of the equipment along with terminal points. v) Total weight and weight of despatchable parts shall be indicated in the drawing. vi) Motor KW rating. vii) Write-up indicating the working principle and controls. viii) Steam consumption details at 14 kg/cm² superheated steam with 110 deg Superheat and air consumption at 6.33 kg/cm². ix) Water consumption details at 200 bar and at 100 bar. x) Blowing time for Steam and High pressure water. c) The vendor shall submit the following, after placement of order for our approval. i) Power & control schematics & wiring diagram. ii) General arrangement drawing of the equipment with bill materials and weight detail and Terminal point details. iii) Support Requirement & Loading details. d) Quality plan. e) 6 copies of Erection and O & M manual after order. f) List of Recommended Spares for three years of operation and Special tools list. g) Vendor to indicate charges for erection/commissioning supervision separately for one week.	
17	Painting a) All external surfaces requiring painting shall be cleaned by Power Tool as per surface preparation standard St3 (SSPC – SP3). b) Then 2 coats of Red Oxide Zinc Phosphate (IS : 12744) primer paint shall be applied to have a dry film thickness of 60 microns. c) Finally, 2 coats of synthetic enamel (IS : 2932) finish paint of colour Verdigris Green - Shade no : 280 of IS : 5 shall be applied to have a dry film thickness of 40 microns. d) Total dry film thickness shall be 100 microns (minimum) after final coat.	
18	Inspection a) Inspection by BHEL. b) Necessary Test & Material Compliance Certificates shall be submitted.	
19	Multimedia cleaner General Arrangement details, Location & Support Arrangement : Refer page 03 of 03.	

Partial Retract Multi media Cleaning device General Arrgt.



Partial Elevation



Plan View



Specification No : RAH 513

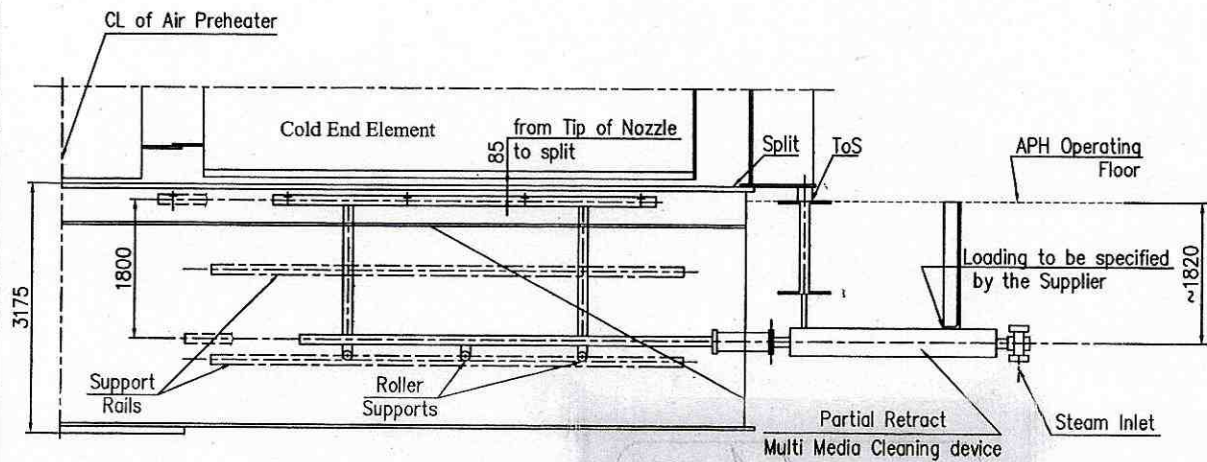
Rev. No : 00

Page No : 01 of 03

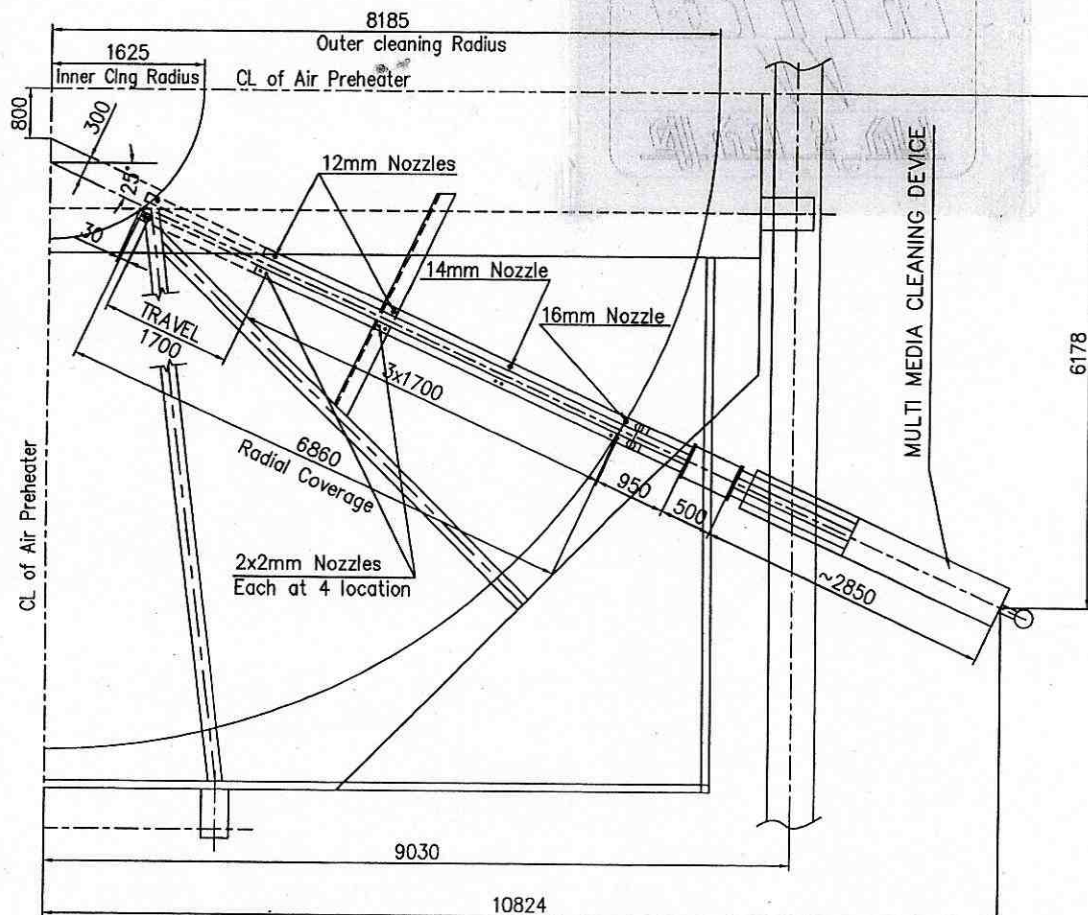
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