01	**Item : Multimedia Cleaning Device for 33 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 (Single feeder)**
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): 125ºC. Design Condition (at Gas Outlet) : 100ºC
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 ºC (110ºC superheat) at 14 Kg/cm^2 (g) to a maximum of 17 kg/ cm^2 (g). 2. In the absence of steam, air at 6.33 Kg/cm^2 (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 1.23 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. Panel to accept signal for steam cleaning start & HP water cleaning start for each cleaning device connected to control panel.
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, Air relief & scavenging valve. b) Wallbox / Sleeve assembly. c) Poppet valve assembly with connecting tube for Steam. d) Isolating Valve for Water line with companion flanges. e) Companion flange together with gaskets studs and nuts, for connecting the steam supply pipe to the poppet valve inlet flange. f) Pressure switch and Pressure Gauge with isolating valve for Steam line. g) Pressure switch and Pressure Gauge with isolating valve for Water line. h) Support arrangement including internal supports & roller supports. i) Special tools one set per boiler. j) All motors shall be IE-3 efficient.	

k) Common PLC Control System with PLC Panel and Local Contactor (Drive) Panel confirming to IP55. Only incoming supply of **415 V, 3 Ph, 50 Hz, AC** will be provided (with SFU or MCB feeder) by BHEL. Supplier shall provide all applicable wiring of the equipment. Local stop / Emergency push button along with equipment.

l) Erection & Commissioning supervision for one week (excluding travel duration) per boiler and this will also be considered for Bid evaluation.

16 **General :**

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) Motor KW rating and total power consumption of entire system.

vi) Write-up indicating the working principle and controls.

vii) Steam consumption details at 14 kg/cm^2 superheated steam with 110 deg Superheat and air consumption at 6.33 kg/cm2.

viii) Water consumption details at 200 bar and at 100 bar.

ix) 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, cable schedule & Panel drawings with internal scheme, data sheet of motors.

ii) General arrangement drawing of the equipment with bill materials and weight detail and Terminal point details.

iii) List of despatchable items with weight & quantity.

iv) Support Requirement & Loading details.

v) IBR certification for valves

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**

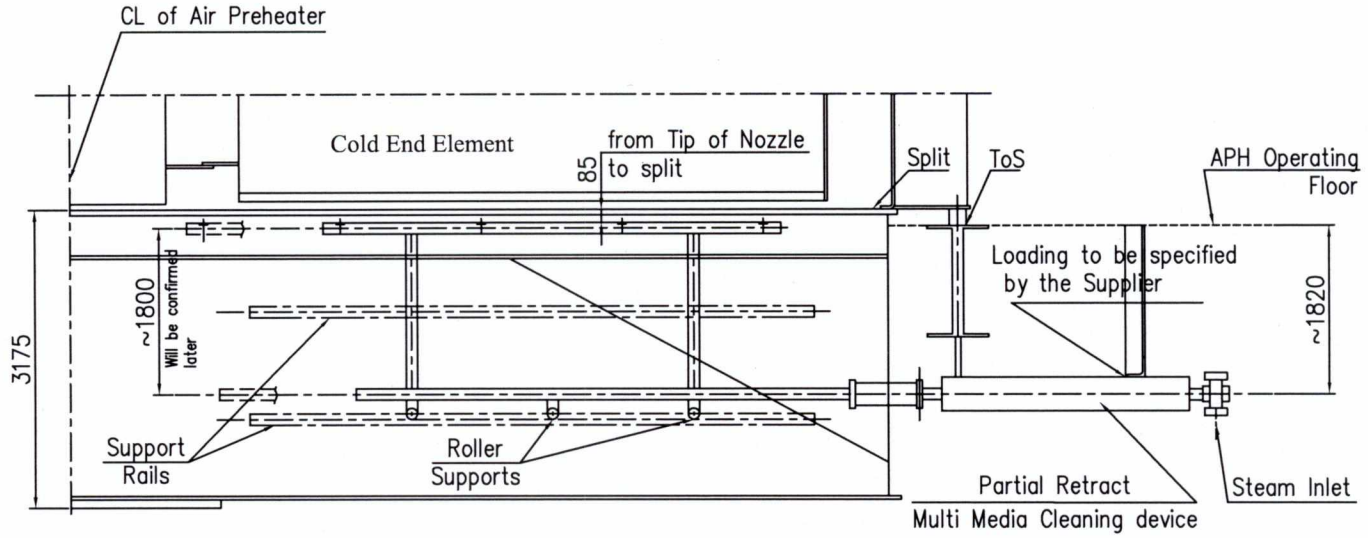
a) Inspection by BHEL.

b) Necessary Test & Material Compliance Certificates shall be submitted.

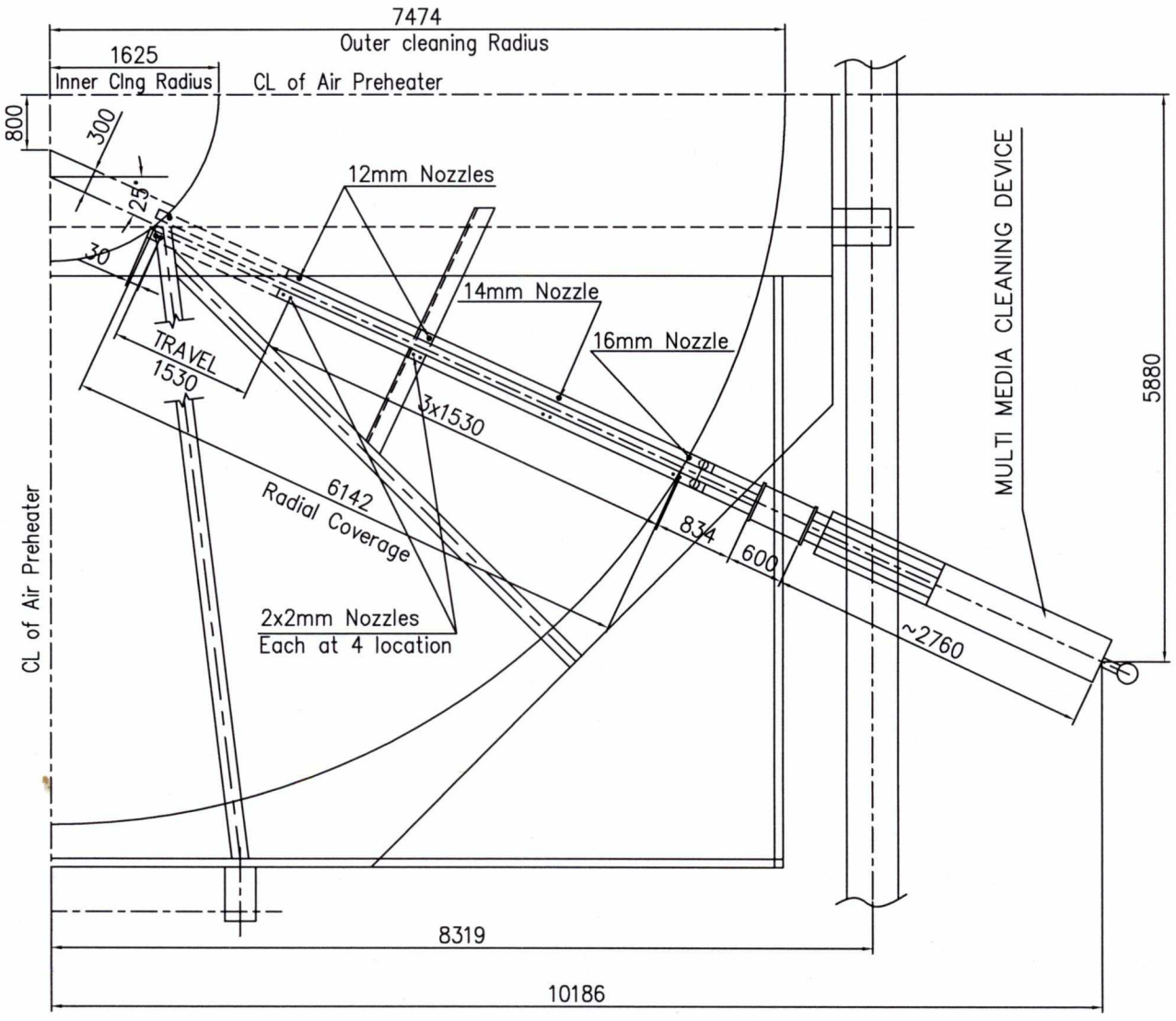
19 **Multimedia cleaner General Arrangement details, Location & Support Arrangement :**

Refer page 03 of 03.

Partial Retract Multi media Cleaning device General Arrgt.



Partial Elevation



Plan View