PRE-QUALIFICATION REQUIREMENTS FOR COAL ITEMS OF PATRATU PROJECT (PQR)

- The firm of Bidder should have in existence in past 3 years as on date of bid opening.
 Following documents proving the firm is active in past 3 years to be provided.
 Last 3 years "Profit & Loss account/Balance Sheet/ GST returns/Any other acceptable document certified by CA".
- 2. The Bidder should have supplied any three Coal Analysis items of our enquiry in last 05 years as on date of bid opening. The self-attested copies of Purchase Orders placed on them by customers & proof of supply should be attached.
- 3. Offered item should have completed one-year operation in any industry. End user contact details should be submitted for the same.
- 4. In case of Agent/Reseller/Traders, offering equipment from OEM, Tender specific authorization letter required from the manufacturer, clearly indicating contact details like Name, E-mail & address of manufacturer.

Technical Specification for Coal Analysis Items of Patratu Project

Sl no	Item Description	Quantity	Specification Annexure
1	Humidity Oven	1 No.	Annexure-1
2	Jaw Crusher	1 No.	Annexure-2
3	Double Roll Crusher	2 No.	Annexure-3
4	Muffle Furnace(for Ash Determination)	1 No.	Annexure-4
5	Raymond Mini Mill	1 No.	Annexure-5
6	Riffle Sampler	2 No.	Annexure-6
7	Sieve Shaker	2 No.	Annexure-7
8	Sieves	1 Set	Annexure-8

TECHNICAL SPECIFICATIONS

1 HUMIDITY OVEN (1 No.)

Humidity Oven should be triple walled with forced air circulation by a motorised blower. Inside walls should be of stainless steel, outside walls of mild steel and intervening walls of G.I sheets. It should have outer double metal door with one full view inner glass door. It should be fitted with a refrigeration compressor (to work at temperature lower than the room temperatures, nichrome heaters thermostat and wet contact thermometer (humidifier), with separate switches for heat and humidification. It should be provided with three shelves.

Technical data

Chamber dimensions (approx.) 700 x 450 x 450 mm(Height, Width & Depth)

Capacity 142 Lit or more Temperature range 5°C to 70°C Temperature control accuracy - ± 0.5 °C Humidity range 10 - 95% RH Humidity control accuracy $\pm 1\%$ RH

Drift over 72 hours Less than 1°C and 2% RH

It should come complete in all respects, ready for use, with indicating lamp, main switch, 3 meter 3-core cable with three prong plug for use at 220V & 50Hz single phase AC supply. Operation & Maintenance Manual with spare-parts list and circuit diagram should accompany the instrument.

2 Annexure-2

JAW CRUSHER (1 No.)

JAW CRUSHER: Suitable jaw crusher for the preparation of coal samples should have the specific conductance in micro Siemen /cm, Battery operated with provision for using with

Feed size : 250 mm Product size : 50 mm

Capacity: 0.5 to 1.0 Ton/hr

Motor 415 V operated 1400 rpm, 5 to 7 HP with belt, starter and required accessories.

Annexure-3

Annexure-1

3 DOUBLE ROLL CRUSHER TYPE 1 (1 No.)

Suitable roll crusher for the preparation of coal samples should have the following specifications:

Feed size : 50 mm

Product size : 6 mm

Capacity : 0.5 Ton/hr

Motor 415 V operated 1400 rpm, 5 HP with belt, starter and required accessories.

DOUBLE ROLL CRUSHER TYPE 2 (1 No.)

 $\label{thm:condition} \textbf{DOUBLE ROLL CRUSHER: Suitable roll crusher for the preparation of coal samples should have the}$

following specifications:

Feed size : 13 mm

Product size : 3 mm

Capacity : 0.25 Ton/hr

Motor 415 V operated 1400 rpm, 2 to 5 HP with belt, starter and required accessories.

Complete with base frames, foundation, etc.

4 Annexure-4

MUFFLE FURNACE (FOR ASH DETERMINATION) (1 No.)

Muffle furnace should be capable of continuous operation at temperature up to 1200°C having welded steel case with corrosion resistant paint.

Complete with energy regulator, digital solid-state temperature indicator cum controller (sub divisions 5°C) with thermocouple. Heating element of Kanthal wire of suitable gauge. It should have built-in digital indicator cum controller for setting the desired temperature to be achieved and it should have a push button switch to check the set temperature. The furnace should be capable of attaining 650°C from ambient in 30 minutes and 815°C in another 30 to 45 minutes. Total time to reach maximum temperature should not be more than 1½ hrs. The ventilation should be provided to give about five air changes per minute.

Temperature indicator Digital

Temperature accuracy ± 3°C over complete range

Temperature indication 1°C intervals
Temperature uniformity Better than \pm 5°C

Temperature control Automatic by ON/OFF controller and energy regulator

Approx. Internal size 100mm x 150mm x 300mm (Height x Width x Depth)

This is for use at 220/230 V, 50 Hz single phase AC supply complete with cable and operation / maintenance manual with spare-parts list and circuit diagram.

5 Annexure-5

RAYMOND MINIMILL (1 No.)

Raymond Mini-mill - swing hammer pulveriser should be of high speed type fitted with a continuous rated motor of 0.5 HP (Synchronous speed 3000 rpm) for small scale production of 212 micron coal fine powder from inlet size of 3.35 mm of coal of approximate HGI of 50. It shall be fabricated steel construction fitted with forged steel hammers and complete with feed hopper, integral hand operated screw type feeder, product container with lid and cloth Product Delivery Tube. It shall be complete with the pair of screens of above size (i.e. 3.35 mm and 212 micron). It should be suitable for operation on 220/230 volts single phase 50 Hz AC Supply. It should be suitable for bench mounting with replaceable fittings.

SPARES

i) Set of hammer One
ii) Set of screen 3.35 mm & 212 micron 6 sets

Spares as mentioned above would be supplied additionaly apart from main equipment.

6 Annexure-6

RIFFLE SAMPLER TYPE 1 (1 No.)

i) Riffle Sampler should be with adjacent slots to deliver coal to opposite side and to divide it into two identical halves. Slots should be of 25 mm size and number of total slots should be 36. The sampler should be provided with legs and removable containers. The material of construction of the equipment shall be mild steel, painted with gray hammertone paint.

RIFFLE SAMPLER TYPE 2 (1 No.)

ii) Riffle Sampler should be with adjacent slots to deliver coal to opposite side and to divide it into two identical halves. Slots should be of 12.5 mm size and number of total slots should be 24. The sampler should be provided with legs and removable containers. The material of construction of the equipment shall be mild steel, painted with gray hammertone paint.

7 Annexure-7

SIEVE SHAKERS AND SIEVES

i) Automatic Sieve Shaker (1 No.)

The equipment should be a heavy duty motorized automatic sieve shaker which operates with both vertical and horizontal sieving action for better particle size distribution analysis in the measuring range of 63 µm to 63 mm. It should have suitable clamping device for holding up to 7 sieves of 8" (200 mm) dia with sieving pan and sieve cover and a total sample weight of 6 Kg. It should have an automatic timer with a variable time setting from 5 to 60 minutes. The instrument should be supplied with sieve cover, receiving pan and sieving aids of Vulkollan cubes (100 cubes). Complete with all necessary spares, accessories and O&M manual for use at 220 V 50 Hz single phase AC supply.

ii) Wet Sieve Shaker, Yoder Type (1 No.)

8

The equipment shall be driven by 1/2 HP motor suitable for 220 Volts, 50 Hz single phase A/C power supply. It shall achieve thirty (30) tapping per minute by a system of worm and gear. The upward motion 30 mm, with sieve holder 200 mm dia sieve and one water tank 305 mm dia. Complete with motor, water tank and all essential accessories for ready use of equipment, along with cord, three pin plug, Operation & Maintenance Manual, spare-part list, etc.

Annexure-8

Test Sieves (Conforming to Indian Standard Specification)

The frame shall be of 200 mm diameter and made out of Spun Brass and without any joint in it, a clean rigid design of minimum weight and free from corners where the material could be lodged. Uniform fabrication of sieves shall permit easy and smooth nesting on each others and also with lid and receiver. Imported 18/8 stainless steel quality standard sieve cloth shall be used for better performance and nesting. The mesh shall be flat, taut and uniform and with permanent tension round the whole circumference.

S.No.	Sieve Number	Size	Quantity			
1.	6	3.35 mm	Two Nos.			
2.	8	2.36 mm	Two Nos.			
3.	12	1.70 mm	Two Nos.			
4.	16	1.18 mm	Two Nos.			
5.	20	850 μm	Two Nos.			
6.	30	600 μm	Two Nos.			
7.	40	425 μm	Two Nos.			
8.	50	300 μm	Six Nos.			
9.	70	212 μm	Six Nos.			
10.	100	150 μm	Six Nos.			
11.	200	75 μm	Six Nos.			
12.	325	45 μm	Two Nos.			

Lid (Two Nos.) and Receiver (Two Nos.) of above Sieves set.

Other Terms & Conditions

Document: Hard copy of O&M Manual in English language giving complete technical information for operation and maintenance of the equipment.

Installation and Commissioning: The supplier shall install & commission the equipment at site. Supplier should demonstrate the performance of the Equipment and all its accessories to ensure compliance with complete specifications & parameters quoted by them to the satisfaction of BHEL/end user. Training to chemists at site during installation should be provided for routine maintenance, operation and safety purpose. Failing to comply to the Installation and Commissioning clause, the offer will be rejected straightaway.

Warrantee: The equipment shall be warranted for satisfactory performance for a period of 12 months from the date of installation or 18 months from date of dispatch, whichever is earlier. Failing to comply to the warrantee clause, the offer will be rejected straightaway.

Packing & Dispatch: The equipment / accessories shall be packed in a suitable water proof/vibration proof packing box capable of bearing air and road transit hazards. Packing box shall be properly identified and marked with **BHEL's (India) Purchase Order Number**. Also, "**PCRI HWR**" should be written in bold letters on all four sides of the packing box.

Certificate

In	line with	Governmen	t Public Pi	rocurem	ient Order No.	. P-45	0021/2/20)1 /-BE-I	I at. I	5.06.	201/
&	P-4502	1/2/2017-PP	(BE-II)	dated	28.05.2018,	we	hereby	certify	that	we	M/s
					(suppli	ier na	me) are l	ocal supp	olier m	eetin	g the
rec	quirement	t of minimun	n local con	tent (50	%) as defined	in ab	ove orde	rs for the	mater	ial ag	ainst
En	quiry No	•									
Details of location at which local value addition will be made is as follows:											

We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.

Seal and Signature of Supplier