CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
(CSIR, Ministry of Science & Technology, Govt. of India)
H.Q.: Barwa Road Campus, Dhanbad – 826 015 (Jharkhand), India

NIT No.CIMFR/PUR/14(16)2011 Date:23.12..2011

NOTICE INVITING TENDER (Global)

Director, CIMFR invites sealed tenders, in **Two Bid Systems,** for supply, installation and commissioning of **(i) Pilot Plant for Coal to Liquid.**

Item No.	Particulars of Item	Qty.
1.	**File No: 13(2)/CIMFR-DC/18/10-11/PUR** **PILOT PLANT for COAL TO LIQUID** Design , development, fabrication, installation and commissioning of the **Pilot Plant for Coal-to- Liquid Process Development**.	One Complete Unit
Last Date of Submission :30.01..2012 Time: Up to 5.00 P.M. **Date of Opening (Technical) : 31.01.2012 Time: 3.00 PM** Details of the Tender Document is available at www.cimfr.nic.in		

s/d
S.P.O.
For Director

: 0326- 2296030

CENTRAL INSTITUTE OF MINING & FUEL RESEARCH

(CSIR, Ministry of Science & Technology, Govt. of India)

H.Q.: Barwa Road Campus, Dhanbad – 826 015 (Jharkhand), India

NIT No.CIMFR/PUR/14(16)2011 Date 22.122011

NOTICE INVITING TENDER (Global)

Director, CIMFR invites sealed tenders (In two Bid Systems) for supply, installation and commissioning of (i) **Pilot Plant of Coal to Liquid.**

Item No.	File No.	Particulars of Item	Qty.	T.D. Fee in DD*	EMD in DD/BG/BC
1.	File No: 13(2)/CIMFR-DC/18/10-11/PUR	**Pilot Plant of Coal to Liquid** Design , development, fabrication, installation and commissioning of the **Pilot Plant for Coal-to- Liquid Process Development**	One Complete Unit	Rs. 300.00	Rs.11,00000/-

*** No tender fees are required in case it is downloaded from the site www.cimfr.nic.in.**

Note: The Tender Document can be obtained from the Office of the Stores & Purchase Officer, CIMFR, Barwa Road, Dhanbad on written request on payment of the non- refundable and non – transferable tender document fees as stated above in the form of cross Demand Draft issued by a scheduled bank drawn in favour of Director, CIMFR, payable at State Bank of India, Hirapur Branch, Dhanbad from **27**.12**.2011** to **30.01.2012 upto 5 PM**. CIMFR will not be responsible for non- receipt of the Tender Documents due to postal delay/loss in transit. The tender complete in all respect along with EMD should reach to this office on or before **30.01.2012** upto **5.00 PM** and will be opened on **31.01.2012** at **3.00 PM** at CIMFR H.Q.

Tender Documents with detail terms & conditions can be downloaded from our website: **www.cimfr.nic.in .** Tender fees will not be required if it is downloaded from the website up to the tender sale period. The required EMD as stated above in the form of DD or BG must be enclosed in the Technical Bid failing which the offer will be treated as non-responsive.

Director, CIMFR reserve the right to accept or reject in part or in full to any or all the tender without assigning any reason thereof.

🖷: 0326- 2296030

S/d
S.P.O
For Director

CENTRAL INSTITUTE OF MINING & FUEL RESEARCH
(CSIR, Ministry of Science & Technology, Govt. of India)
H.Q.: Barwa Road Campus, Dhanbad – 826 015 (Jharkhand), India

NIT No.CIMFR/PUR/14(16)2011 Date: 22.12.2011

NOTICE INVITING TENDER (Global)

Detailed specifications:-

Sl. No: (1) File No: 13(2)/CIMFR-DC/18/10-11/PUR

Technical Specifications for Coal-to-Liquid Process Development Unit (PDU)

Coal-to-Liquid Process Development Unit (hence forward termed as CTL-PDU) is an integrated research/testing facility of catalysts and coals for conversion of coal to liquid hydrocarbons. The basic process includes gasification of coal by steam and air at atmospheric pressure and simultaneous conversion of the mixed gas to gaseous and liquid hydrocarbons in presence of catalyst at elevated pressure (20 – 30 kg/cm^2) and temperature (180 – 320^{o}C).

The whole CTL-PDU consists of:

i) Coal Gasifier,
ii) Cold Gas Clean-up System,
iii) Shift Reactor Assembly
iv) CO_2 Scrubber
v) Booster Blower
vi) Low Pressure Floating Head Gas Holder
vii) High Pressure Syngas Compressor
viii) High Pressure Buffer Tank
ix) Pre-heater
x) Additional Guard Bed for removal of Sulfur
xi) Multi-tubular Fixed Bed Reactor with suitable Heat Exchanger
xii) Catch pots (2 nos)
xiii) Gas Flowmeter/Totalizer

xiv) On-line Gas Analyzers (GC, IR Based and FT-IR based)

xv) Bench Top Catalyst Testing Unit

xvi) Flare Stack

xvii) Housing of the Plant

xviii) Essential Utilities

The total CTL-PDU should be PLC controlled. Details of operation and utility of each component are described below **(Schematic Flow Sheet in Fig: 1)**

i) **Coal Gasifier (One):** It is a unit used for gasification of high ash (30- 50%) coals for generation of mixed gas in a continuous manner. Gasification will be done with the help of steam and air in fixed bed condition under atmospheric pressure and temperature of ~ 1100^{o}C. 50 to 100 kg/h coal may be charged in the gasifier to produce mixed gas of approximate composition of CO: 16 – 20%; H_2: 16 – 20%; N_2: 50 – 55%; CO_2: 8 - 10%; CH_4: 2%. This mixture will also contain impurities in the form of solid/liquid/gases like solid particulate matter (SPM), soot, coal tar, H_2S, NH_3, HCN, COS, HCl, etc.

The gasifier should include a suitably rated steam generator and blower for air feeding. There should be suitable flow meter and control valves to control air flow rate and steam flow rate. Ash extraction should be done at the bottom of the gasifier. Suitable raw coal crushing, handling and suitable mechanized coal feeding system like bucket elevator etc for coal charging in the hopper of the gasifier should be provided. Level indicator for maximum and minimum level of coal in the hopper should be provided. Coal charging in the gasifier should be PLC controlled. There will be separate thermocouples for reading syngas temperature at the gasifier out-let. Safety devices like pressure relief valve and rupture discs should be provided. Suitable material of construction and lining should be provided as per processes requirement. Care should be taken in the PLC programming in the form of audible alarm for sudden temperature rise. A sampling line would be provided to the Gas Analyzer for time to time monitoring the composition of the product gas of the gasifier. A sampling port along with sampling probe should also be provided for manual collection of gas. A vent line would be provided and be connected to the flare stack so that gas stream could be vented during initial start-up of the Gasifier.

The size of the raw coal to be provided to the vendors will be (-) 200 mm. Successful bidder will have to make arrangement for suitable sizing the coal to be fed to the gasifier.

ii) **Cold Gas Clean-up System:** The product gas (~200 Nm^3/h) from the gasifier be cooled down in the Gas Clean-up system ~ 70^oC. The gas cleaning system can be divided as follows:

1. Removal of particles or dust collection through cyclone separator
2. Condensation and separation of tar from the product gas using water cooled condenser
3. Removal of water soluble gases HCl and NH_3 using water scrubber
4. Alkali scrubbing system for removal of acidic gases like COS, HCN
5. Mist eliminator/knock out drum for de-misting the product gas

There will be separate thermocouples for reading the temperature at the each out-let of the aforesaid gas cleaning devices.

The gas is cleaned of sulfur compounds and other unwanted components to extremely low levels, to protect the downstream catalysts. Water stripping removes ammonia produced from any nitrogen in the coal. Sulfur in the coal is converted to hydrogen sulfide (H_2S) and carbonyl sulfide (COS). Hydrolysis is used to convert COS in the syngas to H_2S, which is recovered in the acid-gas removal step.

A flow-meter/totalizer (Capacity: 200 Nm^3/h) should be provided to quantify the total amount of gas produced during gasification. A sampling line would be provided to the Gas Analyzer for time to time monitoring the composition of the product gas of the gasifier. A sampling port along with sampling probe should also be provided for manual collection of gas.

The cleaned gas will be divided into two streams, one is to be connected to the Shift Reactor System and other is connected to the out-let of the Shift Reactor. The ratio of the two stream of gas would be ~ 1:2 and suitably rated flow meter and control valves would be provided to both the lines to maintain the gas flow.

iii) **Shift Reactor Assembly:** It is an ancillary reactor system, which is used to increase the H_2/CO ratio. This reactor system will consist of four components namely: a) Pre-heater, b) High Temperature Shift (HTS) Reactor (300^oC), c) Cooling system to cool the gas from out-let of HTS to 200^oC, (d) Low

Temperature Shift (LTS) Reactor (200^{o}C). Commercial Shift Catalysts will be used for this purpose. HTS and the LTS are actually two adiabatic reactor beds connected by a cooling system to bring down the in-let temperature of the LTS to below 200^{o}C. The maximum temperature of the HTS can go up to 300^{o}C. HTS, LTS and the cooling system should have independent temperature controller and probes which will be able to control temperature through PLC. Heating should be provided with the help thermic fluid heat exchanger. There will be separate thermocouples for reading the temperature inside the pre-heater, HTS, LTS and intermediate and final cooling out-let. The gas should be fed top to bottom and with reference to the Gasifier capacity, nearly ~ 70 Nm^3/h of mixed gas will pass through it. It should also include a suitably rated steam generator (Steam Feed Rate: ~ 20 L of water/h) which will inject steam into the reactor required for the Shift Reaction ($CO + H_2O \rightarrow H_2 + CO_2$). Suitable arrangement should be provided for measurement and control of steam flow rate which will be introduced into HTS. Both the HTS and LTS are to be heated and both in-let and out let temperature for each bed to be monitored and controlled through PLC and the temperature should not go beyond 500^{o}C and 300^{o}C respectively (These are deactivation temperatures for HTS and LTS catalysts). Capacity of the Shift reactor assembly would approximately of 10 L. A sampling line would be provided to the Gas Analyzer for time to time monitoring the composition of the product gas from the Shift Reactor. A sampling port along with sampling probe should also be provided for manual collection of gas. A flow-meter/totalizer (Capacity: ~ 100 Nm^3/h) should be provided to quantify the total amount of gas produced during shift conversion. Suitable MOC should be selected as per process requirement. Cooling arrangement should be provided to bring down the temperature of the gas produced from Shift reactor to normal temperature.

iv) **CO_2 Scrubber:** After the shift reaction the syngas will be richer in CO_2 and needs to scrub 50 Nm^3/h of CO_2 out of total 220 Nm^3/h of gas. Standard scrubbing procedure may be followed for total CO_2 (<15 ppm) and H_2S removal. The suitable regeneration and recycle system for the solvents should be included. There will be separate thermocouples for reading the temperature of the out-let gas. A sampling line would be provided to the Gas Analyzer for time to time monitoring the composition of the product gas from the scrubber. A sampling port along with sampling probe should also be provided for manual collection of gas.

A flow-meter/totalizer (Capacity: ~ 200 Nm^3/h) should be provided to quantify the total amount of gas available after CO_2 scrubber. Suitable MOC should be selected as per process requirement.

v) Booster Blower: Suitable booster blower should be provided to suck the clean gas from the Gasification Island and fill in to the Gas Holder along with pressure control valves/mechanism to keep the pressure stable in the Gasification Island. This system should be regulated through PLC,

vi) Low Pressure Floating Head Gas Holder (One): The syngas thus produced contains CO, H_2, N_2 and CH_4 (minor) will be stored in storage tanks. The capacity of the storage tank would be 30 Nm^3 with all safety arrangements. Suitable MOC should be selected as per the norms for storing of inflammable gases. There should be thermocouples for reading the temperature of the stored syngas at least at two points of the Gas Holder.

vii) High Pressure Syngas Compressor (One): Fischer-Tropsch reaction is a High pressure reaction, hence the syngas pressure is to go up to ~ 30 kg/cm^2. The compressor should be such that it can build up to 30 kg/cm^2 of pressure in Multi tubular reactor and its capacity should be of ~ 10 Nm^3/h. The manufacturer of compressor should be of international repute. The ON/OFF operation of the compressor should be controlled in order to maintain stable syngas pressure in the Buffer Tank (Described next: viii). All international safety precautions (e.g. High pressure/temperature cut-off, safety relief valve, out-let of the safety relief valve to be connected to flare stack etc.) for high pressure syngas handling should be ensured.

Design pressure after compressor will be 50 kg/ sqcm (guage). Before gas storage tank it is 1 kg/sqcm(guage)

viii) High Pressure Buffer Tank: Syngas compressed by the High Pressure Compressor will temporarily be stored in a High Pressure Buffer Tank (Capacity of: ~ 1 M^3) and simultaneously feed into the FT Reactor. The Gas Flow rate (up to 10 Nm^3/h) can be varied according to the requirement of the FT reaction. The High pressure buffer tank should be made of suitable quality material and thickness conforming to the standards of high pressure gas storage vessels. A flow-meter and control valve should be provided to quantify the total amount of gas to be fed in to the Pre-heater vis-à-vis Reactor.

Capacity or selection of Syngas compressor and high pressure storage should be such that any fluctuations in the process pressure have to be sustained.

ix) Pre-heater: The cold gas is not directly fed in to the FT Reactor hence the feed gas is pre-heated to a temperature ~ 20^{o}C less than the FT reaction temperature. Suitable heating arrangement by using thermic fluid should be provided to keep the temperature of pre-heater in the range of 150 – 300^{o}C. There will be separate thermocouples for reading the temperature inside the pre-heater. The pre-heater should be provided with circular coils or filled up with inert materials for temperature homogenization of the feed gas. Additional CO/H_2 feed line with flow meter and flow control valves should be provided.

x) Additional Guard Bed (Capacity: 5L): FT Catalyst is very much susceptible to sulfur poisoning, hence an additional Catalyst Bed will be attached to the on-line stream to bring down the S to minimal (<2 ppb S). The temperature of the Guard Bed should be in the range of 150 – 300^{o}C by suitable thermic fluid heat exchanger. Thermocouple should be provided at the out-let of the Guard Bed. It will be a Fixed Bed Reactor where commercial desulphurization catalyst will be used to remove any trace of sulfur from the feed gas.

xi) A) Multi-tubular Fixed Bed Reactor: This is the main Fischer-Tropsch reactor system. It is multi-tubular Fixed Bed Reactor of 10 L catalyst capacity. The temperature of the reactor can go up to 400^{o}C through thermic fluid heat exchanger and operating pressure of 30 kg/cm^{2}. The length of the reactor would be 2.3 M and it can hold 6 – 7 smaller tubes. These tubes (ID of each tube: 30 mm) should be jacketed and suitable heating and cooling system should be arranged to maintain the temperature of the reactor as exothermic heat produced is ~ 4000 kcal/h during the FT reaction. Another additional set of tubes should be provided which will consist of 10 tubes of ID 20 mm and length 2.3 M. The feed gas should enter from the top and product out is from the bottom of the reactor. Vendor should make proper design of flow distribution so as to ensure the equal reaction conditions in all tubes. The temperature of the reactor should be monitored at least at 3 to 4 zones (top, 2-mid zones and bottom) of all around the reactor and suitable temperature controller system should be given to maintain the reactor temperature at certain reaction temperature (± 2^{o}C). The reaction temperatures may be varied from 200 to 360^{o}C at an interval of 10^{o}C and control of temperature should be such that temperature fluctuation should not be more

than ± 2^{o}C. Suitable arrangement should be made for loading of the catalyst from the top and used catalyst discharge from the bottom of the reactor. All international safety precautions (e.g. High pressure/temperature cut-off, safety relief valve, rupture discs, out-let of the safety relief valve to be connected to flare stack etc.) should be ensured for this reactor. The out-let of the reactor is connected to the Hot Catch Pot through a product transfer line which is maintained at a temperature of 110 – 120^{o}C for collection of the liquid and solid products of the reaction.

B) Heat Exchanger: The exothermic heat of reaction generated with in the **Multi-tubular Fixed Bed Reactor** is removed by circulating thermic fluid in the shell side of the reactor or **any other suitable heat exchange arrangement** to maintain near iso-thermal conditions of the catalyst beds. In case of the thermic fluid cooling, it is circulated through the reactor shell by a circulating pump. A heat exchanger with cooling is provided in the circulation line to take away the heat of reaction which is picked up by thermic fluid from the reactor. Electric heaters are to be provided in the line (heat tracing) and also within the thermic storage tank to heat-up the reactor during start up and whenever required. The Heat Exchanger should be provided with suitably rated all necessary components including Thermic Fluid (TF), TF Heater, TF Pumps, Cooling Tower, Water Cooler, Air Cooler (Radiator), TF Evapansion/Refilling Tank etc. During reaction time, the exothermic heat will be transferred to the thermic fluid which will be carried to the heat exchanger where heat will be transferred to the cooling tower.

xii) Catch Pots: Catch pots are the containers connected at the end of the product transfer line. The product transfer line should be equipped with heating arrangement (120 – 150^{o}C). There will be two catch pots and they will be maintained at different temperatures to arrest different hydrocarbon products. Isolation collection pots will be provided at the bottom of each catch pots having capacity 5 L each. Isolation valves should be provided in between catch pot and the collection pots. Liquid level gauge in the catch pot and the collection pot should be provided. Heat tracing arrangement should be provided in the Catch pot and collection pots for de-waxing purpose.

a) Hot Catch Pot (01 No.): The temperature of this pot will be maintained from 40 – 110^{o}C.

b) Cold Catch Pot (01 No): The cold catch pot will be maintained at temperature ranging from – 20 to 40^{o}C. Uncondensed gases in the cold catch pot will be taken to vent through the Back Pressure Control Valve and Gas Flow Meter. Suitable rated Back Pressure Control Valve should be provided to maintain the Reactor Pressure.

xiii) **Gas Flow Meter/Totalizer:** It will record total gas out-put (un-reacted + gaseous hydrocarbon products) from the Fischer-Tropsch Multi-tubular Fixed bed Reactor. The maximum flow will be ~ 10 Nm^3/h.

xiv) **On-line Gas Analyzers:** 1 (one) NDIR based on-line gas Analyzer (Gasboard 3100, Wuhan Cubic Optoelectronics Co Ltd.), GC (01 No; Equipped with both TCD & FID) and FT-IR based Gas Analyzer (50 gases together, Make: GASMET, Model: Cx-4015) for quick and easy on-line gas analyses. All necessary arrangements should be made for gas transfer lines following the principles of the individual Gas Analyzers (Details is provided in equipment List). Required carrier gas cylinders together with suitably rated double stage gas regulators (Gas Manifold) should be provided for the Gas analyzers in the Pilot Plant.

xv) **Bench Top Catalyst Testing Unit:** It is a complete reaction system designed for catalyst evaluation in small quantity. The standard system includes one fixed bed tubular reactor with system control accomplished by a PLC and a supervisory computer. The reactant preparation portion is capable of handling up to four inputs. Two inputs can be high pressure liquid pumps. The reactants are passed through an optional mixer/vaporizer assembly for blending and creating a single homogeneous, non-pulsating stream to be fed to the reactor. This system allows for accurate and automatic control of feed valves, status valve, sample valve, reactor temperature and pressure. Mass Flow Controllers for automated delivery of reactants and a heated transfer line to a Gas Chromatograph port. Reactor Temperature: ≥ 500^{o}C, System Pressure: ≥ 50 bar, Reactor size: 10 mL, Oven Temperature: ≥ 200^{o} C, Components located in Oven: mixer/vaporizer, reactor, sample valve, status valve, back pressure regulator body, pressure transducer isolator. Feed Lines: 1/8” bulkhead, 7 micron filter, metering valve, 3-way valve for vent or online porting, and reverse flow check valve. Compression fittings for stainless steel tubing with 1/8” OD and 1/16” ID.

xvi) **Flare Stack:** This should be provided with LPG (5 nos of commercial LPG cylinders should be provided) supported pilot burner with flame senor which will

be operated through its control panel/PLC for flaring of the exhaust gas from the FT Reactor, Gasifier and various vent lines etc with all safety arrangements.

xvii) Housing of the Plant: Housing of the plant to be provided by the Vendor. Other than the Low Pressure Gas Holder, the entire Pilot Plant should be housed under single roof with half man wall boundary. Roof should be of galvanized corrugated steel sheets conforming to IS 227 and fasteners shall conform to IS 730. All fabricated structure shall receive two coats approved make red oxide zinc chromate primer as per IS 2074 and the finishing paint on erected structures shall be a minimum of two coats of aluminum paint conforming to IS 2339 or synthetic enamel paint conforming to IS 2932. Adequate numbers of entrance and exits should be provided for the plant area. The total area would be calculated in such a way that sufficient moving space is there considering the convenience of operation of the plant/equipment, safety, maintenance etc. The Control Panel and other necessary sensitive Equipments (viz.: GC, FT-IR based Gas Analyzer, IR based Gas Analyzer, Bench Top Catalyst Testing Unit, etc.) should be housed in a room (within the Plant Area) provided with adequate Air-conditioning (Two Split ACs of 2 Ton Capacity each) arrangements. The room would be of sufficient size that at least 10 persons can work simultaneously. Adequate numbers of tables (for keeping the computers and instruments) and chairs (sitting for ten persons) should be provided. Double Glass pane window (W: 4 M, H: 2 M) should be provided toward the Plant side. The plant area should be adequately illuminated with flame proof lights. All the electric motors, junction boxes and fittings of the plant area should be flame proof. Structural steel, reinforcement steel and cement should be of tested quality. Other construction materials like bricks, sand, stone chips, paints, fasteners should be of standard quality and strength. All equipment, structure, pipe lines etc shall be painted with adequate numbers of coatings as per relevant BIS/ISO standards.

xviii) Essential Utilities:

a) High Pressure Gas Manifold: Separate line to be provided from High Pressure Gas Manifold to the Shift Reactor Assembly, Additional Guard Bed and Multi-tubular Fixed Bed Reactor. Hydrogen cylinders (15 Nos., Capacity: 47 L water Capacity, Pressure: 130-150 kg/cm^2) are to be provided in the High Pressure Gas Manifold which should be equipped with suitably rated

necessary delivery system including Strainer Filter, Flow meters and flow control Valves, PRV, Pressure Gauges etc.

b) Gas Sample Header along with sample collection facilities should be provided to collect and feed the samples to the individual analyzers. This should also include purging, flushing and evacuation facilities to facilitate de-contamination. This facility should be controlled by PLC.

c) Water Storage Tanks: Water storage tanks of suitable size should be provided at each required places.

d) DM Water Plant: DM Water Plant of suitable size for steam generation, process requirement etc should be provided.

e) Suitable system for cold drinking water may be provided in the Plant Area

f) Control Panel

- Local display for the Temperature, pressure, Differential pressure and flow instruments should be provided at each location for redundancy.
- ON/OFF Switches to execute the sequential operations of coal feeding and ash extraction activities manually (apart from PLC).
- Speed controllers and drives for the control of various motors as per requirement
- Indicators for the “Position” of control valves & solenoid valves and actuator operated on/off valves
- Push button switches for power etc.
- Emergency switches and suitable safety devices should be provided for control and instrumentation.
- **Programmable Logic Control (PLC) and Data Acquisition System:** PLC cabinet should be mounted in control room and should be provided with at least 20% extra I/Os.

  Two HMI (Human Machine Interface) touch screen control stations should be provided in the Plant. One control station 28” monitor size should be provided in the Control Room. Apart from this, two mobile control stations with wireless connectivity should be provided. Audible and visible alarm system should be provided for PLC. The PLC should be of reputed make like Allen Brady/Siemens. The sophisticated instruments like GC, FT-IR based Gas Analyzer should have there independent data acquisition system. All

temperatures, flow rates, pressures, differential pressures, levels and on /off position signals from the valves can be made available to the PLC system, through serial data communication. Suitable hardware and software should be provided. Minimum of 20 KVA (3 Φ) on-line UPS of reputed make (Tata Libert, APLAB) should be provided with one hour back up time for running the control panel and sophisticated instruments.

- Energy meter with digital display and totalizer should be provided for the entire Plant

  The minimum configuration of each of the computer is as follows:

  Reputed Make (DELL/Compaq/HP/IBM); Intel® Core™ i3-530 Processor (3.2 GHz or higher, 1333MHz FSB, 4MB Cache), **Operating System**: Genuine Windows(R) 7 Home Basic 64 bit Edition (English); **Memory**: 4GB (2X2GB) DDR3 SDRAM 1066MHz Memory, **Hard Drive**: 500GB SATA 3.0Gb/s Hard Drive with Native Command Queuing; **Monitor**: 20" Widescreen Flat Panel Monitor, **Video Card**: NVIDIA(R) GeForce(R) G310 512MB, **Optical Drive**: 16X DVD+/-RW with Dual Layer Write Capability; Multimedia Computer Speaker,

- Laser printers (Make: HP Color: 01 and Black & White: 02) with latest configuration should be provided

Safety, Accessibility and Health hazards

There should be adequate arrangement for access to and around equipment for operational and maintenance functions. High pressure safety valves should be provided at each point where the system is at high pressure. All moving and exposed parts shall be adequately guarded. The consideration for fire hazard and health hazard should be taken care of by the supplier. For safety, DCP, CO_2, foam extinguishers & sand buckets should be placed for electrical, explosion prone area etc. At least eight fire extinguishers of each type of approved make should be provided. All equipment and components should conform to the standard safety regulations. Also, CO and smoke (10 each) detectors with proper audible and visible alarm system should be provided. Local two-way address/communication system in the Plant Area and

Control Room should be provided. Fire fighting system consisting of pump and hose should be provided. Rubber mats, shock treatment charts to be provided at all places like MCC rooms, control room etc. Grounded neutral shall be adopted for the purpose of the proposed plant. The earthing system should conform to IS 3043 and will be in accordance with IE rules. Frame of every motor and other electrical apparatus used for high, medium as well as low voltage accessories shall be earthed by two distinct and independent conductors (in addition to cable armouring where there are cable connections). Proposed plant building shall be provided with lightning arresters with independent earthing pits and grid as IS norms.

It should be noted that the PDU generates various gases, which are detrimental to operator's safety. It is therefore proposed that CO monitor and smoke detectors should be placed at strategic places, which can be identified together with CIMFR scientists.

Special Instructions to Vendors

- Entire work i.e. from equipment/plant detail design including civil work, design and execution to commissioning is on **Turnkey** basis hence the supplier has to provide guarantee of successful running of the CTL Plant.
- General description of design consideration and all the assumptions to be made by the Vendor
- Finished ground will be provided by CIMFR for the Pilot Plant. Load bearing capacity data of the soil for the site provided for the pilot plant will be supplied by CIMFR.
- Vendor must suggest appropriate layout for complete plant and utilities to arrange the space or plot and the time frame in which the parallel work should be started for civil activities after getting the purchase order.
- Sufficient sets of spares should be included in the list of commissioning spares. Any additional spares over and above this list required for commissioning shall be provided by the supplier
- A detail Bar Chart for progress of work should be provided
- Catalogues/complete documentation including detail design, drawings of plant/equipment and instruments along with operation manuals should be provided.

- Latest calibration certificates for all equipment/instruments/control accessories from manufacturer/ competent authority should be supplied.
- Necessary NOCs should be obtained from Competent Authorities like pressure vessels, gas storage systems, Reactors, Compressors etc.
- Q.A.P. (Quality Assurance Plan) should be provided
- List of exclusions, deviations and references should be provided
- Weight of each items/equipment should be provided.
- Complete motor details like kW rating, CDF, duty class, class of insulation, make etc.
- List of commissioning spares, testing procedure.
- Any other details which may be felt necessary.
- All tools & tackles, apparatus, special instruments required for installation, testing, commissioning and establishment of Performance Guarantee Test (PGT) shall be arranged, stored, maintained and guarded by the Successful Vendor.
- Until the plant and equipment are handed over to the purchaser, the successful Vendor shall be sole custodian of all materials; equipments assembled at site and will be responsible for loss, theft, damage or destruction. For this purpose the successful Vendor shall arrange insurance at his own cost to cover the assets.
- On completion of work, all rubbish debris, temporary supports, enabling structures etc. shall be removed from the site and the site (including storage site) handed over to the purchaser in a tidy manner. All scrap etc. shall be dumped suitably at specified places as directed by the purchaser.
- CIMFR Scientists and Representatives may visit the fabrication site with prior intimation to assess the progress
- All high-pressure equipment, instruments, electrical items and fittings should conform to the international safety standards, as applicable. Necessary certificates should be provided.
- The Project will be executed on **TURNKEY** basis and the Project must be completed **within 15 months** from the date of Purchase order.
- Tapping of electricity from outgoing terminal of purchasers LT board and located at an approximate distance of 100 M including supply of four pole

SFU and MCBs of suitable rating. Proper earthing should be provided for the Plant, Electrical Panel and Control Panel as per IS norms. In order to ensure standard power factor of 0.95, bank(s) of 415 V Capacitors with automatic switching ON/OFF arrangement for the correction of Power Factor in stages through suitable type of correction relays to be provided. Cable lay-out drawing for instrumentation and electrical throughout plant should be provided.

- Water taping will be available at an approximate distance of 100 m. Water storage system of sufficient capacity should be provided by the vendor. Over head water storage tank should be provided for emergency water supply wherever required along with proper control system.
- Water and electricity required during fabrication of Pilot plant will be chargeable. Water charges will be @1% of the cost of total Civil Work and electricity charge will be as per actual basis.
- All structural mild steel should conform to IS 2062, Grade A for rolled sections and plates up to 20 mm thickness.
- Surface drainage should be provided as per site requirement
- The purchaser reserves the right to accept/reject the offer in totality or split the scope of supply or alter the specified quality of supply or delete any item from the scope of work without assigning any reason.
- During commissioning cold testing as well as two experimental runs at hot conditions of continuous 48 hours duration each should be conducted.

Warranty

Successful Bidder should provide One year on-site warranty for the entire plant from the date of handing over the plant. Price should also be quoted for additional Warranty of Two Years.

List of Equipments with specifications and Make/Model

SI No.	Name of the Instrument	Broad Specification	Make/Model
1	Pressure gauge	Bottom or back Mounted, Wetted parts of SS 316	Wika/Dwyer/Waree
2	MFC	MOC (Wetted Parts) SS 316 Accuracy +/- 0.5% Repeatability +/- 0.5 % Output signal 0-5 VDC & 4-20 mA	Bronkhorst/Brooks
3	NRV	Screwed or flange end, SS 316, PTFE seated. Wafer type or poppet type	Swagelok/Parker/Hamlet
4	BV	Screwed or flange end, Body SS 316, internally PTFE/EPDM seated	Swagelok/Audco/Virgo/BDK
5	TWV	Screwed or flange end, Body SS 316, internally PTFE/EPDM seated	Swagelok/Audco/Virgo/BDK
6	Filters	5-7 microns, Body SS 316	Pall/Domnic Hunter/Swagelok Equivalent
7	TVC	4-20 mA, Flange ended Pneumatically actuated, Double Diaphram, % opening type.	Avcon/Jordan/Samson/Audco
8	FCV	4-20 mA, Flange ended Pneumatically actuated, Double Diaphram, % opening type	Avcon/Jordan/Samson/Audco
9	SRV	SS 316,threaded end connection, spring loaded	Swagelok/Parker/ Equivalent
10	TE	Two wire PT-100,variable length as vessel dimension	Watlow/Omega/Radix
11	Level transmitter	Ultrasonic / Capacitance Type. Inbuilt indicator, 4-20 mA output	Forbes Arshall/Metler/Fitzer/ Equivalent
12	pH Meter	Gel Filed membrane base, continuous online 4-20 mA output	Melter/Thermo/Equivalent
13	Rota meter	As per pump Flow Rates	Eureka/Scientific
14	Fasteners	Class 450 rating, SS 316 for process line, SS 304 for utility lines. Chemically itched	APL/Unbrako

15	Flanges	Forged, rating as per design, SS 316 for process lines, SS 304 for utility line. Chemically itched	Tested
16	Gaskets	O ring type.	
17	Electrical Cables	As per IP 65.Armard for supply lines and Multi core with SS spiral hose for communication line.	Finolex/Polycab
18	Cable Trays	250 mm * 50 mm* 2 mm CRCA	Fabricated
19	PLC	Process Controlling, Trending, Data Acquisitions etc	Allen Bradley/Siemens or equivalent
20	Control Panel	To Accommodate PLC, MCBs, Relays, Push Buttons, Power Supply, Connectors	Designed and Fabricated
21	MCBs/Switchgears	For Electrical Power	Siemens/GE/ABB
22	Connectors	For Connection with filed instruments and power supply	IE/Phoenix/ or equivalent
23	HMI/Computer	For firing the set values and monitoring the process Data	Siemens/Sony/HP or equivalent
24	Steam trap		Forbes Marshaall/Equivalent
25	Syngas Compressor	50 kg/cm^2 & 10 Nm^3/h	Atlas Copco/Dressr Rand or equivalent of international repute
26	Pump	Centrifugal	Grundfoss/ITT/WILO
27	VFD	For rpm or motion variation & control	Siemens/Allen Bradly/ Yasakawa/ABB
28	Shed Flooring	Concrete surface with proper leveling and drainage system.	
29	Flame Proofing	Following safety regulations	International repute
30	Gas Sensors	Detection of CO, H_2, CO_2 etc	Honeywell

31	FTIR On-line Gas Analyzer	50 gas analysis using FTIR based technology (Rack Mounted)	Make: GASMET Model: Cx 4000
32	GCs (No.: 1) On-line	i) With TCD, FID and suitable packed columns for analysis of feed and product gases. ii) With FID for analysis of Liquid Hydrocarbon Products equipped with suitable capillary column and SIMDIST application. GCs to be connected at out-let of the Multi-tubular FT Reactor	Varian/Perkin Elmer
33	IR, TCD & ECD Based on-line Gas Analyzer	a) Principles of Measurement: NDIR: CO, CO_2, CH_4, and C_mH_n Electro Chemical Detector (ECD): O_2 Thermal Conductivity Detector (TCD): H_2 b) Range of Detection Limit: CO: 0 – 50 %; CO_2: 0- 30% CH_4: 0 – 75 %, C_mH_n: 0-10% H_2: 0-70%, O_2: 0 - 20% Analyzer to be connected at out-let of the CO_2 Scrubber	Make: Wuhan Cubic Optoelectronics Co. Ltd Model: Gasboard 3100
34	Bench Top Catalyst Testing Unit	Complete reaction system designed for catalyst evaluation in small quantity. Reactor Temperature: ≥ 500^oC, System Pressure: ≥ 50 bar, Reactor size: 10 ml, Oven Temperature: ≥ 200^o C	M/s Autoclave Engineers/M/s Parr Instruments Company or reputed make

NOTE:- Schematic Flow Diagram of the CTL Plant is enclosed herewith.

Schematic Flow Diagram of the CTL Plant

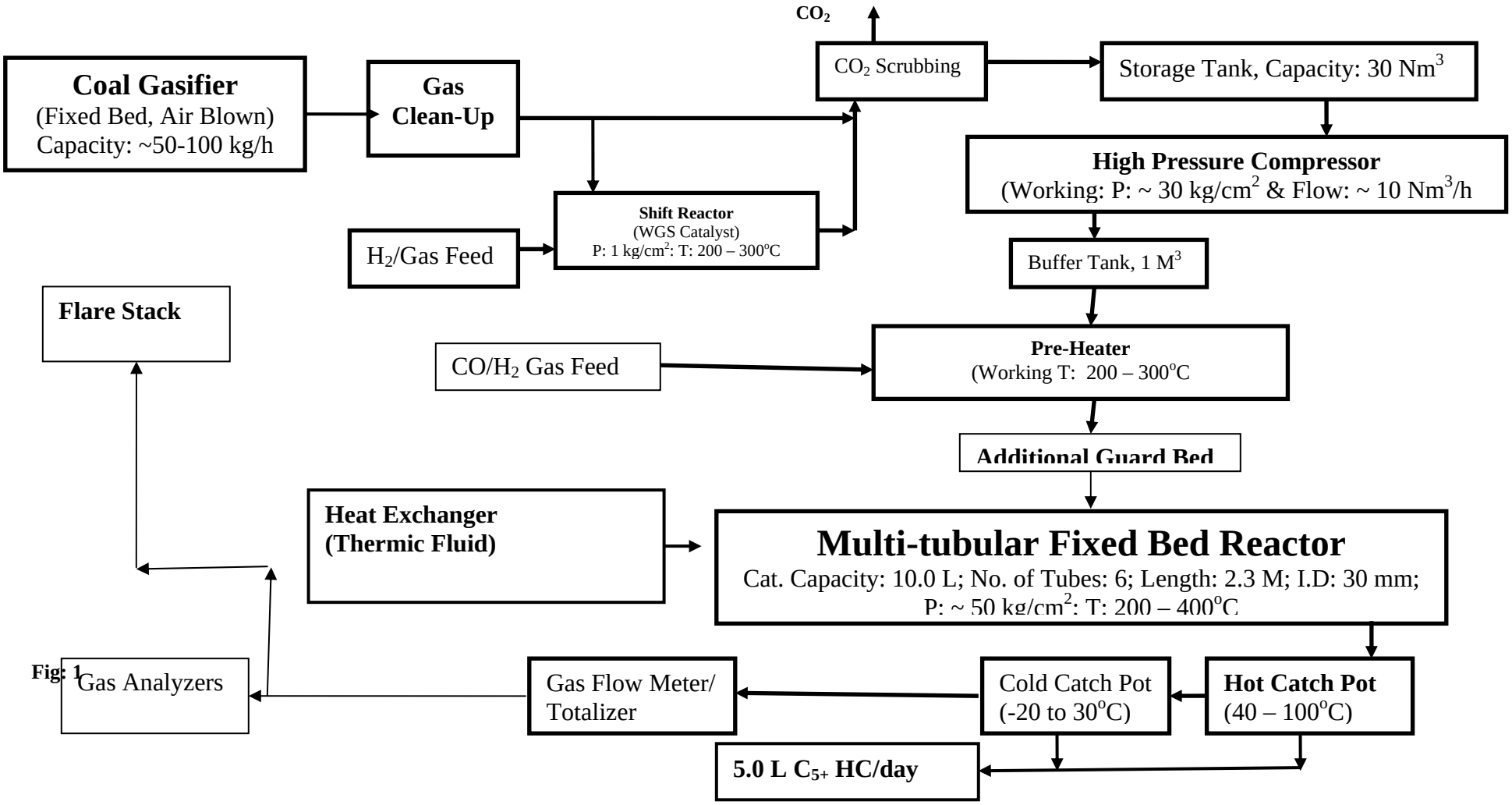

Fig: 1

COMMERCIAL TERMS & CONDITIONS

Important Notice

The Commercial Terms & Conditions is given in five different sections, which may please read carefully before submitting the tender. Any deviation and non- compliance of the terms & conditions must be written clearly. An incomplete offer and late bids are liable to be ignored and rejected. To aid the Bidders in submitting complete offers, a Check List is included in the bid document. The bidders must fill this and submit along with their offer in their own interest to avoid rejection of their tender.

Request For Proposal (RFP)

NIT No.	**CIMFR/PUR/14(8)2011**
1.Last Date for Submission of Bid :	**30.01.2012upto 5.00 P.M**
2.Date of Opening of Tender(only Technical Bid in case of Double Bid System) :	**31.01.2012 at 3.00 P.M**
3.Date of Opening of Financial Bid wherever applicable :	TENDERERS WHOSE TENDERS ARE FOUND TECHNICALLY SUITABLE WILL BE INTIMATED SEPARATELY

SECTION - I

INVITATION FOR THE BIDS

Sealed tenders are invited under **Two Bids System** **1**. Technical-Commercial Bid and **2**. Financial Bid for the products mentioned in our Global / Open Tender Notice required to be supplied, installed, commissioned and demonstrated at CIMFR, Dhanbad. **Technical- Commercial Bid and Financial Bid should be identical in all respects except that the Technical-Commercial Bid should have blank space at the place where prices have been indicated in the Financial Bid.**

Tenderers are requested to submit their tenders in one envelop containing three separate envelopes 1. EMD Envelope, 2. Technical-Commercial Bid Envelope and 3. Financial Bid Envelope duly sealed and super scribed with "Tender No. CIMFR/PUR/14(16)2011 for **Pilot Plant Coal** due date **30.01.2012** (5.00PM)strictly as per our Technical specifications and Terms and Conditions.

Last Date of Submission 30.01.2012 Time: Up to 5.00 P.M.
Date of Opening (Technical) 31.01.2012 Time: 3.00 PM

Technical-Commercial Bid should consist of:

1. Technical specifications being offered by the firm of Tender Documents along with Brochures and literature giving all features.
2. Certificate of Registration of firm
3. **Authorization Letter from the manufacturer to quote and submit tender.**
4. Certificate of valid Authorized Distributorship/Dealership/Retailer ship from the manufacturer.
5. Latest Income Tax Clearance Certificate
6. Certificate of Central Sales Tax/Local Sales Tax Registration No. Authorized Service Provider Certificate from the Manufacturer only.
7. **Photocopy of Warranty Service Provider Agreement between the manufacturer and the Service Provider.**
8. Clients list along with addresses, Telephone Nos., Fax Nos., Contact persons. Product supplied, Qty. supplied, Performance Certificates/Bench marking of the equipments by recognized National/Institutional/ Govt. organization like Department of Electronics.
9. Last Audited Balance Sheet of the firm.
10. Maintenance Infrastructure Facilities including addresses, Telephone No. of Service Centre.
11. Photocopy duly attested of Certificate of compulsory enlistment of Indian Agents of Foreign Principals with DGS&D **(wherever required)** quoting on their behalf. Date of enlistment must be before the date of opening of tenders.
12. Details of Equipments supplied of identical or similar nature to other CSIR Labs/Institute for the preceding three years along with the prices eventually or finally paid.

Commercial Terms :

a. Percentage rate of CST/LST, Octroi, freight and forwarding charges, handling charges, loading/unloading charges, any other tax/charge as applicable should be clearly mentioned. The offers indicating "Taxes as applicable" or "Taxes inclusive" may be rejected.
b. Validity of Quotation
c. Delivery Period
d. Installation schedule
e. Payment Terms
f. Warranty
g. Training
h. Discount
i. Terms of Delivery
j. Post Warranty AMC
k. Performance Security Deposit

l. Liquidated Damages
m. Installation, testing and commissioning charges
n. Percentage of Agency Commission in case of imports.
o. Agency Commission should be included in the FOB Price and will be paid to the Indian Agents if registered with DGS&D **(wherever required)**
p. Gateway Airport in case of shipment from abroad
q. Beneficiary Bank and SWIFT No. in case of imports

Financial Bid should consist of:

Basic Price in case of indigenous supply/FOB price in case of imports

Commercial Terms

a. Percentage rate of CST/LST, Octroi, freight and forwarding charges, handling charges, loading/unloading charges, any other tax/charge as applicable should be clearly mentioned. The offers indicating "Taxes as applicable" or "Taxes inclusive" may be rejected.
a. Percentage rate of CST/LST, Octroi, freight and forwarding charges, handling charges, loading/unloading charges, any other tax/charge as applicable should be clearly mentioned. The offers indicating "Taxes as applicable" or "Taxes inclusive" may be rejected.
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j. Post Warranty AMC
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l. Liquidated Damages
m. Installation, testing and commissioning charges
n. Percentage of Agency Commission in case of imports.
o. Agency Commission should be included in the FOB Price and will be paid to the Indian Agents if registered with DGS&D **(wherever required)**
p. Gateway Airport in case of shipment from abroad
q. Beneficiary Bank and SWIFT No. in case of imports

The bids complete in all respects addressed to the Director, CIMFR should reach at the following address **latest by 5.00 PM on 30.01.2012.**

Central Institute of Mining & Fuel Research
Erstwhile Central Mining Research Institute
(Council of Scientific & Industrial Research),
Barwa Road Campus, Dhanbad -826015, JHARKHAND, INDIA
☏: 0091-0326-2296030,
STD CODE: 0326

The Tenders (Technical Bids only wherever applicable) will be opened in this Office at 3.00 P.M hours on 31.01.2012 in the presence of Bidders (only one representative of the firm) who is willing to participate in the tender and whose EMD is in order.

SECTION - II

INSTRUCTION TO BIDDERS

1. Scope of Work:

Supply installation, testing, commissioning, demonstration and training in the usage and administration of procurement of products mentioned in our Open Tender Notice.

2. Bidders:

The invitation for Bid is open to all Indian Original Equipment Manufacturers / Authorized Distributors/Authorized Dealers/Authorized Retailers/Foreign Manufacturers or suppliers directly/authorized Indian Agents. In such cases where the tenders are submitted by the Indian Agents of their Foreign Manufacturer/Supplier or directly by the Principal to CIMFR, then the tender of Foreign Manufacturer/Supplier will only be considered and CIMFR will deal directly with the Foreign Manufacturer/Supplier or otherwise as decided by Director' CIMFR.

3. Cost of Bidding:

The bidders shall bear all costs associated with the preparation and submission of its bid and CIMFR will in no case be responsible or liable for these costs regardless of the conducts and the outcome of the bidding process.

4. The Bidding Documents:

The goods and services required, bidding procedures and contract terms are prescribed in the bidding document. In addition to the invitation for the bids, the bidding document includes:
a) Instruction to bidders
b) Schedule of requirements
c) Technical Specifications
d) Terms & Conditions
e) Bid form and price schedule

The bidder is expected to examine all instructions, forms, terms and conditions in the bidding document. Failure to furnish all information required or submission of bid not substantially responsive to the bidding documents in every respect will be at the bidder's risk and may result in rejection of its bid.

5. Preparation of bids:

The bids are to be submitted in three separate sealed envelopes
a) Earnest Money Deposit
b) Technical-Commercial Bid
c) Financial Bid

6. Submission of Bids :

a) Sealing and Marking of Bids

i) The bids shall be submitted in three separate sealed envelopes addressed to **The Director, Central Institute of Mining & Fuel Research , Barwa Road, DHANBAD-826015 JHARKHAND, INDIA** which shall be marked as "EMD", "Technical-Commercial Bid" and "Financial Bid" mentioning Tender Number, Description of Item and Date of Opening and all the three envelopes should be put inside the big envelope.
ii) The Envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late and delayed.

Telex, cable, facsimile and unsigned bids will not be considered and rejected.

b) Deadline for submission of Bids

i) Bids must be received by CIMFR at the address given in Section-I not later than the time and date specified on the cover page. In the event of the specified date for the submission of bids being declared a holiday for CIMFR, the bids will be received up to the appointed time on the next working day.

ii) The Director, CIMFR may at his discretion extend the deadline for submission of bids by amending the bid documents, in which case all rights and obligations of the purchaser and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

c) Late Bids

Any bid received after the deadline for submission of bids prescribed by CIMFR will be rejected and/or returned unopened to the bidder.

d) Bid Opening and Evaluation

Opening of Technical Bids by Purchaser

The Purchaser will open all Technical-Commercial Bids, if the EMD, is submitted as per requirement in the presence of bidders' representatives who choose to attend, at the time, on the date and venue indicated in Section-I. The bidders' representatives present there, shall sign a register evidencing their attendance. In the event of the specified date of the bid opening being declared a holiday for the Purchaser, the bids shall be opened at the appointed time and location on the next working day.

e) Clarification of Bids

i) During evaluation of the bids, the purchaser may at his discretion ask the Bidder for clarification of bids. The request for clarification and the response shall be in writing and no change in price or substance of the bid shall be sought, offered or permitted.

ii) No Bidder shall contact the Purchaser on any matter relating to its bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Purchaser, it should be done in writing.
iii) Any effort by a Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award decision may result in rejection of the Bidder's bid.

f) Evaluation of Technical Bid

i) Prior to the detailed technical evaluation the purchaser will determine the substantial responsiveness of each bid to the Bidding Documents. A substantially responsive bid is one that conforms to all the terms and conditions of the Bidding Documents without material deviations.

ii) A bid determined as not substantially responsive will be rejected by the purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

iii) All the vendors will have to bring their equipment/machine for testing and technical evaluation/bench marking as and when asked for, if required. Separate communication will be sent in this regard.

The bidders short listed by the purchaser based on evaluation of their technical bids may be called for detailed discussion including presentation of their equipment system to a team selected by the purchaser for the purpose, at a specified date, time and venue, if needed.

g) Opening of Financial Bids

i) The purchaser will open the financial bids of only those bidders, which are found to be technically qualified to undertake the job. The time, date and venue of opening of financial bids will be intimated to these technical qualified bidders only.

ii) The Financial Bids of the technically qualified bidders shall be opened in the presence of their representatives, who are willing to participate, on the specified date, time and venue.

h) Evaluation and Comparison of Bid

i) The comparison shall be of all inclusive price of goods, inclusive of all costs as well as taxes paid or payable and the warranty period asked for.

ii) Arithmetical errors will be rectified on the following basis: if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity the unit price shall prevail and the total price shall be corrected. If the supplier does not accept the correction of errors, its bid will be rejected. If there is a discrepancy between words and figures, the amount in words will prevail.

iii) Bidders shall state their bid price for the payment schedule. Bids will be evaluated on the basis of this base price. Bidders are however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The purchaser may consider the alternative payment schedule offered by the selected Bidder but it may not be binding on purchaser.

i) Placement of Purchase Order

The purchaser will place the purchase order on the successful bidder whose bid has been determined to be substantially responsive and has been determined as the best evaluated bid provided further that the bidder is determined to be qualified to perform the contract satisfactorily.

j) BANK DETAILS OF THE BIDDERS:

- **i) Name of the firms/Org.:**
- **ii) Bank A/c No:-**
- **iii) Name of A/c holder:-**
- **iv) Name of Bank:-**
- **v) Branch Code:-**
- **vi) RTGS Code:-**
- **vii) NEFT Code:-**
- **viii) SWIFT Code:-**
- **ix) MICR Code:-**

SECTION - III

TERMS & CONDITIONS

1. Submission of Tenders: Sealed tenders must be submitted in an envelope duly super scribing "Tender/File Ref.No., Description of item and Date of Opening" addressed to **The Director. Central Institute of Mining & Fuel Research, Barwa Road, Dhanbad - 826015 JHARKHAND, INDIA** in the Tender Box kept in the Office of the Stores & Purchase Officer, CIMFR, **latest by 5.00 PM on 30.01.2012 positively. Request for extension of submission date of tenders will not be considered.**

2. Late/delayed tenders : Late/delayed tenders due to any reason whatsoever will not be accepted / considered at all under any circumstance.

3. Opening of Tenders: The tenders received will be opened at **3.00 P.M.** on **31.01.2012** in the presence of the authorized representatives, if any, of quoting firm (one member only) at this office. **Request for extension of opening date of tenders will not be considered.**

4. Earnest Money Deposit: Tenderers shall have to deposit EMD of amount mentioned in our Global / Open Tender Notice in **Indian Rupees** or in equivalent amount in foreign currency in the form of Crossed Demand Draft/BG only in favour of Director. CIMFR, Dhanbad, issued by Scheduled/Nationalized Bank payable at Dhanbad, India, along with their tenders (with Technical Bid only). **The validity of the EMD submitted in the form of Bank Guarantee must be co-terminous with the validity of the offer. It must normally be valid for six months (180 days) from the date of opening of tender. Tenders received without earnest money will not be entertained/ considered at all and rejected summarily. Tenders received along with EMD in the form of Cheque/Cash will not be accepted/ considered and rejected.**

Firms registered with DGS&D and NSIC may be exempted from payment of EMD if the product being quoted is actually manufactured by them and the product is registered with these agencies. Firms registered with these agencies selling products of other companies and not manufacturing the products being quoted by them are not allowed exemption from payment of EMD. Firms are to submit a legible photocopy duly attested, of Registration Certification of the products manufactured and registered with DGS&D and NSIC for availing EMD exemption before opening of Technical-Commercial Bids, otherwise tender submitted by them will not be considered and rejected summarily.

5. Forfeiture of EMD: The earnest money deposited (EMD) will be forfeited if the vendor withdraws or amends, impairs and derogates from the tender in any respect within the period of validity of tender or fails to furnish the Performance Security Deposit as per Clause No. 6 - Performance Security Deposit mentioned below.

6. Performance Security Deposit: The successful tenderer will have to furnish an unconditional Performance Bank Guarantee in favour of the Director, CIMFR, Dhanbad valid up to sixty (60) days after the warranty from a Scheduled/Nationalised Bank in India for 10% of the total order value within twenty one (21) days of the placement of order for orders where full payment is to be made on Letter of Credit/Sight Draft or on delivery, failing which the purchase order/contract shall be terminated.

b. The successful tenderer will have to furnish an unconditional Performance Bank Guarantee in favour of the Director, CIMFR, Dhanbad valid up to sixty (60) days after the warranty from a Scheduled/Nationalised Bank in India for 10% of the total order value before the release of final payment where payment is to be made on satisfactory supply, installation, testing, commissioning, demonstration and final acceptance of the products.

7. Refund of Performance Security Deposit: The Performance Security Deposit will be returned to the successful vendor after sixty days from the date of the completion of warranty period and no interest would be paid thereon.

8. Warranty: Successful bidder should provide One year on-site warranty for the entire plant from the date of completion of satisfactory installation, testing, commissioning, demonstration and final acceptance of the products. Price should also be quoted for additional Warranty of Two Years. A satisfactory service during the warranty period is defined as 95% uptime. In case 95% uptime is not provided, the warranty period would be extendable by a period which is equivalent to the period during which 95% uptime was not provided. The bidder will also ensure that the spares are available at least for three years after the warranty period for the operation and maintenance of the equipments supplied. The firms giving the warranty offer less than three years must specify the equivalent amount to be charged for additional warranty/per year which will be added to the price quoted for deciding Lowest Tender. Failing to quote the same will lead to rejection of the bid. This must be strictly complied.

9. Custom Duty and Excise Duty: Our Institution is eligible for payment of concessional Custom Duty and exempted from payment of Excise duty.

a) In case, the tenderers are Indian Agents of the foreign suppliers and quoting prices on behalf of their foreign principals must enclose the proof of enlistment with DGS&D **(wherever required)**. Date of enlistment must be before the date of opening of tenders. Tenders of agents not enlisted with DGS&D will be ignored and summarily rejected. The compulsory enlistment of Indian Agents of foreign principals with DGS&D is of general nature and does not confer on the Indian Agents the status of a supplier registered with DGS&D.

b) In case, the prices are quoted in foreign currency, it must be on FOB price. Indian Agency Commission/Technical Service Charges, if any, must also be shown separately and shall be payable in India in Indian Rupees only if the Indian Agent is registered with DGS&D. Kindly indicate Indian Agent's address, their kind of services and percentage Agency Commission (which will be reduced from invoice and paid in Indian Rupees Only). Also quotation should indicate whether Agency Commission is included / excluded in the FOB price.

c) In case of Domestic, the offer should contain the basic price and percentage of Excise Duty separately since we are exempted from payment of Excise Duty.

10. Prices: The price quoted should clearly mention whether

a) **FOR destination /Dispatching Station by registered road transport**
b) FOR free delivery at this office Stores including Packing & Forwarding, freight, insurance charges, etc.
c) Where there is no mention of the above, the offers will be rejected as incomplete.
d) In case of Imports, the quotation should be for FOB price only.

11. Taxes: The percentage rate of sales tax, resale tax, duties/levies and any other charges etc, should be clearly indicated in the tender, wherever chargeable. The packing charges must be included in the rates. **CIMFR is not authorized to issue C/D Forms.** However, the concessional rate of central sales tax is admissible to Research Institutions from certain States is also applicable to this Institute and necessary Concessional Sales Tax Certificate will be issued. The supplier should submit documentary proof while claiming octroi, naka etc. charges**.**

12. Annual Maintenance Contract: After the expiry of warranty period, ONSITE Comprehensive Maintenance Contract may be entered into for which the Annual Maintenance Contract (AMC) charges should invariably be quoted in terms of percentage (%) of cost on the exact amount inclusive of all taxes and duties of the product to be supplied.
Satisfactory services during AMC period is defined as 95% uptime. In case 95% uptime is not provided the AMC period would be extendable by a period which is equivalent to the period during which 95% uptime was not provided.
Response Time : Should be four hours

Preventive Maintenance: Tenderers should provide at least one preventive maintenance service every month during the AMC period.

13. Training: Tenderers should provide free training on the complete operation and care of the equipment and Software Packages to be supplied on mutually agreed terms.

14. Validity of Tender: The quotations shall be valid for a minimum period of **One Hundred Eighty (180) days from the date of opening of tenders.**

15. Delivery: Equipment may be delivered between 11.00 A.M. to 04.00 P.M. on all working days i.e. Monday to Friday at our Stores Section only.

16. Payment - Indigenous Supplier: Payment shall be made after delivery, satisfactory installation, testing, commissioning, demonstration and final acceptance of the ordered items by the user department, through an Account Payee cheque drawn on **State Bank of India, Hirapur Branch, Dhanbad-826 015 (Jharkhand),** India within thirty (30) days from the date of submission of the bill. Bill(s) in triplicate duly pre-receipted with Rs.1/- revenue stamp will have to be presented for claiming payments.

17. Liquidated Damages: The LD clause of 01% per week subject to maximum 10% of the order value will be imposed on non- compliance of the order Terms &Conditions. The L.D may further be revised and enhanced as per the descretion of the Competent Authority, CIMFR on violation of the contractual terms of any form. Director, CIMFR reserves the right to go ahead with the procurement of ordered goods from any another vendor without giving any prior notice and cancel the purchase order. In such case, any additional impact on CIMFR over and above that contained in the Purchase Order shall be recovered from the successful vendor from the payment to be made by CIMFR or any of the CSIR Labs. to them towards earlier supplies, EMD or otherwise

18 S.T. Registration No./ITCC/Distributorship/Dealership/Service Provider Certificates:

Tenderers must attach a legible photocopy of the following documents positively along with their tenders.

i) CST/Local Sales Tax Registration Certificate.
ii) Latest Income Tax Clearance Certificate.
iii)AuthorisedDistributorship/AuthorisedDealership/AuthorisedRetailership/Autorised Service Provider Certificate from the manufacturers.

19. Environmental conditions for the installation of equipments: Tenderers should specify minimum environmental needs for installation of their Equipments such as air-conditioning specifications, power supply specifications including any special requirements like voltage regulators, etc.

20. Software installation: Tenderers should clearly specify the minimum hardware requirements for the installation of Software Packages positively.

21. Tenderers should note that they should offer their best products pertaining to Technical specifications given.

22. Tenderers should clearly indicate whether they are Original Equipment Manufacturers or authorized distributors/dealers/suppliers on behalf of manufacturers. Brand names & Model Nos. of all equipments and components offered should necessarily be mentioned.

23. Tenderers should furnish the experience of their organization in the area of manufacturing and/or supply of similar equipment.

24. Tenderers should have a well established Office and Service and Support Centre in Kolkata / Dhanbad, India, managed by qualified maintenance professionals along with documentary evidence to be attached with their tenders.

25. Tenderers should indicate the names (along with addresses, Telephone nos., Fax No., Contact person, dates of supply, etc.) of various Government, Public Sector Departments and other organizations where they have supplied and installed the similar equipments and are duly maintaining them.

26. Tenderers should furnish all details of Performance Certification/Bench marking of their Equipments by recognized National/International Institutes Govt. Organizations like D.O.E. (Dept of Electronics), etc as applicable.

27. All prices shall be quoted clearly both in figures and words duly taking into account all concessions provided by the Govt. of India as on the date of tender. In case of discrepancy in Unit and Total prices, unit price shall be taken to be final price for the purpose of calculations.

28. Tenders incorporating additional conditions are liable to be rejected.

29. Complete details including final specifications of the equipments offered/quoted should be furnished along with brochures/literature mentioning all features.

30. Tenderers should indicate whether they are the OEMs/. Authorised Distributors/Authorised Dealers/Authorised Retailer of the equipments offered and have valid license to sell Equipment.
31. Tenderers will also indemnify CIMFR against all possible damage due to any Copyright violation by them.

32 Only legal and authorised copy of Software Packages with all original manuals, installation and performance guide, etc. complete in all respects are required to be supplied.

33. Tenderers will replace equipments in toto, in case of any malfunctioning or other similar problems arise after supply of the equipment.

34. Equipment supplied will include all Operational and Maintenance Manuals, tutorials, reference manuals, installation and performance guide, etc. complete in all respects. Connecting cable and/or any other part/device which is essentially required for making the equipment operational is required to be supplied along with the equipment and n additional cost.

35. Printed conditions of the tenders shall not be binding on CIMFR.

36. CIMFR is an R&D organization under CSIR, Ministry of Science & Technology, Govt. of India. Therefore it is requested to **quote concessional rates applicable to the R&D organizations since the equipment is required for research purposes.**

37. Offers for stores vaguely described as "Best Indian Make", "Foreign Make" will be ignored while considering the tenders.

38. Details of Equipments supplied to CSIR Labs/Institutes: The tenderers who have supplied identical or similar equipment to other CSIR Labs/Institutions have to furnish the details of such supplies for the preceding three years along with the prices eventually or finally paid positively.

39. **Responsibility:** The responsibility lies with the successful tenderer, if any damage or loss to the property of the Institute occurs while undertaking and executing the contract.

40. **Shortage of Supplies:** Suppliers will have to make the good the shortages, if any, which is revealed after opening the packages. The Stores, which are spoiled/damaged during transit due to faulty packing will have to be replaced by the suppliers. The product should have warranty for workmanship, performance and service for a minimum period of twelve months from the date of acceptance of replacement of spares/parts during warranty period. The replacement should be done free of all costs including to and fro Air Freight, packing, forwarding and insurance charges.

41. **Defects and Liability Period:** Thirty six months from the date of virtual completion, installation and commissioning of the equipments as certified by CIMFR, Dhanbad, India.

42**. Damage and Unaccepted supply :** The material found to be damaged and declared rejected should be collected by you at your risks and costs within 21 days from the date of intimation by CIMFR, otherwise ground rent will be charged.

In addition to the Terms and Conditions mentioned above, Terms and Conditions for the items offered from abroad are as follows:

43. The detailed specifications of the material offered should be given. Relevant technical Literature and descriptive catalogue / pamphlet should also be attached with the offer.

44. **EX-WORKS,FCA/ FOB/CIP/CIF Price to be indicated.** Other charges applicable to be indicated separately.

45. INSURANCE: Insurance will be done by our own means for imports. Please intimate immediately after shipment about the Airway Bill No. For indigenous items the cost must include the insurance charges.

For indigenous fabrication item on TURNKEY basis.:- Man & material insurance up to handover the firm may be done by the supplier.

Bill of Lading, consignment etc. to The Director, CIMFR, P.O + Dist: Dhanbad, Dhanbad, Jharkhand, India.

46. Price Reasonability/ Experience: Price list of manufacturer/previous purchase order and successful installation report of same or similar equipment or plant must be submitted.

Make and Model, price break up of all components & service charges may be quoted separately. Transportation/ Freight up to FOR destination must be quoted.- for indigenous.

47. COUNTRY OF ORIGIN: Please specify Place/County of Origin and the Place/Country from where goods will be finally shipped. These particulars are very important for establishment of Letter of Credit and arranging insurance.

48. VALIDITY PERIOD: Your offer should be valid for at least One Hundred Eighty (180) days from the date of opening of tenders.

49. Please also indicate names and addresses of some of the Indian Organizations to whom you have supplied material, if any, under reference.

50. This Institute is eligible for payment of concessional customs duty under OGL Scheme. Actual User-Condition (Non-industrial-R&D institution).

51. INDIAN AGENT'S COMMISSION: If you have any Agent in India, please indicate specifically whether the amount of agency commission payable to the agent is **included in the FOB Price or not.** Moreover, Indian Agent should have compulsory registration with DGS&D, Govt. of India (**wherever required on case to case basis)**. Please note that the tender will not be considered if the Indian Agent is not Compulsorily registered with DGS&D, Govt. of India and Agency Commission will not be paid to the Indian Agent unless a legible photocopy of DGS&D Registration Certificate duly attested is submitted to this office. The Indian Agents Commission will be paid in Indian Rupees only within thirty days from the date of commissioning and final acceptance of the whole system by CIMFR, Dhanbad-828 108, India. The role played by the Indian Agents in rendering assistance to your customers may also be specified.

52. FREIGHT: The mode of dispatch should be Ocean Freight/Air Freight preferably by Air India Flight and on To-Pay basis only. Please indicate the approximate Air Freight Charges for Kolkata Air Port, India. The consignments are required to be shipped by Air India (Freight to pay) up to Kolkata Airport, India. All the documents are to be made in favour of Director, CIMFR, Dhanbad-826 001, India and forwarded to our Banker.

In case of imported item gross weight volume and port of shipment must be quoted. Air freight, insurance, clearance charge, transportation charge/ custom duty or any chargeable duty/ lavy's borne by Institute will be added to arrived at landing cost at the time of comparison.

For speedy clearance, please specify our Purchase Order Reference No. and date on the top of the parcel as well as on the Airway bill without fail. Address all the consignments to **Director, CIMFR, Dhanbad-826 015,** India and not to Bank. The ordered materials are being imported under Open General License.

The following documents may be sent to us directly while dispatch.

Invoice in quadruplicate with deduction of Agency Commission, if any, Packing List, Delivery Challan, Country of Origin Certificate, Literature, if any, should be enclosed.

53. PAYMENT TERMS :

40% of the order value will be paid as advance against Bank Guarantee of an equivalent amount.
30% of the order value will be paid after delivery of the full material of coal to liquid pilot plant at CIMFR DIG. CAMPUS.
Rest 30% will be paid after successful errection , installation, commissioning , demonstration, training and handing over the plant against 10% performance bank guarantee.

OR

Term I - **In case of indigenous orders, the payment will be on credit basis i.e. 100% after receipt of material in good condition, installation, testing, commissioning, satisfactory demonstration, final acceptance of the whole system and on submission of unconditional Performance Bank Guarantee for 10% of the total order value valid till 60 days after the warranty period from a Indian Scheduled Bank duly recognized by RBI.**

Term II - In case of import orders, 80 percent value of goods will be paid through an Irrevocable Letter of Credit on submission of shipping documents. Balance 20 percent value of goods will be paid through L/C excluding Indian Agency Commission, if any, after installation, testing, commissioning, satisfactory demonstration, final acceptance of the whole system and on submission of unconditional Performance Bank Guarantee for 10% of the total order value valid till 60 days after the warranty period from a Foreign Bank duly endorsed by Nationalized Bank in India.

Term III - 100% payment after satisfactory installation & commissioning of the equipment if it is to be supplied for the first time in India or otherwise if the party does not have successful installation in India, against submission of unconditional Performance Bank Guarantee for 10% of the total order value within twenty one (21) days of the placement of Purchase Order valid till 60 days after the warranty period from a Foreign Bank duly endorsed by Nationalized Bank in India. Director, CIMFR reserves the right to change the payment terms at his discretion from case to case basis depending on the merit of the case.

54. The tenders are liable to be cancelled if any of the conditions noted herein are not complied with. Hypothetical, ambiguous and conditional tenders will not be entertained at all and rejected summarily.

55. Goods should not be dispatched until firm Purchase Order is received by the successful vendor.

56. Director, CIMFR reserves the right to delete or alter the item given in the enclosed annexure depending on prevailing requirements.

57. Director, CIMFR reserves the right to accept or reject any tender in completely or in part thereof without assigning any reason.

58. Arbitration :

Except where otherwise provided in the Contract, all questions and disputes relating to the meaning of the specifications, instructions and terms & conditions herein before mentioned and as to the quality of the materials, as to any question, claim, right, matter or thing whatsoever, in any way arising out of or relating to the Contract. Specifications, estimates, instructions, orders

or these conditions or otherwise concerning the works, or the execution of the same whether arising during the process of the work or after the completion or abandonment thereof shall be **referred to the sole arbitration of a person nominated by the Director General, Council of Scientific & Industrial Research, New Delhi,** and if he is unable or unwilling to act to the sole arbitration of some other person appointed by him willing to act as such arbitrator. The submission shall be deemed to be submission to Arbitration under the meaning of the India Arbitration & Conciliation, 1996 or any satisfactory modification or reenactment thereof for the time being in force conclusive and binding on all parties of the Contract. **The venue of the arbitration will be Dhanbad only.**

In the case of a dispute between the purchaser and a foreign supplier, the dispute shall be settled by arbitration in accordance with provision of clause above. But if this not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission of International Trade Law) Arbitration Rules. The venue of the arbitration shall be the place from where the order is issued.

SECTION - IV

FORMATS FOR BID SUBMISSION
Checklist for Bid Submission

The following check-list must be filled in and submitted with the bid document:

Technical Bid:

1.	Has the tender document issued to you?	Yes / No
2.	Have you attached the technical bid form?	Yes / No
3.	Have you attached a copy of the last audited balance sheet of your firm?	Yes / No
4.	Have you attached proof of the manufacturer's authorization?	Yes / No
5.	Have you attached the details of the income tax registration and latest income tax clearance certificate?	Yes / No
6.	Have you attached the statement of deviations from the technical Specifications in the format?	Yes / No
7.	Have you provided details of your maintenance infrastructure facilities including addresses of the service centers in the format	Yes / No
8.	Have you attached the technical details of the goods and services offered as a part of this bid document?	Yes / No
9.	Have you attached the copies of relevant work orders executed during the last three years?	Yes / No
10.	**Have you attached the details of identical or similar equipments supplied to other CSIR Labs/Institutes for the preceding three years together with prices eventually or finally paid?**	Yes / No
11.	**Have you attached photocopy duly attested of Certificate of compulsory Enlistment of Indian Agents of foreign principals with DGS&D if quoting on their behalf? Date of enlistment must be before the date of opening of tenders.**	Yes / No
12.	Have you attached Service Provider Certificate issued by the Manufacturer?	Yes / No

Financial Bid:

1.	Have you attached the Financial Bid?	Yes / No
2.	Have you attached the price schedule for the goods/services offered in the Format?	Yes / No
3.	Have you attached the statement of deviations from the Financial terms and conditions in the format?	Yes / No

Please arrange your tender document for each part as given below:

Earnest Money Deposit :

TECHNICAL BID:

Technical Bid Form

Copy of the Last Audited Balance Sheet of the company

Income Tax Registration Certificate/PAN No.and latest Income Tax Clearance Certificate

Proof of Manufacturer's authorization

Photocopy of Warranty Service Provider Agreement between the manufacturer and the Service Provider.

Statement of Deviation from the technical specifications

Details of service centers at Dhanbad

Photocopy duly attested of Certificate of compulsory enlistment of Indian Agents of foreign principals with DGS&D if quoting on their behalf. Date of enlistment must be before the date of opening of tenders?

Copies of relevant work orders

Details of supplies of identical or similar equipment made to other CSIR Labs/Institutions for the preceding three years together with price eventually or finally paid.

FINANCIAL BID:

Financial Bid Form

Estimated quantity and Financial Bid Analysis
Statement of Deviations from Financial terms and conditions

Technical Bid Form

(To be submitted on the firm's Letter Head and signed by an authorized person)

To ,
The Director
Central Institute of Mining & Fuel Research
P.O. DHANBAD Barwa Road,
DHANBAD – 826015, Jharkhand,INDIA

Ref: Tender No.

Sir,

Having examined the bidding documents, the receipt of which is hereby duly acknowledged, we, the undersigned offer to supply and deliver goods as per the schedule of requirements and in conformity with the said bidding documents.
We undertake, if our bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the bidding documents.

If our bid is accepted, we will submit a unconditional performance bank guarantee for the sum equivalent to 10% of the Contract Price i.e. Total Order Value for the due performance of the Contract, in the form prescribed by the Central Institute of Mining & Fuel Research, Dhanbad.

We agree to abide by this bid for a period of One Hundred Eight(180) days after the date fixed for opening and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
We declare that we are the manufacturers/authorized agents/distributor of

_____
_____

that we/our principals are equipped with adequate machinery for production, quality control and testing of offered products manufactured/developed and used by us.
2. We hereby offer to supply the Goods/Services at the price at the rates mentioned in the Financial Bid.
3. We enclose herewith the complete Technical Bid as required by you. This includes:

Technical Bid Form

Copy of the last audited balance sheet of the company
Proof of Manufacturers authorization.
Technical details of the goods and services offered.
Statement of deviation from the technical specifications
Details of local service centers
Product catalogues/user manual/other informative material about our products and Services.

Details of supplies of identical or similar equipment to other CSIR Labs/Institutes for the preceding three years together with prices eventually or finally paid.
Photocopy duly attested of Certificate of compulsory enlistment of Indian Agents of Foreign principals with DGS&D if quoting on their behalf. Date of enlistment (It must be before the date of opening of tenders).
4. We have carefully read and understood the terms and conditions of the bid document and the conditions of the contract applicable to the bid document and we do hereby undertake to supply as per these terms and conditions.
5. Certificate that the bidder is:
A Sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of the sole proprietor, or

A partnership firm, and the person signing bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney, or

A company and the person signing the document is the constituted attorney.
(NOTE: Delete whatever is not applicable. All correction/deletions should invariable by duly attested by the person authorized to sign the bid document)

6. We do hereby undertake take, until a formal work order is prepared and executed, this bid, together with your written acceptance thereof and placement of letter of intent awarding the work order, shall constitute a binding contract between us.
Dated this day 2010 Signature of Bidder

Details of enclosures.
Full Address_____
Telephone No._____
Telegraphic Address:_____
Fax No_____
E-Mail _____
COMPANY SEAL

STATEMENT OF DEVIATIONS FROM TECHNICAL SPECIFICATIONS AND SCHEDULE OF REQUIREMENTS

Following are the Technical deviations and variations from the Technical specifications and Schedule of Requirements. These deviations and variations are exhaustive. Except these deviations and variations, the entire work shall be performed as per your specifications and documents.

Sl No.	Item	Statement of Deviations / Variations

Signature of the Bidder

Name:

Date:

Place:

Address:

Company Seal

MAINTENANCE INFRASTRUCTURE FACILITIES INCLUDING ADDRESSES OF THE LOCAL SERVICES CENTRES

LOCATION	ADDRESS OF SERVICE CENTRE	NAME OF THE CONTACT PERSON WITH TEL. No. Fax No. and Email	Total No. of qualified service engineers	Remarks

Signature of the Bidder

Name:

Date:

Place:

Address:

Company Seal

Financial Bid Form

(On the Letter Head of the firm submitting the Bid Document)

To
The Director
Central Institute of Mining & Fuel Research
P.O.DHANBAD, DISTT: DHANBAD
PIN - 826015, Jharkhand, INDIA

Ref: Tender No.

Sir,

Having examined the bidding documents and having submitted the technical bid for the same, we, the undersigned, hereby submit the Financial Bid for supply of goods and services as per the schedule of requirements and in conformity with the said bidding documents.

We hereby offer to supply the Goods/Services at the prices and rates mentioned in the Financial Bid.

We do hereby undertake that, in the event of acceptance of our bid, the supply of Goods/Services shall be made as stipulated in the schedule to the Bid document and that we shall perform all the incidental services.

The prices quoted are inclusive of all charges including installation and commissioning charges in the Central Institute of Mining & Fuel Research Institute, Dhanbad.

We enclose herewith the complete Financial Bid as required by you. This includes:

Financial Bid Letter

Price Schedule

Statement of deviations from Financial terms and conditions.

We agree to abide by our offer for a period of One Hundred Eighty (180) days from the date fixed for opening of the bid documents and that we shall remain bound by a communication of acceptance within that time.

We have carefully read and understood the terms and condition of the bid document and we do hereby undertake to supply as per these terms and conditions. The Financial Deviation are only those mentioned in the statement of deviation from financial terms and conditions.

Certified that the bidder is:
A sole proprietorship firm and the person signing the bid document is the sole proprietor/constituted attorney of sole proprietor.
Or
A partnership firm and the person signing the bid document is a partner of the firm and he has authority to refer to arbitration disputes concerning the business of the partnership by virtue of the partnership agreement/by virtue of general power of attorney.
Or
A company and signing the bid document is the constituted attorney.
(Note: Delete whatever is not applicable. All corrections/deletions should invariably be duly attested by the person authorized to sign the bid document).

We do hereby undertake, that until a formal work order is prepared and executed, this bid, together with your written acceptance thereof and placement of letter of intent awarding the work order, shall constitute a binding contract between us.
Dated this day of_____ Signature of Bidder

Details of enclosures

Full Address:
Telephone No.
Telegraphic Address:
E-mail:

COMPANY SEAL

PRICE SCHEDULE - Estimated Quantity and Financial Bid Analysis

Sl No	Item Name	Qty.	Manufacturer	Model Name & Version	Compaliance to suggested Technical Specification	Operating System Environment	Unit Cost Rs.	Total cost (inclusive of all other charges

1. Attach sheet giving detailed Technical Specification and deviations for the suggested systems.

NOTE

(i) For Financial bid comparison total Value in Col. No. 9 shall be the basis.
(ii) Unit value quoted in actual quantity of work shall form the basis.
(iii) The Bid should have Col. 3 x Col. 8 = Col.9. Any error in the Table of any bidder is liable to be out rightly rejected.
(iv) The price quoted should be inclusive of all charges including all applicable taxes,
Octroi, freight and handling charges, and all other miscellaneous expenses.
(v) In case of discrepancy between unit price and total price, the unit price will prevail.
(vi) Annual Maintenance Charges after warranty period should be quoted separately.

Signature of the bidder

Name :

Place :

Date :
Address :
Company Seal

STATEMENT OF FINANCIAL DEVIATIONS

Following are the financial deviations and variation(s) from the exceptions to the specifications and documents for the Bid document. These deviation(s) and variation(s) are exhaustive.
Except these deviation(s) and variation(s), the entire work shall be performed as per your specifications and documents.

Sl No.	Section No.	Clause No.	Statement of Deviations / Variations

S. No. Section No. Clause No. Statement of deviation(s) and variation(s)

Signature of the bidder
Name:
Place:
Date:
Address:
Company Seal

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM ABROAD

Name of the Bidder : _____
TENDER No.: _____

1	2	3	4	5	6		7		8		9
Sl. No.	Item Description	Country of origin	Unit	Qty.	Unit Price		Total Price(5x6)		Charges for Insurance & transportation to port/place of destination		Total Price (7+8)
					FOB (named port of shipment)	FCA (named place of delivery)	FOB (named port of shipment)	FCA (named place of delivery)	Ocean	Air	CIF

Note:
Currency
(a) Indian agents name and address _____ in words.
(b) Installation, commissioning & training charges, if any.
(c) Cost of spares:_____
Address :_____
(d) The Indian Agent's commission shall be paid in Indian Rupees only based on the Exchange Rate prevailing on the date of negotiation of documents in accordance with clause 22.1 of GCC.
(e) The cost of optional items shall be indicated separately.

Total Bid Price in Foreign

Signature of Bidder
Name
Business

PRICE SCHEDULE FOR GOODS BEING OFFERED FROM INDIA

Name of the Bidder : _____
Tender No.: _____

1	2	3	4	5	6	7	8	9	10	11
Sl. No.	Item Description	Country of Origin	Unit	Qty.	Ex-works/ Ex-ware house/ Ex-showroom off the shelf price (inclusive of all taxes already paid)	Total Price Ex-Works / Ex-ware house/ Ex-showroom off the shelf price (inclusive of all taxes already paid) 5x6	VAT & other taxes like excise duty payable, if contract is awarded	Packing & forwarding upto station of dispatch, if any	Charges for inland transportation, Insurance upto Lab./Instt.	Installation, Commissioning and Training Charges, if any

Total Bid Price in Foreign Currency in words:
Signature of Bidder

Name : _____
Address : _____

Note: (a) The cost of optional items shall be indicated separately.
(b) Cost of Spares.

BID SECURITY FORM

WHEREAS …….. (hereinafter called "the Bidder") has submitted its bid dated …….(Date if submission of bid) for the supply of ……(Name and/or description of the goods) (Hereinafter called "the bid").

KNOW ALL PEOPLE by these presents that WE ……(Name of bank) of ……. (Name of country), having our registered office at (address & phone & fax no. of bank) (hereinafter called "the bank"), are bound unto …….. (Name of Purchaser) (hereinafter called "the Purchaser") in the sum of …… For which payment well and truly to be made to the said purchaser, the Bank binds itself, its successors, and assigns by these presents, Sealed with the common Seal of the said Bank this ……..…… Day of …….. 200……

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser During the period of bid validity:
   a) Fails or refuses to execute the Contract Form if required; or
   b) Fails or refuses to furnish the performance security, in accordance with Instruction to Bidders.

We undertake to pay the purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is owing to it, owing to the occurrence or one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee shall remain in force up to and including 180 (One Hundred Eighty) days after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

PERFORMANCE SECURITY FORM

To:_____(Name of Purchaser)
WHEREAS_____(Name of Supplier) hereinafter called "the Supplier" has undertaken, in pursuance of Contract No. _____ dated _____ 2007 to supply _____ (Description of Goods and Services) hereinafter called "the Order" AND WHEREAS it has been stipulated by you in the said order that the Supplier shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with the Supplier's performance obligations in accordance with the order.

AND WHEREAS we have agreed to give the Supplier a Guarantee:
THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of _____ (Amount of the Guarantee in Words and Figures) and we undertake to pay you, upon your first written demand declaring the sum or sums within the limit of _____ (Amount Guarantee) as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the _____day of _____

Signature and Seal of Guarantors

Date

Address

All correspondence with reference to this guarantee shall be made at the following address:
_____
_____
_____
(Name & address of the lab)