



Work No. 2

Invitation for Expression of Interest (Eoi) for Fabrication and Commercialization of 'Coal Dust Briquetting System'

1.0 Background

CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR) has developed and patented a 'Coal dust briquetting system' for converting coal dust collected from coal mine road surface into coal briquettes. The system will be mounted on a steel frame and placed at a suitable location of an opencast coal mine and power supply will be given to the system from main power supply line of a mine. Dust collected by truck mounted dust collecting system from mine road surface will be discharged into 'Coal dust briquetting system' for converting coal dust into coal briquettes. 'Coal dust briquetting system' will be mounted on steel frame so that it can be transported from one place to other place by placing on trailer. Process flow diagram of the system is depicted in Fig. 1 and block diagram of the system is illustrated in Fig. 2. Specification of the system shall be as follows:

- a) Steel platform for plant, size – 3.3 × 13 m (approx.)
- b) Hopper to collect coal dust, capacity – capacity 6 to 8 m³ (4 to 5 t)
- c) Weigh batcher (hopper) for coal dust – capacity 500 to 600 kg
- d) Weigh batcher (hopper) for binding agent – maximum capacity 50 kg
- e) Mixing drum or agitator – capacity 200 to 250 kg per batch
- f) Briquetting machine – maximum capacity 2 to 3 t/h
- g) Air compressor for operating air actuated valves of hoppers, weigh batcher and agitator.
- h) Belt conveyor for shifting coal dust to weigh batcher from coal hopper – length 700 to 1010 cm
- i) Belt conveyor (size as per the requirement) for transporting final product (coal briquette) from briquetting system to the outer bin of final product through heating chamber
- j) Heating arrangement (hot blower) for drying final product (coal briquette)
- k) Water tank – capacity 200 to 250 litre
- l) Water pump with flow meter
- m) Air actuated valves for coal dust collecting hopper, weigh batchers and outlet of agitator or mixing drum
- n) Panel board for entire automatic operation of the system

The entire plant will be operated from panel board. The weight of coal dust and binding agent will be measured at weigh batcher and those will be poured into the mixing drum with predefined quantity. Water will also be mixed with predefined quantity. Water flow will be cut off automatically after pouring predefined quantity of water. The valve of coal dust collecting hopper will be opened after running the belt conveyor and closed as soon as belt conveyor stopped. Belt conveyor will stopped automatically after transporting coal dust of predefined quantity. Valves of weigh batcher will be closed



after poring predefined quantity of material into mixing drum. After completing mixing operation, the material will be passed through two briquetting rollers and coal briquettes will be discharged on belt conveyor at the bottom of roller. The belt conveyor for briquettes collection will be started as soon as briquetting machine is started and hot blower will also be started at that time to make the coal briquettes dry and hard. Finally, there will be a collection arrangement for storage of coal briquettes.

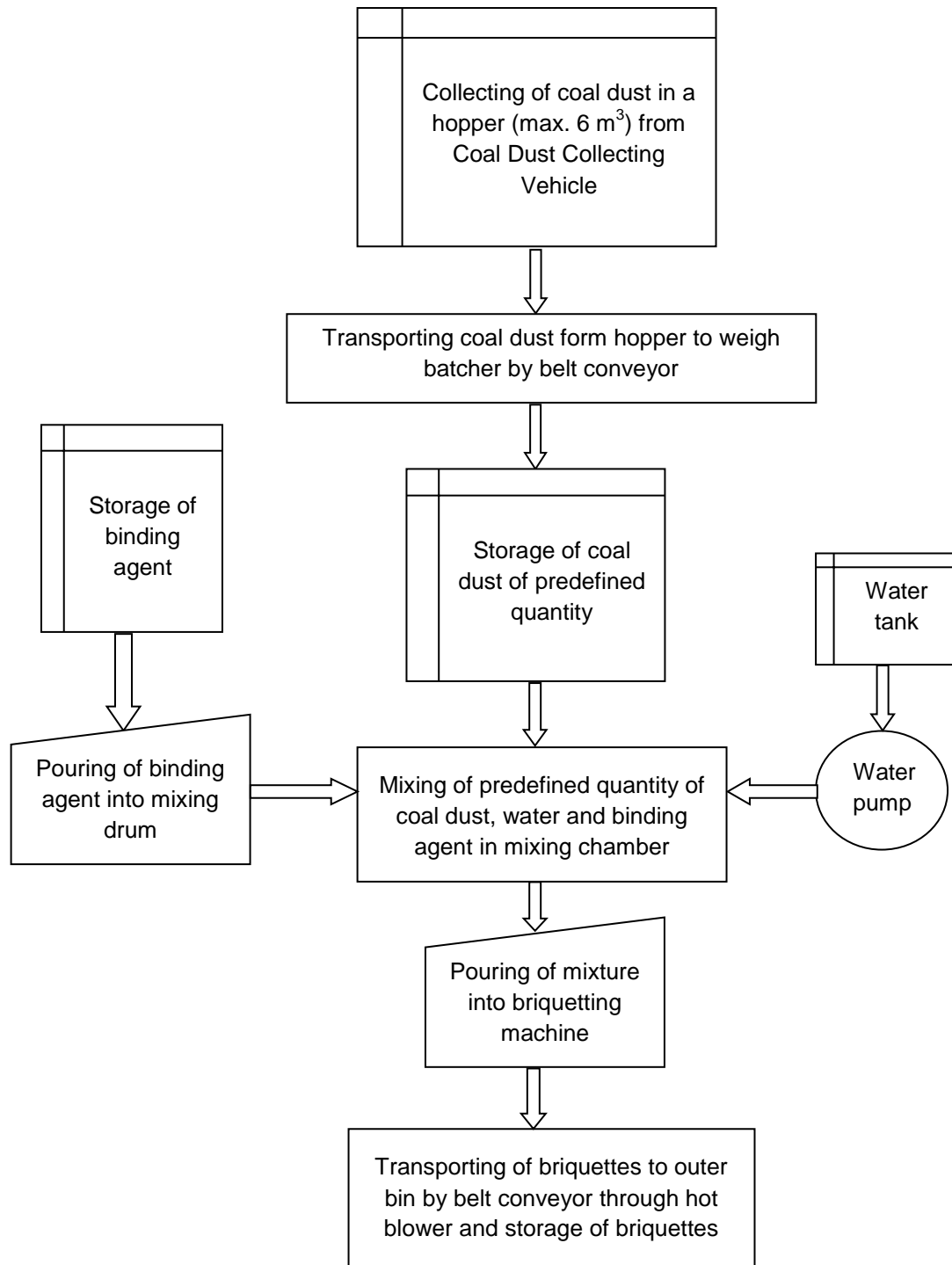


Fig. 1: Process flow diagram of coal dust briquetting system

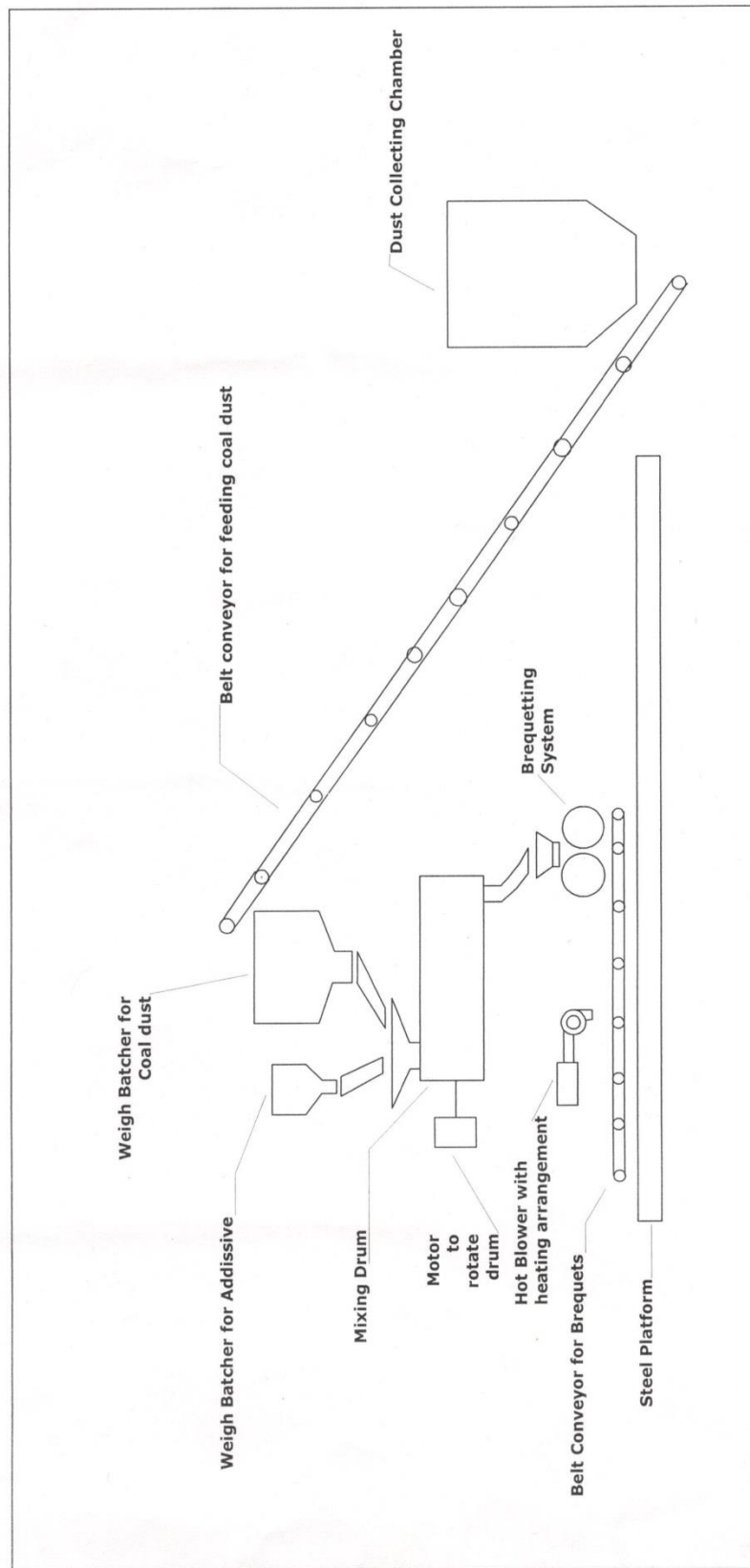


Fig. 2



2.0 Requirement

CSIR-CIMFR requires an industry partner for fabrication of one set of 'Coal dust briquetting system' to carry out field trials in opencast coal mines, and subsequently manufacturing and commercialization of the engineered and industrial model of system. Therefore, Expression of Interest (Eoi) is invited from the reputed manufacturing industries having workshop for fabrication of the system. CSIR-CIMFR shall reimburse the cost of components required for the system as per the submission of actual bill of materials. CSIR-CIMFR shall also pay the fabrication cost for first set of the system to the selected firm.

3.0 Eligibility Criteria

- (i) The firm should have well established workshop for fabrication.
- (ii) The firm should be engaged in application of environmental management equipment.

4.0 Terms and Conditions

- (i) The selected firm should sign a licensing agreement with CSIR-CIMFR for fabrication and commercialization of the system.
- (ii) Fabrication of first set of the system should be completed within 6 (six) months from the date of signing the agreement.
- (iii) Licensing agreement would be valid for 5 years and which may be renewed based on mutual consent.
- (iv) The selected firm has to pay a lump sum licensing fee before signing the agreement as well as royalty based on selling price (excluding taxes) of the system during commercialization of the system.

5.0 Expression of Interest

The interested firm should submit their Eoi with following information and documents in two bids system covering technical bid in one sealed envelope and financial bid in another sealed envelope by marking as financial bid. The financial bid should be kept inside the first envelope by writing reference details on top of both the envelopes. Technical and financial bids should contain following information/documents:

(i) Technical bid

- a) Company profile and workshop facilities available for fabrication of the system.
- b) Experience of the firm on application of environmental management equipment.



- c) Description and General Arrangement (GA) drawing of the system.
- d) Bill of materials with specifications and quantity as well as make and model, wherever applicable.
- e) Time schedule for fabrication with activity-wise bar chart.
- f) Registration details of the company:
 - ☛ Company registration certificate
 - ☛ PAN details
 - ☛ TAN details
 - ☛ Service tax registration certificate
 - ☛ VAT registration certificate

(ii) Financial bid

- a) Bill of materials along with cost of each material.
- b) Cost of fabrication of one set of system excluding cost of materials.
- c) Lump sum licensing fee agreed to pay by the firm before signing the licensing agreement for commercialization of the system. Minimum lump sum premium shall be Rs. 5.00 lakh. However, the technically qualified firm offering maximum lump sum premium will be selected for licensing agreement.
- d) Royalty rate agreed to pay by the firm based on percentage of selling price (excluding taxes) of the system during commercialization period.

6.0 Submission of EoI

The interested firms should submit their EoI in two bids system to:

The Head, BDIL,
CSIR-Central Institute of Mining and Fuel Research,
Barwa Road, Dhanbad – 826001, Jharkhand, India