Product No. 2

Invitation for Expression of Interest (EoI) for Commercialization of 'Coal Dust Briquetting and Bricks Making Machine'

1.0 Background

CSIR-Central Institute of Mining and Fuel Research (CSIR-CIMFR) has developed a '**Coal dust briquetting and bricks making machine**' for converting coal dust collected from coal mine road surface into coal briquettes and making of bricks from mine waste. The same system can be used either for making briquettes from coal dust or bricks from overburden sandstone dust at a time. 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 system for converting coal dust into coal briquettes. Crushed overburden sandstone material will be feed into the system separately and which will be mixed with water and cement for making bricks/blocks. The system will be mounted on a steel frame so that it can be transported from one place to other place by placing on a trailer. Process flow diagram of the system is depicted in Fig. 1 and block diagram of the system is illustrated in Fig. 2. Tentative specification and descriptions of the system are given below. However, it may be modified as per the requirement of users.

2.0 Technical Specifications

a) Steel platform for plant, size – 3.3 × 13 m (approx.)
b) Hopper to collect dust, capacity – capacity 10 m^3
c) Weigh batcher (hopper) for coal dust/waste – capacity 1000 kg
d) Weigh batcher (hopper) for binding agent – maximum capacity 500 kg
e) Mixing drum or agitator – capacity 1000 kg per batch
f) Briquetting machine – capacity 6 t/h
g) Blocks making arrangement – capacity 2000 piece/ hour
h) Air compressor for operating air actuated valves of hoppers, weigh batcher and agitator.
i) Belt conveyor for shifting dust to weigh batcher from hoper – length 1000 cm
j) 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
k) Holding and shifting arrangement of mould with blocks,
l) Heating arrangement (hot blower) for drying final product (coal briquette)
m) Water tank – capacity 2000 litre

n) Water pump with flow meter
o) Air actuated valves for dust collecting hopper, weigh batchers and outlet of agitator or mixing drum
p) Panel board for entire automatic operation of the system

3.0 Features of the Developed System

The entire plant will be operated from panel board. The weight of 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 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 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 or block making arrangement 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. Blocks making moulds will be stacked and which will be transported by fork lifter for transporting, storing and air drying in a nearby space.

4.0 Requirement

CSIR-CIMFR requires an industry partner for manufacturing and commercialization of **'Coal dust briquetting and bricks making machine'**. Therefore, Expression of Interest (EoI) is invited from the reputed manufacturing industries having workshop for fabrication and commercialization of the system.

5.0 Eligibility Criteria

(i) The firm should have well established workshop for manufacturing.
(ii) The firm should be engaged in application of environmental management equipment or related equipment.
(iii) Turnover of the company should be Rs. 20.00 lakhs during the last financial year.

6.0 Terms and Conditions

(i) The selected firm shall have to sign a licensing agreement which shall be finalized on mutually agreed terms and conditions based on the CSIR guidelines and shall be signed before the commencement of the project.

(ii) A lump sum licensing fee needs to be paid by the selected firm before signing the licensing agreement for commercialization of the system. Minimum lump sum premium shall be Rs. 5.00 lakh.
(iii) Royalty rate to be paid by the selected firm based on percentage of selling price (excluding taxes) of the system during commercialization period. It should be minimum of 3%.
(iv) Fabrication of first set of the system should be completed within one year from the date of signing the agreement.
(v) Licensing agreement would be valid for 5 years and which may be renewed based on mutual consent.
(vi) The technically qualified firm offering maximum lump sum premium and royalty will be selected for licensing agreement.

7.0 Expression of Interest

The interested firm should submit their EoI in two bids (Technical and Financial Bids) separately with all necessary information and documents.

a) The bid prepared by the firm as well as all correspondence and documents relating to the bid exchanged by the technical partner shall be written in English language only. The bidder shall bear all costs of translation, if any, to the English language and all risks of the accuracy of such translation, for documents provided by the technical partner.
b) The firm shall have to submit the documentary evidences to support the eligibility criteria mentioned from point 5.0 sl. (i) to (iii).
c) The firm should also furnish the detailed documents of legal name & address, year of registration, PAN/TIN/GST details and financial standing (audited balanced sheet report & Income Tax).
d) CSIR-CIMFR requires that the firm should observe the highest standard of ethics during execution of such contracts.
e) The last date & time for receipt of proposal is 31.05.2018 at 5:00 PM (IST).

8.0 Submission of EoI

The interested firms should submit their EoI to:

The Head, BDIL,
CSIR-Central Institute of Mining and Fuel Research,
Barwa Road, Dhanbad – 826015
Jharkhand, India

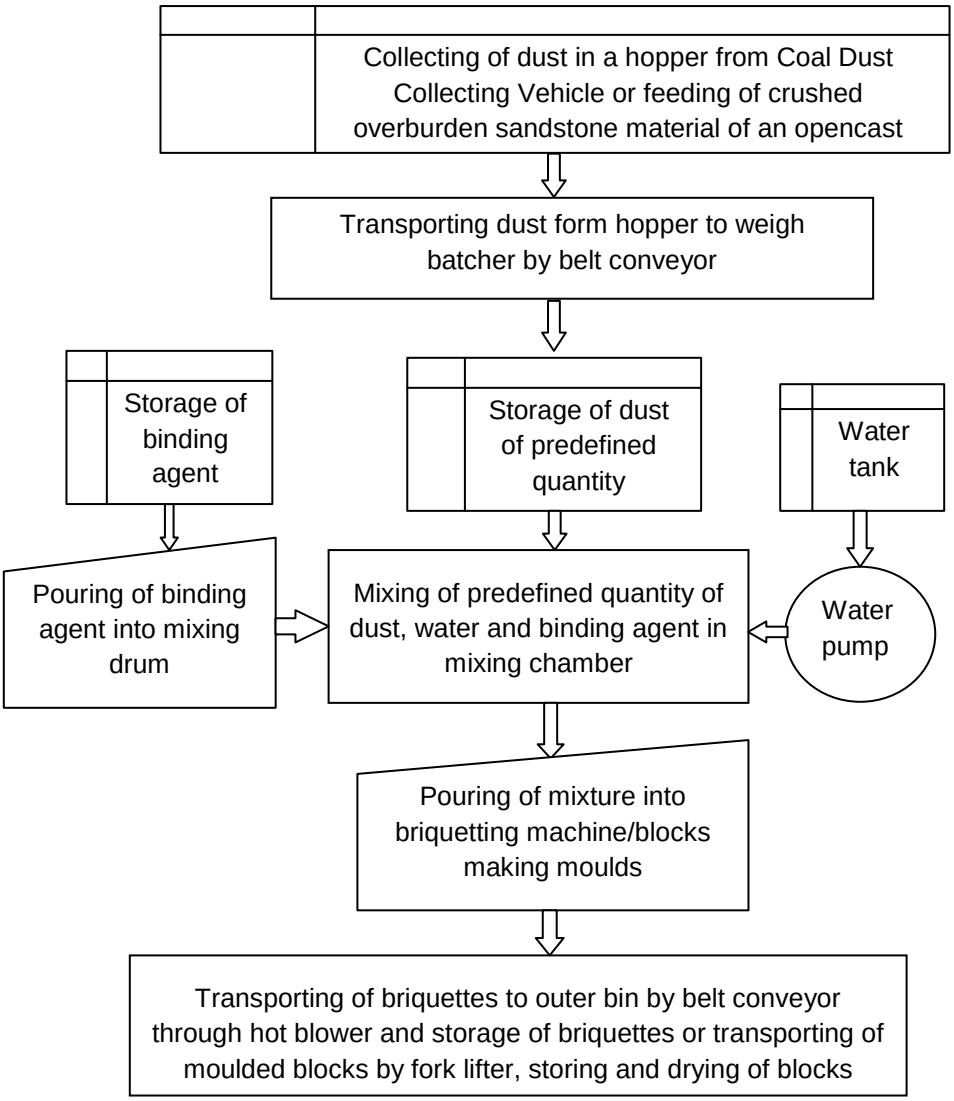
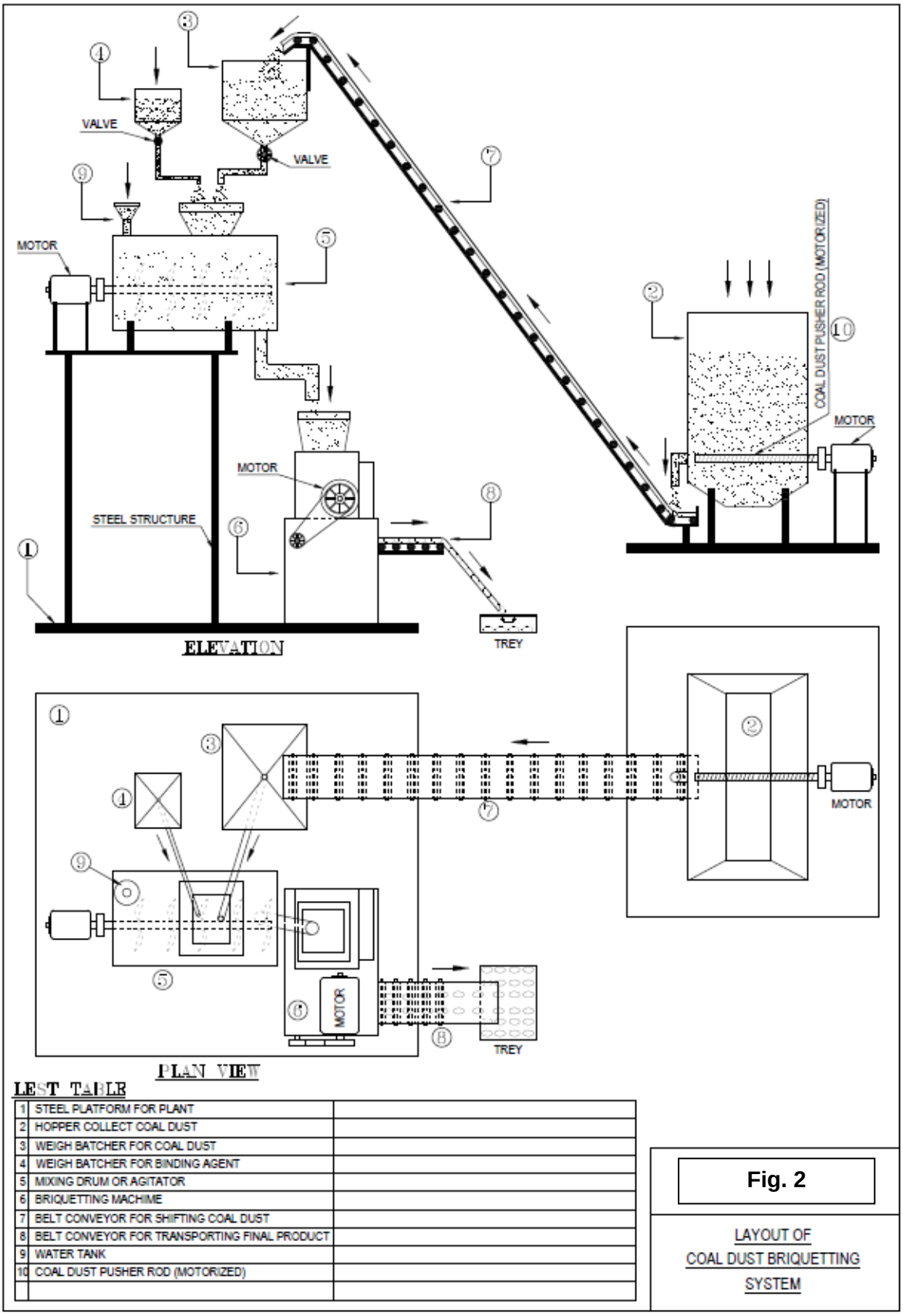


Fig. 1: Process flow diagram of coal dust briquetting and bricks making machine



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1	STEEL PLATFORM FOR PLANT	
2	HOPPER COLLECT COAL DUST	
3	WEIGH BATCHER FOR COAL DUST	
4	WEIGH BATCHER FOR BINDING AGENT	
5	MIXING DRUM OR AGITATOR	
6	BRIQUETTING MACHIME	
7	BELT CONVEYOR FOR SHIFTING COAL DUST	
8	BELT CONVEYOR FOR TRANSPORTING FINAL PRODUCT	
9	WATER TANK	
10	COAL DUST PUSHER ROD (MOTORIZED)	

Fig. 2

LAYOUT OF
COAL DUST BRIQUETTING
SYSTEM