



## **COROMANDEL CEMENTS LIMITED**

### **Increase of Coal Mill Drying Chamber Lifter Height and Angle**

#### **SUMMARY OF THE OPTION**

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Coromandel Cements Ltd, a small cement producer in south India, presently producing around 460 tons per day of (Ordinary Portland Cement) OPC. The unit plans to modify and expand their plant system and equipment capacities gradually in two phases. The first phase modifications that were planned and which are underway include installation of Gas Conditioning Tower and Electro Static Precipitator, which would result in reduced power consumption. In the second phase, modification of Precalculator, Grate cooler, Cyclones and Cement mills would take the plant capacity up to 900 TPD.

As part of the existing design to facilitate drying of coal in the mill-drying chamber, they are provided with lifters, especially during the four rainy months (coal mill used for grinding the coal). These lifters are fixed angle plates welded to the inside surface of the mill drying chamber and arranged along a fixed portion of the length which would lift the coal from the bottom and drop them as a falling spray when they reach the top during the mill rotation. These lifters were increased in height, angle and number to ensure carrying of larger quantity of coal. The increase in angle ensured that the spraying of coal is from the top most point of the rotating mill. This resulted in faster drying and better performance of the coal mill. And thus, the annual energy savings (four months aggregate) is 20, 003 kWh/year with an annual GHG reduction of 17.8 tons of CO<sub>2</sub>/year. The investment was negligible and the entire modification was done with in house resources

There were initial reservations from the production department during implementation of this measure, as they feared increase in dead load (total weight of the coal mill would be increased because you are adding more lifters) and large down-time and production loss. Gradually, however, the entire production and the Team ensured successful implementation. It was a big boon for the operations department, who always found it a challenge to keep pace with kiln coal demand during the troublesome rainy months.

#### **KEY WORDS**

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India, Cement, Fuels and combustion, Coal mill, Lifts

#### **RESULTS**

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##### **Financial benefits**

- Investment: none
- Annual cost savings: US\$ 1,726 (Rs. 74,200 = Rs.3.71/kWh X 20,003 kWh)
- Payback period: immediate

##### **Environmental benefits**

- Annual electricity savings (four months aggregate): 20,003 kWh (= 0.3 TPH X 25 kWh/ton coal X 2667hrs/yr)
- Annual GHG reduction: 17.8 tons CO<sub>2</sub> (= 20,003 kWh/yr X 0.000893 tons of CO<sub>2</sub>/kWh)



## FOR MORE INFORMATION

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