

CASE STUDY 3 : COMMON EFFLUENT TREATMENT PLANT SLUDGE AS ALTERNATE FUEL IN CEMENT KILN - BINANI CEMENT LTD

Project Implemented by : Binani Cement Ltd

Project Implemented in : 2010

Company Details

Binani Cement Limited is the flagship subsidiary of Binani Industries Limited (BIL), representing the Braj Binani Group. The cement business started operations in 1997, in Sirohi District, Rajasthan with a 1.65 MTPA integrated cement facility and a 25 MW captive power plant with technological support from FLSmidth, Denmark and Larsen & Toubro Ltd.

The capacity was raised to 2.25 MTPA in 2005 through advanced in-house R&D and de-bottle necking and the Company was also certified to ISO 9001, ISO 14001 and OHSAS 18001 within a short span from commencement of operation. This is an achievement that clearly illustrates the management's commitment to quality, efficiency, environment, health and safety. In 2008, a split-grinding unit at Neem Ka Thana was commissioned, boosting the capacity in India to 6.25 MTPA.

Today, Binani Cement has established itself as one of the top companies in the industry in terms of efficiency and performance

Project Details

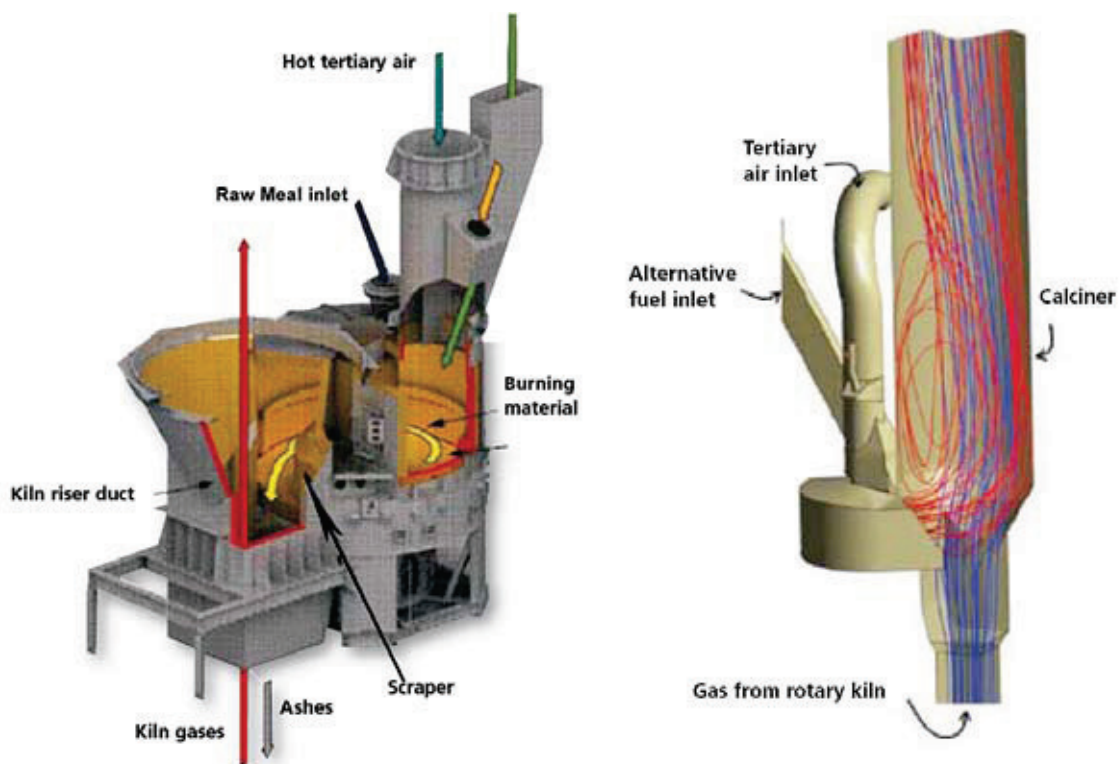
The Sludge from the Common Effluent Treatment Plant (CETP), Pali is being used as part of company's Social Responsibility towards environment protection.

The sludge, a potent hazardous waste, contains toxic chemicals such as PCBs, dioxins, Persistent Organic Pollutants (POPs) and heavy metals like cadmium, arsenic, zinc, mercury etc. which by virtue of being carcinogenic, are extremely harmful for human health & environment if disposed inappropriately into landfills or water bodies. Until the establishment of 'Pali Water Pollution Control Treatment & Research Foundation, the effluent generated by the textile industries used to be indiscriminately disposed into the local rivers & water bodies causing the city's industrial cluster to be declared by CPCB as one of the 14 most critically polluted areas in the country.



'Pali Water Pollution Control Treatment & Research Foundation', a non-profit organization running under the chairmanship of the District Magistrate, delivers the sludge @ 10 MT per day which is disposed in our kilns in a scientific and environment friendly manner under authorization from the RSPCB.

The material is fed through Hot Disc System



Results of the Project

Environmental Benefits

1. The project saves the local rivers & water bodies around Pali from getting polluted.
2. GHG emission reduction due to partial replacement of fossil fuel.

Investment

Since a full-fledged mechanized feeding system was already in place at Plant Premises, no additional investment was required to be made for this purpose.

Replication Potential

Similar project can be replicated not only in cement kilns but also in other industries such as steel, aluminium, refractory or others where incineration takes place at $>1200^{\circ}$ C. Since the material is a mixture of various organic compounds, it has some heat value (approx. 1000 Kcal/Kg) and as such it helps to replace an equivalent amount of fossil fuel. In addition, the material is delivered at no cost.

Issues faced during implementation

1. Jamming problems were faced due to high moisture content during rainy seasons. Hence, it is advisable to keep the moisture content well below 10% before it is fed into the system.
2. Clay content – the inherent clay contained in the feed tends to decrease the C3S content of the resultant clinker and was thus compensated by making appropriate adjustments in the raw mix.

Recommendation to other units

It is recommended to implement this project, not only in cement kilns but also in other industries such as steel, aluminium, refractory or others where incineration takes place at $>1200^{\circ}$ C.

Contact Information of the plant

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