



TEFS FOR ALTERNATIVE FUELS & RAW MATERIALS (AFR)

Cement Plant of Dalmia Cement (Bharat) Limited

Trouble free operation of the pyro-processing section and sustained level of production with assured product quality is of utmost importance while conceptualizing the substitution of conventional fuels with alternative fuels and raw materials (AFR).



The study done for Dalmia Cement (Bharat) Ltd. involved an assessment of the availability and quality of the AFR's in the plant's vicinity and subsequently the fuel-mix, which would reduce the fuel bill of the plant.

It was considered prudent that during the initial stages only partial substitution of conventional fuel with AFR be done till adequate experience is obtained for considering full substitution.

An assessment of possible tie-ups with potential suppliers of different kinds of waste materials on a long-term basis depending on their availability and price, before making the investment was also reckoned.

Objective

- Utilization of hazardous and non-hazardous industrial waste as a source of energy in cement plants thereby reducing fuel costs
- To identify and assess the sources of waste which can be used to replace conventional fuels

Scope of Consulting Services

- To identify and assess the sources of waste which can be used to replace conventional fuels through a detailed research covering the state of Karnataka and parts of Maharashtra and Goa which are in the 200 km radius of the plant site.
- Formulation of the plant technical concept
- Study of raw mix design to match the use of AFR
- Preparation of a quality assurance plan
- Estimation of capital costs involved
- Assessment of the safety and environmental issues involved
- Assessment of the Techno-economic feasibility

For carrying out the above activities, a team of multifunctional specialists undertook a plant visit for carrying out a detailed assessment of and interaction with the plant personnel.

Recommendations were formulated to deal with the proposed addition/modifications in various equipments. This was done to achieve maximal utilisation of AFR in the existing system itself.

Salient Feature

A significant achievement of such exercise can be a step-down in the fuel cost of the plant.

The effective usage of alternative fuels and raw materials available in the vicinity of the plant can result in a considerable reduction in the fuel bill of the plant.

However, the success of such projects is largely dependent on the regular availability of the AFR through long term supply contracts or forging Joint Venture arrangements with waste processing companies to ensure the cost and volumes of waste on a sustained basis. Enforcement of environmental regulations also plays a significant role.