Best practices of Anjani

by SVS Shetty & SN Raju, Anjani Portland Cement Ltd, India

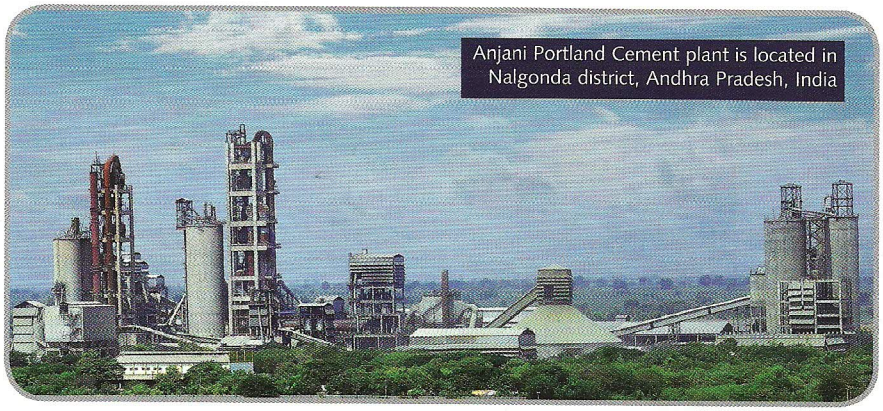
Anjani Portland Cement is taking significant strides to establish itself as a leader in sustainable initiatives in India. Its proactive Anjani Studio and Nirmaan Sanjeevani schemes assist customer demands as well as the company's GHG reduction programme and increasing use of alternative fuels. Anjani now aims to go beyond customer needs with its services and help develop local skills for the future development of the cement industry.

Anjani Portland Cement Ltd is part of the Anjani Group which is involved in the manufacture of cement and building materials, educational institutions, construction activities, security printing, food processing, etc. Padma Bhushan Dr BV Raju, well-known throughout India's cement sector, is the founding chairman of the Anjani Group which is managed by his grandson, KV Vishnu Raju.

Anjani Portland Cement started operations in 1999 with an installed capacity of 0.2Mta. It has since grown substantially over the last decade and now has plans to establish plants in different locations and split grinding facilities to market its products in various southern Indian states.

The 1.2Mta cement plant (comprising two lines) is located in Nalgonda district, Andhra Pradesh and markets cement under the "Anjani Super Gold" brand name. Kiln Line I was built in collaboration with Nihon of Japan who replicated a five-stage preheater, precalciner and a reverse air baghouse. The 1500tpd (0.7Mta) Line II, which started on 24 March 2010, also operates a five-stage preheater and calciner with Onoda technology from Japan. Cement milling capacity is 80tph and reverse air baghouse technology is employed for kiln and raw mill dust-laden gases. Both kiln lines have a fully-automated production process using Siemens PCS7-CEMAT Distribution Control System with 24/7 monitoring.

Anjani Cement has captured a large share of the Andhra Pradesh market which has an installed capacity of 55Mta. The company also competes with national players and has now extended its reach to the states of Tamil Nadu, Orissa and Karnataka, as well as the Maharashtra market.

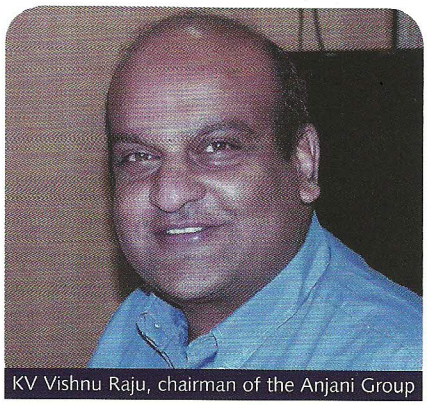


Anjani Portland Cement plant is located in Nalgonda district, Andhra Pradesh, India

Anjani's cement is ISO 9001:2008, ISO 14001:2004 & BS OHSAS 18001:2007 certified. The company manufactures Portland slag cement and pozzolana cement (including fly ash) for use in mass concrete projects such as dams, marine works and spillways.

The plant has received several awards since its establishment, including:

- 'Fastest Growing Cement Company in India' at the 7th Construction World Annual Awards
- 'Among India's 500 Best Performing Mid-sized Enterprises' by Inc India (9.9 Media Initiative) for the past three consecutive years
- 'Excellence in CSR Activities' by the Federation of Andhra Pradesh Chambers of Commerce & Industry (FAPCCI)
- 'IMC Ramakrishna Bajaj National Quality Award (RBNQA) 2011' Commendation Certificate in the manufacturing sector category.



KV Vishnu Raju, chairman of the Anjani Group

Beyond customer focus

Having realised that customer needs now go beyond the purchase of cement, Anjani's management has devised a multi-support system to meet end-user requirements. This includes three Anjani Cement studios, where visitors receive detailed and practical information on cement uses and practices. The company has also established the Nirmaan Sanjeevani mobile testing laboratory to offer services to consumers through various stages of construction. Both these initiatives have received a positive response from the customers.

Anjani Cement Studio

There are three Anjani Cement studios situated in the high consumption areas of Hyderabad, Kakinada and Bhimavaram. They offer information on cement in terms of manufacturing, usage, types and various applications.

Visitors can receive advice on cement usage for optimum mixes through various stages of construction or obtain assistance relating to Vastu-oriented house

plans, low-budget building projects, and construction cost estimates and architectural services to the public.

Other aspects showcased in the studios include:

- the history of cement use across the world
- interesting and encouraging facts about cement
- the origins of Anjani Cement and its steady uphill tread towards success
- raw materials and their procurement (location and process)
- manufacturing stages
- infrastructural aspects
- production technology in detail
- quality testing and control
- storage, package and dispatch
- Anjani Cement ethos.

Mobile concrete solutions during construction

This is a specialised mobile testing laboratory which is designed to meet the testing needs and queries by the end customers in rural areas. The concept makes all the testing facilities that would be present in a major cement plant available 'on the road', so all tests can be carried out in this mobile lab.

Apart from these services, accessibility for trained structural engineers has also been found to be very useful to demonstrate the best use of the cement.

Anjani Group's customer-based initiatives...

Left: the Anjani Cement Studio in Hyderabad is open to visitors

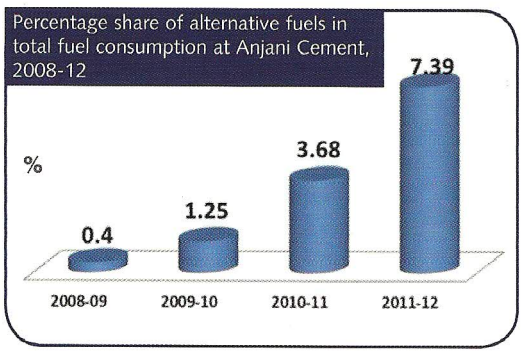
Below: specialised mobile testing laboratory available in rural areas

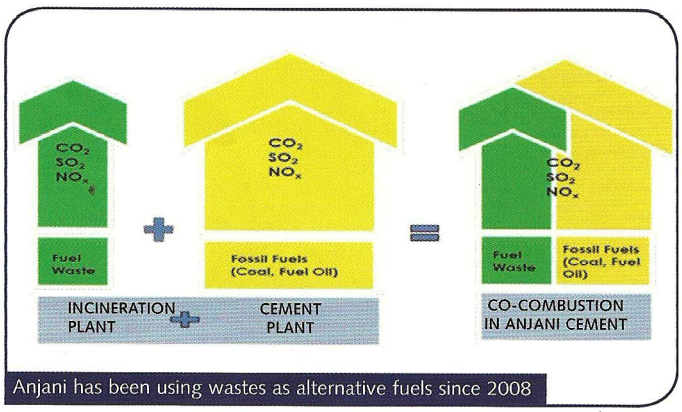
Human resources development

To provide job-oriented training in cement manufacturing, maintenance and quality assurance processes, Anjani has established a cement technology institute, known as the Dr BV Raju Institute of Cement Technology (BVRICT), near its plant. Students are selected from neighbouring villages and trained for one year in the theoretical and practical aspects of the cement industry.

The institute is equipped with all the necessary facilities and also includes demonstration equipment like fans, gearboxes, pumps, etc. An operational ball mill for raw meal and cement is located on campus for practical training on cement grinding, mill liners and maintenance of transmission equipment, etc. There are full-time faculties for regular classes and a guest faculty from neighbouring cement plants where equipment manufacturers, technical institutes, professional engineering colleges all visit regularly to improve these skill development programmes.

Upon completion of the course, Anjani employs some of the students depending on job vacancies while others have been able to gain employment quickly in upcoming nearby plants. As candidates have knowledge about the various practices of cement companies and plants, employers do not need to spend further time and resources on training. Anjani has received a very good response from villagers and the company is now trying to take this institute to the next level.





Anjani has been using wastes as alternative fuels since 2008

Environmental protection

Greenhouse gas (GHG) abatement

Anjani makes continuous efforts to reduce GHG emissions in all its processes and has introduced the use of alternative fuels to help enable lower emissions. The company also helps the pharmaceuticals, steel and paper industries by disposing their hazardous and non-decomposable waste. These wastes can be completely disposed of only through incineration at 1400°C through Anjani's pyroprocess. As a win-win situation, this waste is consumed as alternative fuel substituting coal usage in the cement production process.

Spent carbon and liquid and solid organic fuel replace coal while lime sludge replaces limestone. Burning alternative fuels in the pyroprocess system ensures:

- high temperature (1400°C)
- long residence time
- oxidising atmosphere
- high thermal inertia
- alkaline environment
- ash retention in clinker
- continuous fuel supply.

Fly ash and slag are also used at Anjani to help reduce CO_2 emissions. These actions to improve the company's environmental management system and help the preservation of natural resources have resulted in the company achieving ISO 14001 and ISO 18001 standards.

Summary

Anjani Portland Cement is committed to serving the community and works towards improving training as well as housing, roads, drainage and health. It continues to develop sustainable initiatives to benefit employees, local communities and scarce resources to enable a better future.