



CASE STUDY severe service

CCI HELPS TO IMPROVE INDIA CEMENT FACILITY EFFICIENCY

Site - Lakheri, India

Requirement – Cement and electricity are two key building blocks for the further growth in India. The owners of the facility have an on-going business program to improve operational efficiencies and improve environmental practices. So a business case was made to add an additional 1.5 million tons per annum and refurbish the 25MW captive power plant, but after only four years of operation the team found the two-valve pressure reduction system was causing process control problems, excessive plant noise and was consuming operational spares.

Solution - As an environmental steward in the community, an air cooled condensing system was utilized to reduce the water consumption of the plant. This type of cooling technology requires special attention when looking at turbine bypass valves that neither the previous valve manufacturer nor the customer were aware of. The CCI team found that the downstream pipe length was insufficient for proper mixing of spray water to allow for efficient desuperheating. Experience has shown that for plants that operate over a wide load range, like cement facilities, utilizing a single pressure reduction and desuperheating valve like the VLB with a dump tube is the most efficient approach. By incorporating an enthalpy feed forward control philosophy, in connection with the 840H spray water valve, tighter temperature control can be achieved. In supplying the total solution, CCI enabled the customer to reduce site noise by over 20% and increase plant efficiency by 5%, which is a savings of over \$40,000 USD per year in coal and over 24 tonnes per day less CO₂ production, or equivalent to 1,100 cars being removed from the road per year.

