MICRO, SMALL & MEDIUM ENTERPRISES
सूक्ष्म, लघु एवं मध्यम उद्यम

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Energy is Life, Conserve it

Ministry of New and Renewable Energy
Government of India

"PROMOTING ENERGY EFFICIENCY AND RENEWABLE ENERGY IN SELECTED MSME CLUSTERS IN INDIA"

To develop and promote a market environment for introducing energy efficiency and enhanced use of renewable energy technologies in process applications in the selected energy-intensive MSME clusters, United Nations Industrial Development Organization (UNIDO) in collaboration with Bureau of Energy Efficiency (BEE) is implementing a project titled "Promoting Energy Efficiency and Renewable Energy in selected MSME clusters in India" funded by Global Environment Facility (GEF) and co-financed by Ministry of Micro, Small and Medium Enterprises (MoMSME) and Ministry of New and Renewable Energy (MNRE).

Installing timer for sand plant process in a foundry

Objective

To reduce the energy consumption in the sand plant by avoiding idle running by installing a timer to stop the auxiliary machines in the process after the knock out.

Implementation

Installed a delay timer to stop the auxiliary machines in the sand process after the knock out.

Principle

Sand plant contains various auxiliary machines. These machines should be switched off along with the knock out system. But it was observed that the machines run continuously, resulting in idle running leading to high specific energy consumption. Relay timer is installed in the sand process to switch off the auxiliary machines three minutes after the knock out stops. This will avoid idle running and result in the energy savings in the sand plant.

Savings
₹ 2,80,800

Investment
₹ 2,000

Pay Back
Immediate

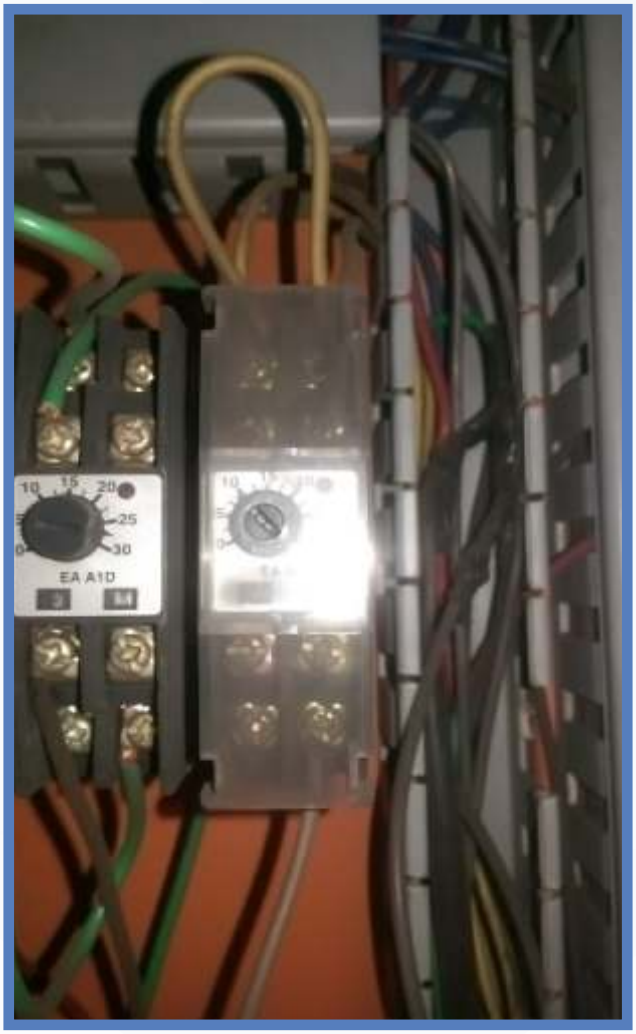
Prepared & designed by:
CII
Confederation of Indian Industry

Unit Profile

Mahendra Pumps foundry division is a medium scale foundry unit located near Civil Aerodrome, Coimbatore. Its average monthly production is around 225 MT of castings.

Benefits

- Reduction in energy consumption
- Quick payback period



Outcomes

- 36,000 kWh of annual energy saving
- ₹ 2,80,800 of annual cost saving
- 29.5 T of CO_2 reduction per year (0.82 kg/kWh)

Replication Potential

In all the foundry units with continuous running of the machines in the sand plant

Cost Economics

Energy savings per day	115 kWh
Energy saving per annum	3,600 kWh (312 days/yr)
Cost savings per year	₹ 2,80,800 (₹ 7.8 /kWh)
Investment cost	₹ 2,000
Simple Payback period	Immediate

Calculation

Energy savings per annum (kWh/year) = (Energy consumption before implementation- after implementation, kWh/day) * no of working days/year

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