UNITED NATIONS
INDUSTRIAL DEVELOPMENT ORGANIZATION

Industrial Energy Efficiency Project

In order to introduce a structured approach to energy management in their operations, Pag-asa Steel Works, Inc has joined hands with the Global Environment Facility (GEF)-funded project, "Industrial Energy Efficiency in the Philippines." This project, jointly implemented by the United Nations Industrial Development Organization (UNIDO), the Department of Energy and the Department of Trade and Industry, has helped Pag-asa Steel Work, Inc to implement an Energy Management System in alignment with ISO 50001 for an overall improvement in energy efficiency and a reduction in energy consumption.

A Case Study of Pag-asa Steel Works

Pag-asa Steel Works, Inc.

Industry: Steel

Location:
Barrio Manggahan,
Pasig City

Product: steel bars

Pag-asa Steel Works, Inc. is one of the largest producers of concrete-reinforcement steel bars in the Philippines today and supplies to a wide range of infrastructural and housing construction projects.

The Pag-asa Steel plant is located in Barrio Manggahan, Pasig City and currently employs more than 200 people.

source: Schematic World Map, UNIDO

Structure brings success in all areas of cooperation

Structured management systems are nothing new to the Pag-asa Steel plant; the management team have had a Quality Management system in place since 1999. The system's key role in the success of the organisation was made evident in various meetings between UNIDO experts and management with the structured approach yielding dividends in the quality arena for many years.

UNIDO, a key ingredient in the plant's success

From the outset, management was supportive of the UNIDO project which involved adopting a structured approach to the management of energy, recognizing that energy is a substantial cost to the organisation and a critical element of the plant's performance. Plant management approved a site Energy Policy in 2012 which outlined their commitment to implementing a systematic approach to the management of energy in the facility. This policy was streamlined into the Environmental Health and Safety policy as a key element to ensuring that energy is mainstreamed into the operational management of the facility.

Planning for Success

The energy planning process involved completing a forensic examination of the facility and identifying the significant energy users. This was completed using a data driven approach, utilising energy measurements and nameplate information to obtain a clear understanding of energy consumption throughout the facility.

This led to the identification of the focus area for the energy management system which resulted in short term wins in the implementation phase of the system.

Operational Control Delivers Large Savings at Low Cost

As part of the system implementation, a focused data driven approach to the improvement of energy performance was placed on the furnace. This included challenging the operational control set points used to control the furnace.

The question of "why is this setpoint needed at this level" was asked of the furnace operators and management personnel for the following parameters:

- Combustion Air Temperature
- Waste Gas Temperature
- Soaking Zone
- Billet Temperature
- Heating Zone
- Furnace Pressure

Through close engagement with the quality department, changes were made to the operational set-points of some of the identified parameters leading to furnace performance improvements.

The initiatives identified and implemented resulted in a 5% improvement in the furnace's energy performance when compared to the energy baseline of the previous year, thus achieving the targets set by Pag-asa Steel management.

Sustainability in the Long Term through a systematic approach

Pag-asa Steel has been in existence for 49 years and their ability to adapt to change has been a key factor in their success. The structured management system brings sustainability to the improvements through the annual planning process and also ensures that the gains made are integrated into day-to-day operating practices.

According to the team of UNIDO-trained national experts under the Industrial Energy Efficiency Project that assisted in implementing the management system, "the requirement to establish baselines and Energy Performance Indicators (EnPIs) through best practice analysis techniques makes its distinction that any organization wishing to achieve ISO 50001 certification can only have one reason in mind to implement it and that is to improve energy performance."

For more information:

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