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Energy Management Systems Applied to Bread Factory

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ABSTRACT

The Regional Euro Energy Efficiency Center Kragujevac (REECKG) is established in 2004 at the Faculty of Mechanical Engineering Kragujevac by assistance Serbian Energy Efficiency Agency (SEEA) and Norwegian Energy Efficiency Group. The basic tasks of Center are: creation of strategies, plans and studies of energetic development of local communities and companies, balancing of energy production and consumption, and establishing of energy efficiency of facilities and technical processes, financial energy engineering, energy and ecological monitoring and management, as well as transfer of knowledge and innovations to employees in these fields, substitution of conventional with renewable energy sources, creation of databases concerning energy resources in production and consumption of all energy types in the area where the Center is authorized.

Energy experts of Faculty of Mechanical Engineering together with energy team of the bread factory "Pobeda", Arandjelovac, conducted the energy audit during the winter/spring period of 2004. The team from the Faculty several times visited the company for assessment of plants, procedures and relevant documentation that describe the technology and energy system in order to propose energy saving measures. Internal expert team was formed and relevant employees were interviewed concerning the energy consumption. Beside, some measurements were made using portable measuring equipment owned by the faculty.

This paper summarizes the outcome of the performed energy auditing and proposes potential areas for energy savings. Generally, energy saving measures can vary between simple low-cost measures (basic operation precautions and good housekeeping) and capital investments. Interesting energy saving measures and projects that were determined during the energy audit were the subjects of feasibility studies in order to analyse each technical alternative or verify conclusions which have been reached.