

Energy Monitoring and Control System

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Abstract: *An Energy Monitoring and Control System (EMCS), or Energy Management System as it is sometimes known, is primarily intended as a retrofit to existing buildings to provide more efficient control of mechanical and electrical equipment. Most existing controls for heating/ventilating/air conditioning (HVAC) equipment were designed and installed during a period of low energy cost and are not the most energy efficient. Using a computer for supervisory control allows the equipment to be operated in a more efficient manner through existing controls. Unfortunately, actual implementation of systems has been fraught with problems. To overcome this, a 2-year intensive effort involving industry and government personnel has culminated in an EMCS design manual and guide specifications for four different types of EMCS, ranging from a single building controller to a network controlling hundreds of buildings. A research program has been formulated to address ways of improving hardware components, control strategies (software), and the implementation process. This paper addresses a rationale and methodology for planning, designing, installing and operating an EMCS to fully realise energy savings.*

Keywords: energy monitoring and control systems (EMCS), for a safety

