

SCADA – An Integrative Approach

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ABSTRACT

In the past decades, the design, construction and operation of SCADA systems have seen a shift toward a more sustainable approach. The approach that offers a more performance based “verification of its project requirement goals” and a lower cost of the ownership. The cost of ownership that not only looks at the initial cost, but it also looks at the life cycle cost and benefits of owning and operating the SCADA system. The movement strives a shift toward a SCADA system that not only alarms you when your process goes wrong, but it also intends to minimize the financial impacts as well as the environmental and social impacts.

The life cycle assessment of an SCADA system features, components and networks encompasses planning and design and construction and operation and ultimately retirement and renewal. This LCA is to inform the stakeholders about the choices for material, components, systems and features that promotes operational satisfaction and also minimizes or totally eliminates the negative impacts on energy use, environment and public infrastructure.

The SCADA-an integrative design paper looks at a new approach to the SCADA system features and how to lay out a concept for a system that can meet the sustainability challenges of the 21st century. The challenges that require clear project goal definitions, measurable performance requirements, self-healing and with optimum cyber security, team oriented design, open communication and synergy among the owners, operators, engineers, programmers, technicians, contractors and general public.

About the Speaker:

Cameron Kamrani, PE, MBA, LEED has over three decades of project experiences that includes project management, master planning, design, construction, commissioning and validation of field instruments, control systems, automation software, networks and the associated electrical distribution design and hardware. The projects were at facilities such as municipal water and wastewater plans, chemical, pharmaceutical, food, research and laboratory facilities, office buildings, commercial, educational, institutional, airport/transportation facilities and manufacturing plants. The projects scope included cost and feasibility analysis, and detail design and construction of process control automation system, including PLCs, HMI, DCS, SCADA and higher level enterprise system integrations, such as CMMS, LIMS, ERP and open system protocols such as Web Services. Some of the project scope focused on hardware and their proprietary control system such as electrical power distribution and metering system, lighting and lighting control, fire alarm, security, and building control systems. Mr. Kamrani has a Master in Engineering and MBA and he is a LEED Accredited Professional