

Lowering Lifecycle Costs with Intelligent Motor Control Centers

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SUBMISSION TYPE

30 minute presentation

KEYWORDS

Energy Efficiency, Automation, Electrical, Design, Operations and Maintenance

ABSTRACT

Intelligent motor controllers have been around for many years in the water / wastewater industry but, more often than not, their advantages have been misunderstood and poorly applied. When Intelligent Motor Control Centers (iMCCs) were first introduced, the issues facing early adopters may have placed a stigma on iMCCs preventing widespread adoption of the technologies. Now over 15 years later, technologies have matured and they offer outstanding advantages in terms of reducing costs, gaining operational efficiency, and construction execution. This presentation will provide a summary of the benefits and lessons learned that would be of interest to engineering, maintenance, and management.

There are many ways to implement iMCCs, and too many choices may have been one of the issues that limited adoption. These options will be summarized but focus will be on the methods trending today in the industry to provide the most benefits for the majority of utilities. So why iMCCs? iMCCs reduce lifecycle costs not only of themselves but also of the equipment they control; they reduce footprint of equipment; they reduce the work and testing needed for installation and commissioning; they allow soft changes in starter control logic without worry of a PLC failure; they provide lower part count, spares and reduction in MTBF (failures); they provide better equipment protections and asset management; they provide enhanced diagnostics for predictive maintenance; they lower risk; and most of all they enable energy savings by the measurement and control of energy. Many of these benefits were never achieved when implemented because the motor starters were designed and operated mainly the same way as a basic starter with hardwiring of monitoring and control signals, but iMCCs are much more and to fully achieve the benefits an understanding of how to leverage these technologies is needed.

ABOUT THE AUTHORS

Jeff M. Miller is a Water Solutions Architect for Schneider Electric's Water Wastewater Competency Center. Jeff has a B.S. in Electrical Engineering with over 25 years of experience and has the unique perspective having also worked for engineering consultants, systems integrators, and utilities. He has delivered on projects ranging in size from small lift stations to 370 MGD treatment plants. Jeff is the co-founder and past chair of the NC AWWA-WEA Automation Committee and is also an active member of several national and regional Automation and Plant O&M related committees. Contact:

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