"On-Line Cooling Tower Inspections using Drone Technology"

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Biography

Keith Masserant, is President of Mid-American Group. He served as Vice President from 2008-2012 before taking on the role of President. Mr. Masserant has over 30 years' experience in the Power and Steel Industries and 12 years' experience in the Nuclear Industry. Mr. Masserant currently holds 22 patents and is actively involved in:

- U.S. Air Force Auxiliary Division
- Monroe County Community College Board of Directors
- Ducks Unlimited Michigan Council

Abstract

Thinking outside the box, DTE Energy teamed with Mid-American Group to develop and implement an innovative solution to expedite long-range efficiency repairs for Fermi 2's Natural Draft Cooling Towers. The team challenged the existing mindset of not only their nuclear site, but also that of the industry by developing a first-of-a kind concept that would allow formerly plant cold (Outage) work to be done during full plant operation. Working hand in hand, the team strived for Continuous Improvement of the maintenance applications implemented on the cross-flow cooling towers. These improvements were focused primarily on equipment reliability and efficiency gains through fill replacement and concrete repair during normal tower operation. Mid-American Group developed a water diversion process, which allowed sections of a tower to be isolated by diverting the water and making targeted work areas dry and suitable to access in a safe and workable environment. DTE Energy evaluated the impacts of implementing the water diversion during plant operation and developed a set of site-specific governing criteria. This one of a kind concept was successfully implemented 3 times, with each completed section restoring lost efficiency well in advance of previous methods that would have taken 3 scheduled outages. During this maintenance activity the plant maintained sufficient cooling temperatures and performed more efficiently after this innovation was implemented.