Chilled Water Automation System (CWAS)

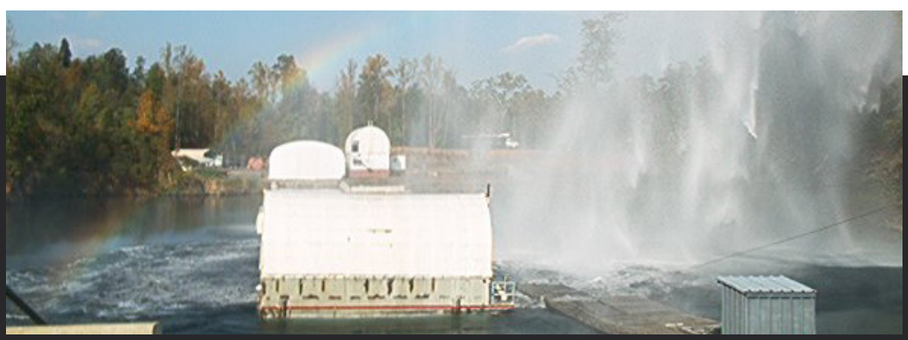
MPR develops fail-safe controls for critical mission equipment

The Navy needs to improve the survivability of chilled water systems to help prevent vital ship functions from shutting down due to loss of cooling when combat damage occurs.

01 THE CHALLENGE

Improve the survivability of chilled water systems to prevent Naval ship functions from shutting down

The Navy needs to improve the survivability of chilled water systems to help prevent vital ship functions from shutting down due to loss of cooling when combat damage occurs. The automation to recover the system from damage needs to be highly survivable. The Navy needed to select an economical system developer with unique expertise in fluid control systems and survivability, and the ability to integrate with the existing shipboard control system.



02 THE SOLUTION

Develop a “smart valve” technology to provide recovery of fluid systems from damage

MPR developed the “smart valve” technology to provide highly survivable, robust, automated recovery of fluid systems from damage. We demonstrated our ability to integrate the smart valve, device-level controls with other control systems in an open architecture environment. MPR won the competitive selection for the chilled water automation system (CWAS) solicitation as the most economical system developer. Working with our team of hardware suppliers, MPR qualified hardware to military standards, developed the control logic, developed a computer based simulator of the CWAS, performed successful land based testing of the prototype system, and demonstrated successful integration with the ship’s existing machinery control system.

03 THE RESULTS

An effective technology proven successful in over 100 tests

MPR’s smart valve technology has been successfully demonstrated in over 100 tests, including full-scale weapon effects tests. The improved performance enabled by MPR’s CWAS means that critical mission equipment will remain operational when the supporting chilled water system suffers combat damage. We have demonstrated that MPR is a competitively economical provider of advanced controls.

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