NAVFAC Naval Facilities Engineering Command
Engineering and Expeditionary Warfare Center Port Hueneme, California 93043-4307

TechData Sheet

TDS-NAVFAC EXWC-PW-1402 December 2013

Sand Filters

Technology Description

Sand filters provide cleaner cooling tower water by removing suspended particles in the water including very fine contaminant particles down to 0.25 microns. The sand filter used in this demonstration is designed to remove particles down to 0.5 micron particles. This high efficiency filtration saves energy and reduces operating costs with cleaner chiller condenser heat transfer surfaces, lower microbiological growth, improved corrosion rates, and reduced chiller tube cleaning frequency.

Sand Filter at NAS Lemoore

Value to the Warfighter

The advantages of this technology as tested are:

- Reduced electrical use by the chiller per ton of chilled water produced

Economics of the Technology: ROI or Payback

The total installed cost of the sand filter at NAS Lemoore was $26,553. The total annual savings varies based on the chiller cleaning schedule used. The analysis of this system shows $11,466 average annual savings for an annual chiller cleaning schedule, $19,033 average annual savings for a two (2) year cleaning schedule, and $28,267 average annual savings for a three (3) year cleaning schedule.

Technology Transition Documentation

Category 1. The transition of Research knowledge into products that provide information for the NAVFAC community to purchase services for SRM, special projects and energy performance performing contractual mechanisms.

Site Implementation

NAVFAC EXWC under the Techval program performed the evaluation at the Naval Air Station Lemoore, CA. The evaluation period of two years began with one year of sand filter operation. During the second year, the sand filter was removed from service to develop the baseline data.

Specific Applications

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