

Abstract

Increased need for land-based test facilities to reduce risk of complex integrated systems on Navy ship platforms such as DDG(X) and FFG(X). Organizational analysis of NSWCPD test sites, specifically DDG 51-Class LBES and BRR-6B/C LBTS, to establish a diagnostic model of how value is generated from test sites and what strengths and weaknesses are present. Results are evaluated for congruence and recommendations are generated for NSWCPD test enterprise.



Naval Boiler and Turbine Laboratory in 1943. Source: Naval Surface Warfare Center Philadelphia Division Public Affairs, 2016.

Methods

- Utilize Organizational Systems Framework (OSF) as diagnostic model of system (test site) inputs, throughputs, and outputs.
- Conduct questionnaires, interviews, and review of test site Mission Readiness Panel (MRP) to formulate data for OSF model.
- Analyze collected data for congruence and identify test site strength and weaknesses.



DDG 51 LBES in 2023. Source: Naval Surface Warfare Center Philadelphia Division Public Affairs, 2019.

Results & Their Impact

- The MRP process does not align with the functionality of respective test sites based on need to develop and maintain new testing capabilities.
- While each test site deploys its own method, both test sites have established a process for qualifying test team personnel and manage standardized operating procedures for operations.
- Testing effectiveness and efficiency, whether utilizing cost, schedule or performance metrics, is not clearly defined or tracked within test sites.
- Each test site possess a skilled workforce and effective leadership that understands and supports the strategic goals of the test site.



Notional Navy DDG(X) hull design. Source: U.S. Naval Institute News, 2023

Recommendations

- Evaluate standardization of administrative test documents across the test enterprise
 - Form a dedicated department that focuses on managing and operating test enterprise
- Implement strategy to measure and track test site effectiveness and efficiency
 - Adopt modular systems approach to maximize potential to support future ship platforms