SERVICE LIFE EVALUATION PROGRAM (SLEP)


PH3 James Collins / Source: U.S. Dept of Defense, http://bbp.mau.dil (last visited March 31, 2017).

MAINTENANCE BASED ON TOTAL SHIP SERVICE HISTORY

The ABS Service Life Evaluation Program (SLEP) is a fully customizable program that provides a life cycle management suite of engineering and inspection services for Naval and Government vessels. SLEP focuses maintenance efforts on both ship structures and systems, based on actual sea service and system operations and maintenance profiles.

DESIGNED TO MITIGATE RISK, DOWNTIME AND REPAIR COSTS

Each vessel's current condition is evaluated for strength, fatigue, system health and system readiness in support of future mission capability using ABS SLEP criteria and Navy input. Risk ranking of deficiencies based on severity, criticality and probability of failure reveals the vessel's current in-service condition and allows prioritization of repairs.

COMPONENT MODULES

ABS SLEP comprises four modules, each of which can be customized to suit the specific needs of a particular vessel or navy.

- Survey Module
- Systems Module
- Strength Module
- Fatigue Module

SURVEY MODULE

A focused and prescriptive survey of the vessel's hull, mechanical and electrical (HM&E) is performed by experienced ABS Naval Surveyors. Findings from the survey are evaluated in conjunction with recent hull gaugings to provide rapid recommendations on repairs. Survey findings are also used as input for fatigue, strength and system analyses.

SYSTEMS MODULE

An extensive systems assessment based on more than 10 key indicators (e.g., ship survey reports, maintenance records, casualty reports, ships CONOPS and log book recordings) leads to a picture of health and readiness both on the component and system level. SLEP is a risk-based approach that allows for prioritized ship-specific recommendations for repairs, inspection or monitoring intervals or modified maintenance actions. SLEP also predicts the remaining life of system equipment based on the historical maintenance and operations profiles to allow for decisions on repair or renewal.

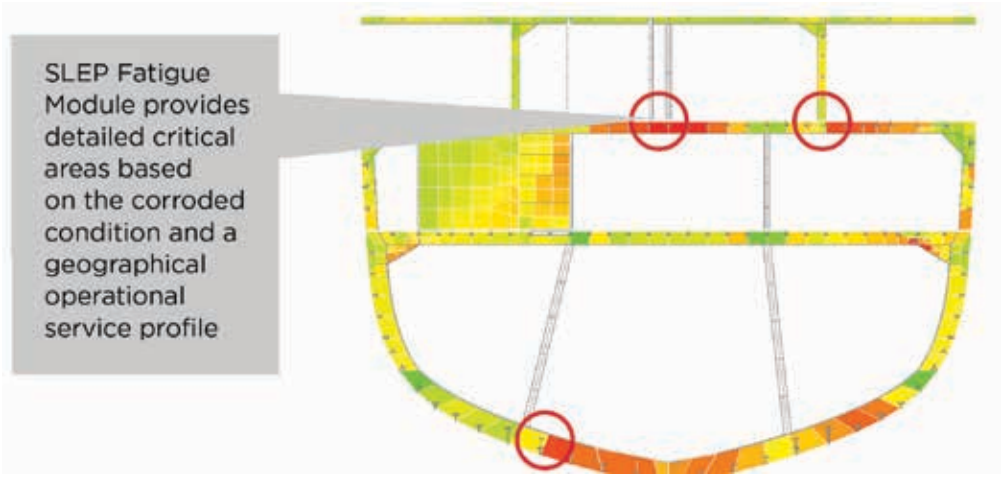
STRENGTH MODULE

The Strength Module consists of assessing the vessel's scantlings in its design condition, as well as its current

corroded condition using vessel gauging reports and experienced sea loading. This provides guidance on areas that need repair or require enhanced monitoring at specified inspection intervals.

FATIGUE MODULE

The fatigue analysis assesses the true material age of the vessel and estimates the remaining fatigue life based on operational history and observed damage resulting in critical areas for inclusion in an inspection plan. The inspection intervals for these areas will be based on a risk matrix.



BENEFITS OF ABS SLEP

- Assistance maximizing service life and mission availability
- Aids in prioritizing allocation of restricted maintenance budgets and resources to targeted Critical Areas
- Professional engineering data to aid in development of optimized plans for life cycle management
- Ability to identify trends and take actions across a class of vessels to maximize fleet service life
- Optimize life cycle management plan through integration of SLEP results
- Immediate repairs, short-term repairs
- Assessment of the effects of service profile, in-service condition and current maintenance practice on vessel service life
- Plan repairs and avoid extended unavailability

GEOGRAPHICAL OPERATIONAL SERVICE HISTORY

SLEP Strength and Fatigue Modules use our historic geographical operational service profile to determine a vessel's current expended life and predict future life.

For additional information on ABS International Government Services, please contact us at IntlGovt@eagle.org.

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