

Executive Summary

Life Cycle Cost Reduction

PURPOSE OF STUDY

During the spring of 1995 a study panel was assembled under the auspices of the Naval Research Advisory Committee (NRAC) to "assess the impact of science and technology (S&T) on life cycle cost (LCC) initiatives of current Department of the Navy (DON) systems and projected DON acquisition programs." In the course of the study, the Panel soon found that although numerous opportunities existed for S&T investment to beneficially impact LCC problems, the underlying problem was a lack of visibility and consideration of LCC implications of decisions made early in the requirements definition and concept development phases of programs where LCCs are largely determined. This general lack of visibility of LCCs was found to continue throughout the life of most systems.

OBSERVATIONS

Although always important, LCCs have become particularly critical as DON budgets have declined in recent years, while the tempo of naval operations has actually increased. Operations and Support (O&S) costs have thus remained almost constant, while the bulk of the budget reductions were absorbed in the procurement budget. If allowed to continue, this situation will prevent the DON from re-capitalizing its force structure. Given that the procurement budget has long been closely managed and has recently suffered such substantial reductions, the O&S budget segments which currently dominate the DON budget represent the greatest potential for cost savings in the foreseeable future.

Although project specific LCC reduction initiatives were reviewed for both operational systems and systems under development, the Panel was unable to identify a systematic DON-wide process for reducing O&S costs. In addition to lack of timely availability of historic LCC data, the DON has little, if any, ability to predict future LCCs, especially for systems utilizing revolutionary new technologies for which no historic cost data exist. Most importantly, DON leaders have not formulated and articulated an LCC reduction strategy.

CONCLUSIONS

The Panel concluded that such an LCC reduction strategy should make use of the emerging simulation-based design (SBD) environment to identify LCC drivers in conceptual system designs and to project LCC implications of design alternatives. Since it is anticipated that more LCC reduction opportunities will be identified than can be reasonably exploited, it is necessary that the DON LCC reduction strategy provide guidelines for selecting LCC reduction investment opportunities based upon trade-offs between technical and programmatic risk and potential return on investment.

RECOMMENDATIONS

The recommendations of the NRAC LCC Reduction Panel are that the DON must take steps to make LCCs, both historic and future, visible to all decision makers in the requirements, development, production, and O&S communities. Furthermore, DON leadership must develop and articulate an LCC reduction strategy. DON S&T investment can then be aligned to support this strategy.

It is recommended that specific programs be carefully selected to develop and demonstrate the SBD LCC reduction methodology. Such methodology should be directed to make effective use of integrated project teams wherein expectations, responsibilities, and resources are clearly identified. It is essential to commence control of O&S early in the acquisition process. In order to accomplish this, O&S costs must be given the same visibility as military performance and procurement costs, and Program Managers must be provided with incentives and resources to reduce O&S costs.

Finally, it is essential to institutionalize the authority and responsibility of the Chief of Naval Operations (CNO) and the Commandant of the Marine Corps (CMC) for acquisition decisions that affect the LCCs of systems in the same way that the CNO and CMC are responsible today for decisions affecting military performance of systems and the DON Acquisition Executive is responsible for decisions affecting acquisition costs.