

PDMT Panel Project Proposal: Ship Specifications and Requirements Definition

Tom Ingram, ABS (Prime)

Victoria Dlugokecki, Consultant

John Malone, Consultant

Dr. Matthew P. Tedesco, Consultant

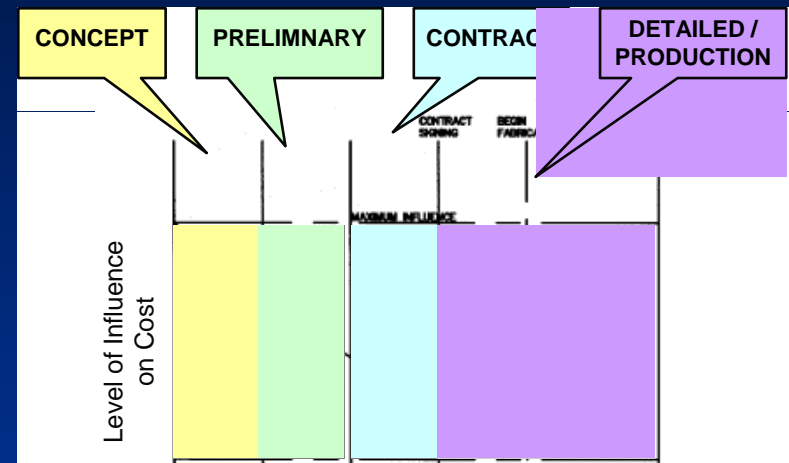
NSRP PDMT Panel Meeting

Seattle, WA

June 04, 2008

Background

- **In 2007, the Navy exceeded its original budget by more than \$4.6 billion, or approximately 9% of its initial budget**
 - There has been cost growth in all ship classes, and in all phases of construction from first of class to mature programs
- **Cost growth is attributed in part to challenges defining and managing requirements and specifications**
- **Unambiguous definition of requirements and specifications and management of compliance throughout the program is critical to controlling costs**
 - Deferring clarity increases costs
- **The proposed project directly addresses one of the topic areas in the October 23, 2007 RFI issued by the National Shipbuilding Research Program (NSRP): “Specifications – Development of cost-effective alternatives to selected shipbuilding and ship repair specifications that impact the costs of multiple ship classes.”**



Project Overview

- **Document lessons learned from recent programs**
 - Surveys and interviews
 - Compare and contrast Navy and commercial practice
 - Identify best practices outside shipbuilding
- **Document and identify risks, challenges, and areas for improvement**
- **Conduct workshop to review preliminary findings and solicit input to recommended practices and tools**
- **Develop recommended practices and tools to:**
 - Increase visibility for the consequences of choices during requirements definition
 - » Permit trades of cost, capability, and risk
 - Facilitate accurate, effective, and unambiguous communication and common understanding of requirements, specifications, and standards in a competitive environment to ensure accurate bids, effective compliance, and minimal schedule delays post contract
 - » Navy customer, regulatory bodies, shipbuilder, operator (Uniformed Navy or CIVMAR)
 - Facilitate effective and timely review and approval as required throughout the Program
 - Facilitate effective monitoring of compliance throughout the Program

Task 1: Surveys

- **Develop a survey instrument to solicit input from key stakeholders in the Navy acquisition process regarding the current processes, challenges, and lessons learned, specifications, and standards which will form the basis for a read-ahead report for workshops.**
 - Shipyards, NAVSEA, PEO Ships, MSC, USCG and Government design agents
 - The survey will be provided to stakeholders in advance of meetings with each stakeholder group to review survey results
 - Address two major areas of focus;
 - » (1) the acquisition process and how requirements, specifications, and applicable standards and rules are identified, selected, evaluated, and communicated
 - » (2) the standards and rules themselves.

Task 2: Benchmark Commercial Practices

- **Identify and document case studies of commercial ship acquisition processes, requirements definition, specifications, and standards**
 - Commercial vessel procurements are not constrained by perceived and real impediments related to the Federal Acquisition Regulations and competitive concerns
 - In this task, the early stage requirements definition and specification process in commercial programs will be explored, along with the means by which these requirements and specifications are communicated and vetted between owner and shipbuilder
 - Key differences between commercial acquisition practices and Navy acquisition practices will be documented
 - Lessons learned regarding the benefits and costs of commercial approaches as compared to Navy approaches will be identified and documented as input to the proposed workshop

Task 3: Workshop

- **Conduct a workshop to present the results of the earlier tasks and to solicit and document lessons learned from key programs**
 - Review survey results and solicit input regarding recent programs
 - » LCS and DDG-1000 and Naval Vessel Rules
 - » Lessons learned from requirements definition and specification development for JHSV as they relate to the High Speed Naval Craft rules will be explored
 - » Lessons learned from other programs such as T-AKE, as they relate to requirements definition, will also be explored
 - Recommendations for each program phase will be solicited from workshop participants as they relate to either Product Improvements or Process Improvements

Task 4: Document Results

- **Document the results of the surveys and workshop discussion**
 - Current practice
 - Lessons learned
 - Comparison to commercial and best practices
- **Document recommendations**
 - Processes
 - Tools
- **Develop a roadmap to address the identified recommendations**

Desired Outcomes

- **Cost Avoidance**
 - Avoid costly changes after contract award
 - Avoid claims resulting from unclear requirements
- **Risk Mitigation**
 - Reduce risk that the as-built vessel will not reflect intent
- **Schedule**
 - Avoid schedule delays associated with interpretation of requirements after contract award
 - Avoid schedule delays associated with changes after contract award

Participants, Cost, and Schedule

- **Participants**

- ABS – Prime
 - » Consultant support (V. Dlugokecki, J. Malone, and M. Tedesco)
- Navy and MSC
- Coast Guard
- Shipyards
- Design agents

- **Cost**

- \$100k plus cost-share

- **Schedule**

- 10 to 12 months