

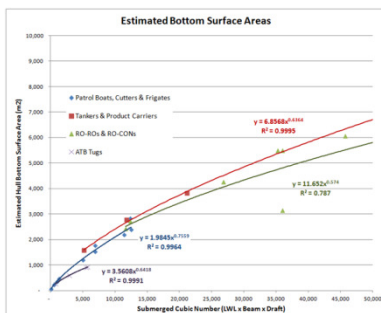
SPAR Scuttlebutt

February 2012

SPAR's Cost Models

SPAR's continues to develop its cost models to offer more design and system selection options.

The cost of coatings for ships has become a major cost driver both for new construction and ship maintenance. The price for new coating systems is escalating due not only to escalating oil-based products, but also to increased expensive coating technologies required to address both environmental legislative requirements and for minimizing operating and maintenance costs. A new feature now incorporated into the SPAR cost models simplifies estimating ship surface areas (hull bottom, exterior topsides and interior) for coatings. A separate publication, "Estimating Coating Costs for Ships: Simple Methods for Estimating Ship Surface Areas" is available. See **SPAR Publications** below.



SPAR has developed its selections of cost models since the late 1990's. These models have been applied to a wide variety of hull forms (mono-hulls, catamarans and trimarans) and for different commercial, military and dual-use trade markets and military missions.

SENESCO, North Kingstown, RI



SENESCO, a shipbuilder in North Kingstown, RI has purchased SPAR's ATB Cost Model to augment its cost estimating capabilities and enable the shipyard to respond much more rapidly to new construction opportunities.

Allen Marine, Sitkas, Alaska



Allen Marine, Sitka, Alaska purchased the full PERCEPTION shipyard planning and earned value management system (EVMS). Allen Marine services

its own fleet of tour boats and cruise ships. It also builds various aluminum ship designs (tour boats, work boats, dry docks, etc.).

The PERCEPTION system is providing bar coded time charging for managing production work orders and to expedite the operation of the system's earned value cost and schedule performance reporting capabilities.

The system also is generating purchase orders and enhancing the yard's inventory and production material control. The system has been interfaced with the yard's legacy accounting system.

United States Coast Guard



As a subcontractor to **The Columbia Group, Washington DC**, SPAR has produced an in-depth report on a viable approach for a life cycle cost model using SPAR's cost modeling methodologies for use by the **USCG Fleet Surface Logistics Center, Baltimore, MD**.

"Over 40 Years of Providing Planning & Production Management Systems to Shipyards"

A viable and practical life cycle cost (LCC) estimating capability is needed to better evaluate various design, engineering and construction tradeoff alternatives. The objective is to design and produce ships that can meet mission requirements that minimize acquisition costs as well as operations and maintenance costs. Successful efforts in reaching these goals can result in ships that can maximize and extend their life of service with minimal lost time in maintenance, repairs and upgrades.

SPAR's approach has features to integrate the costs of new design and construction with operations, maintenance, modernization and casualty repair costs. The report also describes how the LCC model generates estimates of lost time-in-service, a by-product of the life cycle cost estimating functions. The lost time-in-service, as well as life cycle cost, now can be the focus of advanced engineering efforts to maximize in-service value at minimum cost throughout the life of a ship.

The report further outlines USCG data collection requirements needed to populate the LCC model and maximize its value to the USCG.

Many different studies have indicated that a full-fledged integration of life cycle costing, similar to what is common practice in the commercial world, will produce higher quality ship designs (not more

expensive but more effective and with reduced life cycle costs. It is essential that future surface ships emphasize design for maintainability especially since the trend is to install block upgrades of existing systems. This approach helps maximize material readiness and achieve intended or extended service life.

Cost Estimating Services

SPAR continues to provide independent cost estimating services to various clients, including Navy and USCG contractors; shipyards; naval architects and marine engineers, both domestic and foreign.

Vigor Shipyards, Seattle, WA - SPAR provided independent cost realism estimates for the construction of a 144 car/1500 passenger ferry contracted by the Washington State Ferries agency.



Herbert Engineering, Annapolis, MD - SPAR provided independent required freight rate estimates for a cross section of commercial cargo carriers under the MARAD American Marine Highways program. Each study modeled different trade route scenarios for the East, Gulf and West coast ports of the United States.

Herbert Engineering - SPAR provided independent design

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and construction cost estimates to support the developmental efforts of Computer Sciences Corporation's high-speed RO-CON trimaran designed to serve dual-use for commercial and military transport purposes.

Lockeed Martin Company, Baltimore, MD - SPAR provided a cost differential study between building high speed patrol boats in the United States versus boats built in a Middle East country. This study assessed estimated differences in labor productivity, labor rates, and material and equipment costs.

Is the Earned Value Management System a Dud?

A recent survey of government contractors by the Grant Thornton LLP company revealed that 28% of participating contractors reported having contracts that required Earned Value Management (EVM) systems. Of those, only 37% believed that EVM is a cost-effective management approach. And only 25% of the reporting contractors indicated they would adopt the system even if they were not required to use it.

Why has EVMS gotten such a rather poor regard by the industry? There can be several reasons.

EVM requires the full support by management to be successful. Without this support, the EVM system is likely to be relegated

to the background of company operations when its intent is to be out front providing management what they need to know on a continuous basis about a contract's cost and schedule performance, both good and bad. Too often, management is unwilling to acknowledge reports of storm clouds on the horizon. EVM, if implemented properly, can provide early warnings of problems when they can best be remedied. Otherwise, unresolved problems have a long and unfortunate history of growing worse and ultimately placing contracts in very serious jeopardy.

A proper EVM system not only is capable of reporting cost and schedule performance by the contract work breakdown structure (WBS), but more importantly by the shipyard works centers as well. Cost and schedule problems evolve from specific areas in production, and if not resolved, these problems can easily spread throughout the shipyard to other production areas. It is critical, therefore, that the EVM system quickly identify where problems originate so that they can be remedied long before they can adversely impact other production efforts.

Many EVM systems require as input assessments of earned values and estimates of work progress and costs and schedules at completion. These often subjective, manual inputs can allow too much optimism to be inserted within an EVM system in reporting contract work performance, especially at the earlier stages of the contract. Under these circumstances, the EVM features that can provide a unique

visibility of performance do so, but through rose colored glasses. Afterwards, when the smoke clears, it is always easier to place blame on the EVM system than on the failure of management to maintain good controls over costs and schedules.

Another complaint about EVM systems is that most require considerable manual efforts to keep the assessments and estimates updated on a timely basis for all areas of contract performance. SPAR's *PERCEPTION*® EVM/ERP system not only allows manual estimates of cost and schedule progress and estimates at completion (EACs), but also generates automated assessments based on its internal review of budget and actual cost/schedule feedback information. This unique feature not only saves considerable manual efforts in keeping the system fully updated, but also provides for a reporting of performance (work progress, earned value of budget and estimates at completion of both cost and schedule) from another, but more objective perspective.

This automated feature has a very long and successful track record operating in the ship building industry for over 40 years. It has provided real benefits in the planning and management of both commercial and military/government contract over these many years.

Finally, many EVM systems are distinctly separate from and barely interfaced with the ongoing accounting and ERP information systems operating within a contractor's enterprise.

EVM techniques, to be effective, require cost and schedule information to be timely and accurately correlate with actual company performance. The *PERCEPTION* system has easily implemented interfaces that simplifies and automates communications with other company information systems. This ensures the EVM features are always reporting accurate and up to date contract performance status.

The functions of an EVM system should not necessarily be expected to be provided by financial and accounting systems. These latter systems are designed primarily for managing cash and for looking backward at past performance. These systems more typically look back to performance of the last month or quarter which means if there are problems they will continue to fester and grow for a month or more before the financial and accounting systems recognize that management action is required.

The EVM system should be reporting contract performance on a weekly, even daily basis, in terms that provide more explicit visibility of work progress and measures of cost and schedule performance.

EVM systems do look backward too, but being timelier in their ability to report, problems can be addressed more quickly and decisively. In addition, EVM systems provide estimates of final costs and schedules for the conclusion of a contract. This ability to look far ahead provides a very different view of performance for management that can now anticipate the impact of current problems

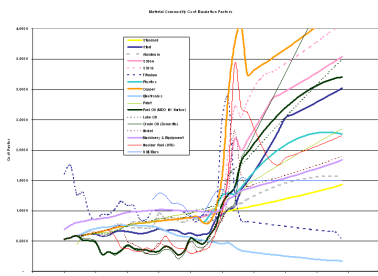
upon the final results for the contract.

EVM does not need to be difficult to implement. It does require a committed management to ensure it is implemented and executed properly throughout the entire course of a contract. Management may not like what is being reported by the EVM system, but if the reports are correctly focusing their attention of problems and if management is able to follow through to solve them, then there is more likely another example of a successful contract.

New Construction & Ship Repair Cost Libraries

SPAR's extensive cost libraries have been updated and are ready for 2012 cost estimating. The upgrades include revised commodity-based escalation tables that reflect current changes in prices for materials (steel, aluminum, paint, copper, fuels, etc.) and equipment.

European machinery, electronic & equipment prices have been linked to the latest U.S. dollar to Euro and to British pound exchange rates.



Time-Phased Commodity-Based Escalation Tables

These cost libraries are available for purchase either in the form of hard copy, Excel workbooks or pre-loaded into SPAR's *PERCEPTION® ESTI-MATE®* cost estimating system and database.



SPAR has enrolled with the Department of Homeland Security's E-Verify program. All new SPAR employees working on Federal contracts will require a Work Authorization from E-Verify.

SPAR Web Site Updates

SPAR's web site, www.sparusa.com, has been updated in a number of areas. Added are a series of new training documents for its *PERCEPTION* integrated shipyard planning and management system

SPAR Associates, Inc.

SPAR has been providing shipyard production planning and management control software since 1972. In addition to its software products, SPAR offers a variety of support services, including custom software design and development; training and software maintenance services; independent cost estimating; supplemental shipyard planning

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and scheduling services; and management consulting to various interests in the marine industries.

We are always available to address whatever questions that you might have. Your success is ours.

SPAR Publications

SPAR has the following publications available to help shipyards plan and manage their operations:

- **"Estimating Coating Costs for Ships: Simple Methods for Estimating Ship Surface Areas"**
(US\$50.00)
- **"Planning New Construction & Major Ship Conversion"**
(US \$75.00)
- **"Shipyard Cost Estimating"**
(US \$125.00)
- **"Guide for Shipyard Material Control"**
(US \$75.00)
- **"Full Implementation of a Shipbuilder's Earned Value Management System (EVMS)"**
(US \$75.00)
- **Comparing Methods of Measuring Progress, Earned Values & Estimates at Completion (EAC)"** *FREE*
- **"Expanded Modularization, Ship Design & Construction"**
(US \$75.00)

Publications are available in pdf file format via electronic mail.

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