

Important Lessons Learned

LESSON LEARNED #63:

Risks from Owner-Furnished Equipment ('OFE')

A government agency in country 'A' ordered two free-standing commercial refrigerators to replace two older ones aboard a service vessel. The reason they were owner-furnished was to 'save' the shipyard's 15% mark-up. Measurements had been taken to ensure they would fit—which they did. However, the small amount of clearance between the top of the refrigerators and the overhead was unsuitable for the top-venting refrigerators (the older ones had been bottom/front-venting). Last minute (and expensive) modifications to the overhead and the HVAC distribution system were needed to accommodate the refrigerators' heat dissipation. If the shipyard had specified and ordered them, instead of the owner, the shipyard would have had to absorb those costs if the shipyard had mistakenly ordered top-venting ones. More likely, though, the shipyard would have ordered front-venting ones to replace similar refrigerators. The result: 'negative' savings that could have been avoided by letting the shipyard specify and purchase the new refrigerators.

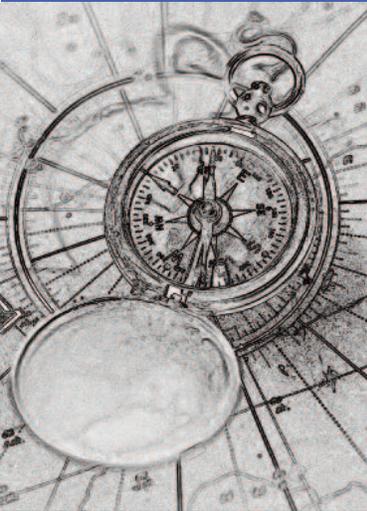
In country 'B', a different government agency ordered two commercial dishwashers to replace two older ones aboard a service vessel. Although separated by an ocean from the prior example, this government agency had the same motivation to order the equipment itself, namely, to avoid the shipyard's 15% mark-up. After the shipyard removed the two older dishwashers, the new ones fit into the available space. The piping was straight-forward. However, the electrical power was a problem: the new dishwashers were commercial grade using 220v, whereas the older ones had been household grade using 110v. No 220v power was available, and there was no suitable location for 440v/220v transformers. The agency directed the shipyard to re-install the older dishwashers. The result: another 'negative' saving. The money spent for purchase and installation, and subsequent removal and reinstallation of the older dishwashers might as well have been flushed away by the dishwashers.

Observations: A vessel owner's project team is constantly pushed to save money, and is typically under-resourced when it comes to preparing specifications for repair and conversion. Moreover, typically an owner's project team does not consider all the services, tangible connections and appropriate documentation modifications associated with the installation of an item of equipment. (The testing requirements are sometimes overlooked, as well.) Further, there is no saving of 15%. A major portion of the shipyard's mark-up is to cover warehousing, internal transportation, insurance while in the shipyard's possession, and reserve fund for the warranty on workmanship of installation. Thus, shipyards add those costs into the contract price when there is OFE, though not directly obvious to owners who are providing equipment for installation. The owner saves 3-4%, places a larger burden on its own purchasing staff, and 'owns' the risks and consequences if things go wrong with the OFE.

The lesson learned: The concept of an owner saving money by ordering equipment, instead of having the shipyard perform that function, is mostly imaginary. It doesn't really occur most of the time. In exchange for actually saving only 3-4% of the cost of the equipment (if the owner's team is lucky), the owner suddenly becomes responsible for all the cost and schedule consequences of things that go wrong with the arrival, installation and testing of the owner furnished equipment. A more complete discussion of OFE risks appears in the 2009 issue of

Upright & Afloat, available at:

<http://www.fishermaritime.com/publications/pdf/newsletters/ua2009.pdf>.



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We appreciate your
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reach us at:

800 732 3476

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Fax: +1 973 660 1144

e-mail:

email@fishermaritime.com
www.fishermaritime.com

LESSON LEARNED #64: Optimism Cannot Replace Planning

A tug & barge operator contracted to move a massive project cargo up river to an inland industrial site. The delivery date was critical to the industrial project, with steep penalties for late delivery of the project cargo. The operator was confident that on-time delivery could be achieved, accepting a contract with no force majeure exceptions. Upon reaching an intermediate lake on the inland route, the flotilla discovered that the lake was experiencing a historically low level, preventing the flotilla from moving to its intended destination. Emergency offloading of the cargo onto specialty vehicles, and the construction of a new road to the industrial site were necessary. Those unexpected costs were the responsibility of the operator. Post-project analysis revealed a lack of pre-contract, detailed route investigation that would have revealed the risk of low lake level. The operator's desire to win the project effectively blinded the operator from the necessity of examining risks.

The lesson learned: Optimism is not a substitute for research and planning. The operator's mis-management—the hope that all encountered conditions would be suitable for the project—led to the dramatic financial loss for the operator.

LESSON LEARNED #65: Who is Coming, and from Where?

A government agency purchased a new-technology 3D printer from a distant supplier to reduce the lead-time for procurement of replacement parts for older ships. It worked wonderfully, for a while. Then it needed servicing. The agency issued a Purchase Order to the manufacturer for a technician to come and provide the necessary service. However, due to rules and procedures of the border control agency, it was nearly one full year before the service technician could enter the country, leaving the ship in a less-than-fully-functional condition for most of a year.

The lesson learned: In this period of heightened border security concerns, organizations may have to look ahead at the possibility of needed service technicians to support already-purchased equipment. That consideration may alter the outcome of the selection of an equipment supplier. Reasonably rapid availability of service technicians may have to become a make-or-break criterion in the equipment selection process.

LESSON LEARNED #66: Respect the Deadlines of Warranty Clauses

Almost two years after vessel delivery, the vessel owner invoked the arbitration clause of the shipbuilding contract, claiming (among other items) that the shipbuilder should compensate the owner for corrections of alleged warranty items that were not remedied by the builder. The shipbuilding contract's warranty clause required the owner to notify the builder within two weeks of identifying an alleged defect, and not later than one year after vessel delivery. The owner's presentation of claim to the Panel of Arbitrators revealed that the shipbuilder had not been advised of the alleged defects until several months after the one-year warranty period had ended. The Panel unanimously agreed that no compensation was appropriate because the owner ignored the "rules" of the warranty clause regarding timeliness of notification.

The lesson learned: A contract includes the set of "rules" that the two parties have agreed to follow regarding many subjects, including (as in this case) the warranty period and notifications. Failure to follow the rules introduces possible cost and/or schedule consequences that could be avoided by adhering to the agreed-upon rules. Project management teams should familiarize themselves with the change order clause and warranty clause (among others) that are incorporated into the contract.

LESSON LEARNED #67: Wishful Thinking Does Not Replace Safety Procedures

When the towing winch on a tugboat was being replaced by a larger one, underdeck structural stiffening had to be added. The underdeck area was an accommodation. The shipyard staff did not appreciate the need to observe its own rules; the combustible mattress and other materials were not removed from the compartment before the commencement of hot work. This allowed the work to proceed more rapidly, saving about 20 minutes for several welders and fitters. However, the subsequent mattress fire that damaged the vessel delayed completion of the project by several days.

The lesson learned: Standard procedures in industrial settings have developed for good reasons. Most standard procedures are, in fact, the result of the occurrence of previous accidents or disasters. Shipyard management must continually remind its production department to adhere to those standard procedures since the risks of personal injury and property damage cannot be eliminated merely by wishful thinking.

Rules-of-Thumb for Vessel Owners

Planning and managing vessel refits and upgrades

Here are Fisher Maritime Consulting Group's seven "Rules of Thumb" for vessel owner's to utilize when planning and executing shipyard projects for existing vessels. The objectives are to minimize the growth of cost and schedule of shipyard projects.

Rule No. 1—Professional Resources. Do not underestimate or underspend on considerable appropriate professional resources required for planning the job, writing the specifications, preparing drawings, and for repairs and conversion, ensuring the specs and plans are consistent with the existing vessel. (This is the wrong time to look for cost savings by using only the ship's crew, too-few professionals, or those who have little directly-relevant experience with your type of vessel.)

Rule No. 2—Engineering & Design. Never expect a shipyard to perform engineering and design that will result in an operationally-satisfactory vessel – that is the responsibility of the specification writers. (Shipyards always look for least-cost solutions at every opportunity that are more-or-less consistent with ambiguous specifications.)

Rule No. 3. Avoid Owner-Furnished Equipment — One of the quickest means of losing control of a project is to include OFE. (Besides placing a bigger burden on the Owner's project staff, the Owner becomes responsible for the consequences of late-arriving OFE; and expectations of cost-savings are not realistic.)

Rule No. 4—Shipyard Selection.

Select a shipyard based on its proven recent experience in the accomplishment of similar projects. (Avoidance of repositioning a vessel to a more distant shipyard should never be the basis for selecting a more-local but less experienced shipyard.)

Rule No. 5—Pre-contract Inspections. For conversions and upgrades, the extra costs of seemingly excessive pre-contract inspections will constitute a net savings. (Planners for ship conversion always make excessively optimistic assumptions about the condition of existing components when they are not given sufficient time for inspections.)

Rule No. 6. On-site Representatives. For conversions and upgrades, owners need more on-site professional representatives than for ship repair. (The small team appropriate for ship repair projects is never sufficient for dealing with the myriad of questions, decisions and inspections that arise during conversion and upgrades.)

Rule No. 7. Vessel Crew. Do not use vessel crew as owner's inspectors at the shipyard without first 'converting' them to professional inspectors. (Vessel crew members try to extract from the shipyard a vessel they want to operate instead of the vessel defined by the contract specs and plans.)▲ ©2017 Fisher Maritime Consulting Group



Planning and Contracting for Shipyard Projects

Defining Contractual Rights, Responsibilities and Obligations

"We have all heard of disasters involving ships, ships that have run aground, broken in half in severe storms, impacted vehicular bridges in fog, or even experienced fires. But there is another form of disaster involving ships; namely, contractual disasters, situations in which the shipyard and shipowner are both terribly harmed due to mismanagement of the shipbuilding contract." Trevor Blakeley, CEO, R.I.N.A.

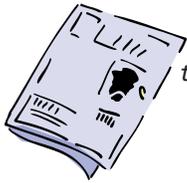
When ship owning organizations begin planning a major shipyard project (construction, conversion, mid-life refit), the planning process should commence by initially focusing on the pre-contract elements of the project. Key to the success of the project is an appropriate selection of the consultancy that is going to prepare the draft technical specifications and the draft contract drawings. The selected consultancy, preferably, should be one that has recent, directly relevant experience.

It is recognized that the specifications and plans will be implemented through a contract between the owner and shipyard. An excellent technical plan from the selected

consultancy will not guarantee a successful project if the rights, responsibilities and obligations of the parties are not well defined and effectively managed. Fisher Maritime has been called upon on numerous occasions to prepare the bid packages and contracts that incorporate the specifications and drawings drafted by other consultancies. The special skills that Fisher Maritime brings to those projects is the comprehensive definition and smooth integration of the contractual rights, obligations and responsibilities of both parties. Often, as part of this process, Fisher Maritime also prepares a quality assurance review of parts of the technical specifications, using its knowledge of past contractual problems to "tighten" the specifications, minimize ambiguities, and eliminate internally conflicting language.

If your organization is embarking on a major shipyard project, send an email to Fisher Maritime inquiring how we can assist in setting up the project so that there is smooth integration of the bid, contract, and technical elements of the entire package. Please address inquiries to email@fishermaritime.com.

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The Management of Shipyard Projects

Any project at a shipyard is certain to involve a complex relationship between the Owner's and Yard's organizations, as well as multiple supporting organizations. Cost controls, schedule impacts, changes, unexpected conditions aboard the vessel, engineering problems, and supplier delays, among many other factors, create a very challenging situation for all parties. To obtain more insights into the management of these many types of problems, consider reading the on-line articles and papers that are available at the Publications section of the Fisher Maritime website: www.fisher-maritime.com

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Shipyard Management of the Customer and Contract. This 2-day course for project managers, production supervisors, estimators and planners is the only training program specifically developed for mid-level managers of shipyards and subcontractors. Presented in-house only. Contact Fisher Maritime for details.