

What Would You Do In This Situation?

Perceptions of Professional Obligations

A 20,000 DWT bulk carrier used in the sugar trade was drydocked for routine repairs, hull repainting and intermediate survey. Prior to the classification surveyor's arrival, the Shipyard had prepared the underwater surface for application of a new topcoat and antifoul. Before applying any of the coatings, the Shipyard's project manager showed the Owner's representative extensive and deep pitting in several plates at the bow bilge area, suggesting that the Shipyard be authorized to replace the pitted plating. Instead, the Owner's representative directed the Shipyard to use epoxy filler in the pitted areas, and to quickly apply the topcoat before the classification surveyor arrived.

The Shipyard's project manager asked the Owner's representative if he considered the possibility that the deeply pitted plates could lead to a structural failure. The Owner's representative indicated that it did not appear to be a concern, and repeated his direction to have the Shipyard quickly utilize the epoxy filler and apply the topcoat prior to classification's arrival.

If you were the Shipyard project manager, and you had legitimate concerns about the possibility of a structural failure starting at the pitted area, what would you do?

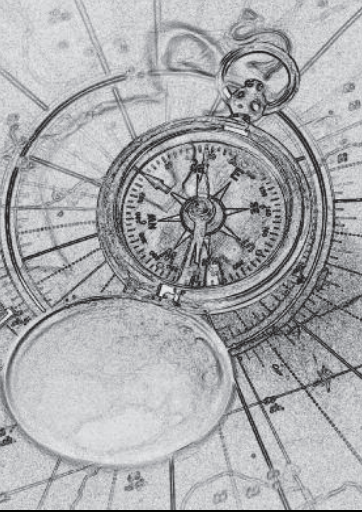
Fisher Maritime wishes to disseminate perspectives of professional obligations in challenging circumstances based on the opinion and reasoning of many persons in the industry. Upon receipt of many responses, we will summarize

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LESSON LEARNED #51: Consultancies Need to Define Their Deliverables

A client of a design consultancy wanted to procure a custom-designed luxury yacht that incorporated features envisioned by an interior designer who had no prior marine experience. The consultancy's design contract did not define the 'level' of drawings it would provide. Subsequently it was found that many of the interior designer's features could not be incorporated into the structure and operating systems of the vessel without adding components and structures that made the vessel heavier and more costly to both design and construct than other luxury yachts of the same approximate size, resulting in a greater design effort by the consultancy than anticipated. Further, in response to the shipyard's requests, the client told the consultancy that the detailed drawings to be used by the builder were to have been part of the 'package' of drawings, whereas the consultancy had expected that the shipyard would produce the detail drawings. However, the design contract did not address that issue, leading to the development of those drawings by the consultancy without benefit of an increased budget. The consultancy far exceeded its budget by the time it completed all the detail drawings needed by the builder.

The lesson learned: Design consultancies should incorporate into their design contracts company-standard definitions of the products (drawings, calculations, etc.) that they intend to produce, and contractually state that they will not produce other products (e.g., detailed drawings) if that is not their intention.



A newsletter
for the Maritime
Industries from:



Consulting Naval Architects
Marine Engineers
Project Managers



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comments. You can
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and publish descriptions of the responses without attribution to any individual. *Please send your thoughts, reactions and proposed actions (as if you were the Shipyard's project manager) to: email@fisher-maritime.com using the subject: "Pitting".*

This is not a fictional scenario. Without yet revealing everything the Shipyard did, we will advise what actually occurred to the vessel. Namely, the vessel departed after completion of the intermediate survey with epoxy-filled pitting and with no structural replacements.

Several months later, while transporting a cargo of sugar in heavy seas, cracks in bow plating allowed seawater to enter into hold #1, partially dissolving the sugar cargo. As a thick liquid, the free surface effect of the dissolved sugar diminished the vessel's stability. After a brief radio transmission, the vessel capsized and sank with loss of life.

It may appear that the Owner's representative did not act properly. But what about the Shipyard's project manager's role? What should he have done? Later, we will reveal what both persons had done in this particular case, and the outcome of the inevitable litigation. We look forward to hearing from many persons. Your input will be kept confidential. Thank you.▲

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LESSON LEARNED #52: Independent Priorities Impact Project Schedules

A builder of naval vessels required proposals from several vendors for the supply of certain classified equipment. The vendors would not be eligible to receive the purchase technical specifications until they received security clearances from the same government for whom the vessels were being constructed. The construction schedule allowed that several weeks would be needed for those vendors to receive the necessary security clearance. However, the government agency that handled the security clearances did not have the same time priorities as did the Navy, taking several months, not weeks, to issue the clearances. As a consequence, there was a significant delay in the issuance of classified purchase technical specifications, with subsequent cost impacts arising due to the later delivery of the equipment.



The lesson learned: When the actions of relatively-independent agencies are crucial to a project schedule, pre-contract communications with those agencies as well as regular schedule monitoring are appropriate and necessary for maintenance of a project schedule.

About Lessons Learned: Potentially costly and schedule-impacting events in shipyard projects can be avoided by consideration of these lessons that have been experienced by others in the world-wide shipbuilding and ship repair industry. The brief synopses of lessons learned included in this issue are adapted from analyses presented by participants in the regularly offered training course "Contract Management for Ship Construction, Repair and Design." (Please see back page for list of remaining 2013 training programs.)

Lessons Learned numbers 1 – 33 are based on some of Fisher Maritime's project management assignments, and can be found at:
<http://www.fisher-maritime.com/Publications/PDF/FisherProjectInsights.pdf>.

Other Lessons Learned (34 - 50) are found in prior editions (starting in 2010) of *Upright and Afloat* in the Publications section of our website:
www.fisher-maritime.com.

Rules-of-Thumb for Vessel Owners

Planning and managing vessel refits and upgrades

At the May 2013 meeting of the Fisheries Committee of the US Maritime Law Association, Dr. Kenneth Fisher of Fisher Maritime Consulting Group described seven **Rules of Thumb** for vessel owners to utilize when planning and executing shipyard projects for existing vessels. The objectives of the following succinctly stated seven rules 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.)▲

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LESSON LEARNED #53: Weights, Costs and Revenue

A contract was let for the construction of a small hopper dredge for river service. Many structural parts required the use of half-millimeter size plate; but the shipyard used only full-millimeter size plate in order to minimize the number of different thickness plates it inventoried. For some structural components, the shipyard used over-thickness plating that it had on hand. Concurrently, after heavy foundations had been installed for dredging equipment, the owner requested that the equipment be relocated, requiring new heavy foundations. However, the previously installed foundations were not removed. The consequence of these unanticipated additions to the lightship weight was a significant deficiency in the dredge's deadweight capacity, and thus its revenue-earning capability.

The lesson learned: For vessels having dead-weight-sensitive revenue requirements, a thorough weight control and weight reporting system has to be implemented, constantly updated and constantly monitored by the owner throughout the vessel construction project.

Fisher Maritime's Professional Services

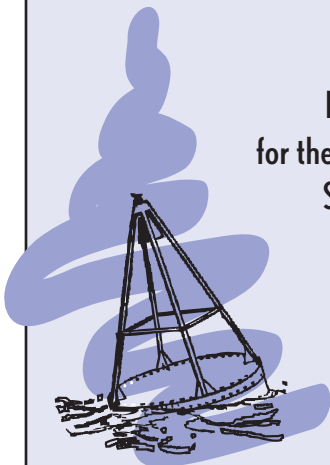
Contract Solutions and Project Management for the Construction and Conversion of Ships and Offshore Vessels

Pre-Contract Solutions and Services

- Contracting Strategies
- Bid Solicitation Strategies
- Identification of Resource Requirements
- Development of Bid Request Packages
- Solicitation of Competitive Bids
- Analysis of Bids and Bidder Qualifications
- Contract/ Agreement Drafting
- Integration of Specifications with Contract Agreement
- Negotiation Support for Contracting
- Quality Assurance Review of Specifications
- Preparation of Contract Management Controls and Check Lists/Spreadsheets

Contract Management and Close-Out

- Oversight of Contract Management and Administrative Communications
- Verification of Progress Invoices
- Negotiation of Changes, New Work, Emergent Work and Arisings
- Realistic Schedule Assessments
- Post-Delivery Negotiations
- Contract Close-Out
- Dispute Resolution Strategies
- Contract Mediation Services
- Contract Arbitration Services
- Development of Cost/Schedule Analyses for use in Settlements
- Development and Presentation of Claims or Rebuttals in Arbitration or Litigation



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On-Site Contract Management Training Course

Enhancing Professional Management Capabilities for Shipyard Projects

Dr. Kenneth Fisher's very well-attended training course, *Contract Management for Ship Construction, Repair and Design*, can be presented at your organization's facility for a low fixed fee. Already the program has been presented on-site over 200 times in 16 countries, in addition to another 165 open-registration presentations. Over 4,500 persons from 25 countries have benefitted from this course. A description of the course that is certain to enhance the professional management capabilities of persons associated with shipyard projects is available at www.fisher-maritime.com/projecttraining/contractmanagement.html.

If your organization has seven or more persons whose professional capabilities could benefit from such training, it is cost-effective to bring the program to you, instead of having those persons travel to a distant open-registration program. For details and information, send an inquiry to: register@fisher-maritime.com. (Can you identify these 16 countries in which the course has been presented? Hint: these are internet domain identifiers. AU, CA, DE, ES, GR, HK, HR, MY, NO, NZ, PA, PT, SE, SG, UK, and US.)▲

LESSON LEARNED #54: Changing the Focus of a Project Wastes Limited Resources

A naval ship repairer was contracted to accomplish a mid-life refit of a 20-year old naval vessel. The bulk of the specifications focused on modernization and upgrades of mission capabilities, with only minor attention given to consideration of compliance with new regulations and assessment of alterations to equipment needed to support the vessel for another 15 years. The available budget was less than 25% of the estimated costs to achieve all project goals. Accordingly, with the Navy's concurrence, the efforts of the contractor's engineering and procurement staff focused from the outset of the project on the mission-capability upgrades. However, after the project was well underway, the Navy's project team asked the contractor to refocus efforts onto the regulatory and end-of-life (through-life) support issues without altering the project budget. As a consequence, none of the three areas (mission upgrades, regulatory compliance, and end-of-life support) were adequately addressed by the limited budget.

The lesson learned: When a budget is severely limited, the purchaser should severely limit consideration and requests for any form of changes to the contractor's workscope. That is, the purchaser should carefully define the project workscope before contracting, and thereafter not request any significant changes.

LESSON LEARNED #55: Keep All Stake-Holders Involved in Decision-Making

The operator of a fleet of small service craft was advised that the injectors on a propulsion engine needed replacement due to the very irregular loading on the engine. In order to save on costs of replacement parts, it was assessed that the condition of the existing injector seals allowed them to be reused when the injectors were replaced. It was subsequently learned that such a procedure voided the engine manufacturer's warranty because the maintenance manual clearly stated that the seals must be replaced when the injectors are replaced. The warranty had 'evaporated' when the old injector seals were re-used.

The lesson learned:

When consideration is being given to take irregular or unusual actions involving maintenance of a vessel in order to achieve cost savings, all of the stake-holders should be identified and consulted prior to finalizing the decisions. In this case, since the engine was still under warranty, the manufacturer was still a stake-holder.



CHANGE ORDERS

Fisher Maritime routinely assists shipyard clients in preparing change orders and final invoices. In some instances it makes sense to bring us onboard for just one high-value change order, if not for multiple interacting ones. In all instances, Fisher Maritime has been able to assist by identifying all elements of the changes (direct and indirect), in determining the contractual basis for entitlement on these elements, and in calculating the quantum or cost of these changes and other items. Schedule impacts and the costs associated

with owner-caused delays are routinely addressed as well. We often assist with drafting correspondence and participate in negotiations (sometimes in the background). Fisher Maritime's considerable experience (over 30 years of such activities), including the development and/or rebuttal of claims, means that we are able to assess both direct and indirect costs that may otherwise have gone unaccounted. These omissions would otherwise come out of the client's bottom line. Contact Fisher Maritime at: email@fisher-maritime.com.

2013 Training Programs

201 In-House Presentations & 165 Open Registration Programs Already Completed



FISHER MARITIME has been offering these popular training programs since 1988, both of which are scheduled for open-registration in 2013 on the dates and locations shown below. Outlines of the

programs can be viewed on our website, www.fisher-maritime.com, or you may call to request a detailed brochure via fax or mail.

Each of the programs can be presented on-site at your organization's facility for seven or more persons at less cost than sending your staff to an open-registration presentation. Over 111 organizations in sixteen countries have had these programs presented on an in-house basis over the past 24 years. To receive details for arranging an on-site presentation of any of the programs listed below, contact us:

tel. +1-973-660-1116, fax +1-973-660-1144,
email: email@fisher-maritime.com.

C&CM: Contract and Change Management for Ship Construction, Repair and Design. This 3-day course is designed for all members of the contract management team for ship owners, shipyards, design firms, vendors, subcontractors, regulatory agencies, whether commercial or government. Senior and middle management of all those types of organizations benefit from the "lessons learned" approach to managing all contractual commitments.

London, United Kingdom	Tues.-Thurs.	Sept. 10-12, 2013
Boston, MA, USA	Tues.-Thurs.	Oct. 15-17, 2013

TPEC: The Port Engineer's and Owner's Representative's Course. This 3-day course is designed for shipowner's personnel who prepare specifications, who accompany the ship to the shipyard, and who arrange for new/growth/change work during contract performance. This course helps assure getting maximum value for money spent.

Tampa, FL, USA	Tues.-Thurs.	Nov. 12-14, 2013
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SMCC: 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.

*Contracting Strategies
Central to Success of Project*

Well-designed ships often become poorly executed shipbuilding projects due to lack of a comprehensive contracting strategy. The success of a project is just as dependent on good contracting strategy as it is on good ship design; one without the other inevitably leads to a compromised outcome. Ship owners are urged to contact Fisher Maritime to work out a comprehensive strategy, for both the design contract and building contract, that will meet the needs of the owner while minimizing risks of unwarranted design trade-offs, delays, extra costs, and disputes over interpretation of the intent of the design.

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*Marine Engineers, Project Managers
Consulting Naval Architects and*

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a newsletter for
the Maritime Industry
Summer 2013

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