



Benefiting from the Lessons Learned by the Costly Mistakes of Others

This newsletter focuses on 'Lessons Learned' in the shipbuilding and ship repair industry. 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 2011 training programs.) Lessons Learned numbers 1 – 33 are based on Fisher Maritime's project management assignments, and can be found at: www.fisher-maritime.com/Insights.html. Numbers 34 and 35 appeared in the Fall 2010 issue of this publication, viewable at www.fisher-maritime.com/Upright.html.

LESSON LEARNED #36 Two owners means two different vessels,

A shipyard, constructing an excursion vessel for an owner, was approached by a second owner that wished to contract for a second of the same vessel. Using the same contract drawings and specifications, the shipyard priced the second vessel assuming the benefit of a production learning curve and that nearly all the engineering for the first vessel would be directly applicable to the second vessel. This proved to be an erroneous and costly assumption. In the process of reviewing the construction details and testing/trials agendas, none of which were contractually defined with specificity, the second owner's representatives were far more demanding than those of the first owner. These greater demands resulted in significant rework, excess engineering hours and more extensive tests and trials.

Lesson learned: even if the same drawings and specifications are being used for two or more vessels, the shipyard should consider each vessel to be the first of a series when it is being constructed for a different owner.

LESSON LEARNED #37 Geometry of Replacement Parts

A vessel owner arranged to have the heads of several ballast tank vents replaced with new ones. The owner's team specified that the heads were to be the type to bolt onto an 8" vent line. Upon arrival of the vent heads, it was found that the top elements of the heads were several inches larger in diameter than the original ones, although they mated to the 8" line. In order to accommodate the larger vent heads, a number of nearby handrails had to be modified, requiring hot work when no hot work would otherwise have been needed. This resulted in considerable extra cost to the owner.

Lesson learned: the owner's team should confirm in advance the suitability of all aspects of the geometry of replacement parts, not just one or two key measurements.



A newsletter
for the Maritime
Industries from:



Consulting Naval Architects
Marine Engineers
Project Managers



We appreciate your
comments. You can
reach us at:

800 732 3476
+1 973 660 1116
Fax: +1 973 660 1144

e-mail:
email@fisher-maritime.com
www.fisher-maritime.com

LESSON LEARNED #38

Undertake emergency evacuations without delay.

A shipyard was undertaking the replacement of insulation in reefer spaces on a vessel. After removing the stainless steel liners, the old insulation was ripped out. New insulation was being glued into place, using brushes for the glue that was sitting in an open bucket in the reefer space. A residential-type extension light was in use by the installers. No special ventilation of the glue fumes had been arranged. Upon being cautioned by the owner's representative to immediately replace the extension light with a non-explosive, double-globe one, and to commence ventilation of the space, the contractor personnel were allowed to continue their work without attending to the light and ventilation issues. The next day, another reminder was matched by continuing indifference to the hazard. On the third day, an explosion in the reefer space caused significant burns to the workers. In settlement of litigation, the ship owner as well as the shipyard had to compensate the injured parties.

Unfortunately, this is not merely an issue of extra costs and schedule delays. This is a matter of personal injury or possibly death. Concerns by the owner's staff about not interfering with the work or procedures of contractor personnel is, in those circumstances, irrelevant.

Lesson learned: personnel safety comes before concerns about contractual interference; when an explosive atmosphere is detected and imminent risk of explosion or fire is identified, everyone must immediately evacuate the entire vessel until appropriate measures have been taken by trained hazard-reaction personnel, regardless of the impact on project schedule.

LESSON LEARNED #39

Buying used vessels creates certain risks.

A prospective megayacht owner sought to purchase a used government tugboat for conversion to his private yacht. He engaged a yacht design firm and shipyard to accomplish the conversion. The government agency presented a different *sister* vessel for inspection, promising that the one that would be actually sold was substantial-

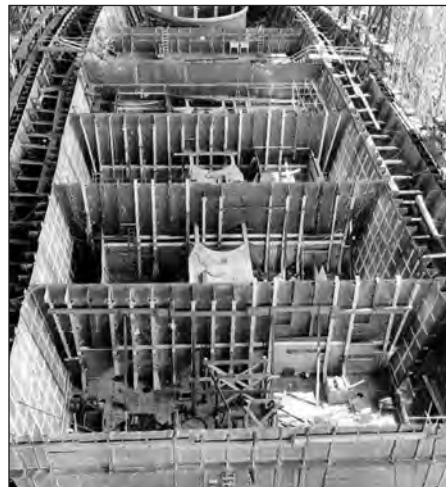
ly the same vessel. The owner accepted that representation, taking delivery of the previously uninspected vessel. The designer and shipyard concurred that the actually-delivered tug was unsuitable for the conversion, even though the one shown would have been suitable. (The vessels started only as sister ships, not identical twins, and had not been modified identically during their lifetime.) At the last minute, the owner had to alter his order from one of conversion to one of newbuilding.

Lesson learned: purchasers of used vessels should be suspicious because sellers of used vessels never tell the full story, even when the seller is a government agency.

LESSON LEARNED #40

Installation should include testing.

The fast-track conversion of a VLCC to become a shuttle tanker involved the addition of a retractable bow thruster to achieve dynamic positioning capabilities. The owner provided the bow thruster from a northern European manufacturer, to be installed by the shipyard located in the middle-east. Delays from the manufacturer were overcome by chartering a very large aircraft to transport the 3.6-meter diameter bow thruster,



instead of sea transport. Once installed, it was realized that the retractable operation of the bow thruster could not be tested since the vessel was on 2-meter blocks, but would have required a 4-meter space below the keel. The vessel deployed to South America with the incompletely-tested bow thruster. During the first few months of operation, misalignment of the extending/retracting features led to seawater leakage, necessitating drydocking on 4-meter blocks. The only suitable drydock was several thousand km away, requiring considerable off-charter time to transit to and from the drydock. Loss of charter revenue plus the direct costs for such considerable transits and drydocking were a major financial setback for the owner.

Lesson learned: specifications for the installation of an item of equipment should include the full testing protocols. The installation contract should be awarded only to a contractor that can also fulfill all the testing requirements.

Seven Signs of a Troubled Project



What are the key signs that a ship or offshore conversion or construction project is in trouble?

Check off all of the following that apply to your current or recent contract. Then determine the health of the contract is by using the scoring procedure in the next column.

- The contract work got off to a very slow start.
- Equipment ordering or detail design has fallen far behind schedule.
- Subcontracted work is being assigned late or falling behind schedule.
- The owner-furnished equipment/information is arriving late or incomplete.
- Numerous alleged changes have not been negotiated or agreed-upon.
- The contractor and/or owner is having cash liquidity problems.
- The owner continues to request substantial changes late in the project.

The Health and Outlook of Your Project

Scoring: How many signs did you check as applicable to your current or recent contract?

ONE OR TWO: The contract is not really troubled, but the situation can deteriorate rapidly if both parties do not maintain good contract management practices.

THREE: The contract is beginning to experience potentially significant troubles. However the impact can be minimized by avoiding the need to address further requests for changes, resolving or canceling unauthorized changes, and pushing for open communications with the other party.

FOUR: The troubles are not just potential; they're quite real. Contract overruns of cost and schedule are almost certain, but can be minimized by application of proven contract management practices by both parties. Don't hesitate to bring in outside contract management support (not just project managers) to support your position. **(In other words, contact Fisher Maritime.)**

FIVE: Definitely call in the **contract management experts, Fisher Maritime**, first, to stabilize the rapidly deteriorating contractual relationships, second, to identify the means for rescuing the remainder of the project, and third, to start documentation for the potential post-delivery claims and counter-claims.

SIX: Call in the lawyers, too. There's a strong potential for one party or the other to allege contractual default. Legal counsel will help minimize that possibility or help you respond to it if it occurs.

SEVEN: *Dive for cover!* The contract is collapsing, and the project may never get completed under the current contract. Only the experts (**Fisher Maritime**) and lawyers will be able to sort out this catastrophe. Litigation or arbitration is likely if mediation fails.

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*Consulting Naval Architects and
Marine Engineers, Project Managers*

147 Columbia Turnpike #203
Florham Park, New Jersey 07932
800 732-3476 • 973 660-1116 • Fax: 973 660-1144
email@fisher-maritime.com
www.fisher-maritime.com

upright & afloat



a newsletter for
the Maritime Industry
Summer, 2011



FISHER MARITIME

Consulting Group

Consulting Naval Architects and
Marine Engineers, Project Managers

147 Columbia Turnpike, Suite 203
Florham Park, New Jersey 07932 U.S.A.

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Fundamentals of Shipbuilding Contracts:

This paper is an instructive tutorial for all persons involved in the development and/or management of contracts for ship construction and conversion. To view or download this helpful tool at no charge, look on the 'Papers' page in the Publications section of the Fisher Maritime website (www.fishermaritime.com). From the dropdown menu select **Fundamentals of Shipbuilding Contracts** and choose how you would like to view or print the publication.

2011 Training Programs

175 In-House Presentations & 154 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 2011 on the dates and locations shown below. Outlines of the programs can be viewed on our website www.fishermaritime.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 108 organizations in fourteen countries have had these programs presented on an in-house basis over the past 22 years. To receive details for arranging an on-site presentation of any of the programs listed below, contact us:
tel. 800-732-3476 or 973-660-1116, fax 973-660-1144,
email: email@fishermaritime.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.

2011		
Las Vegas, NV	Tues.-Thurs.	June 14-16, 2011
Toronto, Canada	Mon.-Wed.	Aug. 15-17, 2011
London, UK	Wed. - Fri.	Oct. 12-14, 2011
Portland, OR	Tues.-Thurs.	Nov. 8-10, 2011

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.

2011		
Pensacola, FL	Mon.-Wed..	Sept. 12-14, 2011

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.