Mid-2014

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Owner's Pre-Contract Responsibilities

Preparing for Conversions and Newbuilds

When a vessel owner contracts with a shipyard for vessel conversion or new construction, there is an underlying legally binding representation being made by the owner. Namely, the owner is representing that, in the technical package prepared by the owner, all the elements and components of the package are completely compatible with one another. That is, the shipyard can rely on the representation that all the bits and pieces of the owner's technical package are consistent with all the other bits and pieces.

When it is discovered that such implied representation has not been fully achieved, the cost and schedule consequences of correcting that incompatibility are the owner's responsibility. The following examples illustrate this principle.

HVAC and Deck Heights: A government agency was having a RO-RO vessel converted to a 400-person training ship, requiring (among many other alterations) a forward extension of the deckhouse over the weather deck using the same 2.6m deck heights as in the existing deckhouse. The shipyard's design of the HVAC system had to achieve compliance with the performance specification within the owner's technical package. The HVAC system design was completed after substantial completion of the new deckhouse structure. However, it was determined that the duct design satisfying the performance specification could not fit within the 2.6m deck height. The ducts were too large to penetrate through the deck beams, and if placed below the beams, interfered with adequate headroom for crew

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A Test is a Test

Ignoring Safety Devices Creates Risks

The performance of a test on newly installed or reconditioned equipment is often conducted on the premise that the results will confirm that all is satisfactory. No special precautions are taken to deal with the possibility that the test may go awry. While this is a cost-effective and quickly-accomplished approach in most instances, it ignores the fact that a test is, quite simply, only a test, meaning that something might go wrong. Occasionally test results have been unsatisfactory, leading to adverse consequences, including damage and possibly personal injury. When such adverse results have been incurred, there is a lot of finger-pointing and debate as to which party is responsible for the consequences.

The cost and schedule requirements for preparing to accomplish a test or process, including guarding against adverse consequences, are supposed to be elements included in the basic project planning. Most of the time, fortunately, the extra costs of preparing for adverse consequences prove to have been unnecessary. This is akin to purchasing insurance each year. The insurance premium is paid, but the hope is that it will have proven unnecessary. Here are two examples illustrating the consequences of shipyards not having given consideration to the possibility that something might not work completely satisfactorily during tests and processes.

Remote Fuel Cutoff: A shipyard constructing a vessel loaded several thousand liters of fuel into a day tank to feed the several diesel generators that were to be tested against a load bank. When one of the prime movers seized and threw a piston during initial testing, it damaged the fuel line on the adjacent diesel engine, resulting in a fire. But the shipyard could not shut off the flow of fuel from the day tank because the emergency fuel cutoff device had not been completed and tested before allowing fuel to be pulled from the day tank. The fire raged until all the fuel had been consumed. Consequently the vessel was a constructive total loss during construction.

The publication by the *Society of Naval Architects and Marine Engineers, Technical & Research Bulletin 3-39, Guide for Shop and Installation Tests,* advocates that all safety devices be installed and separately tested prior to testing the equipment that will rely on those safety devices in the event the primary test is quite unsatisfactory. If that guidance—as well as common sense—had been applied to the

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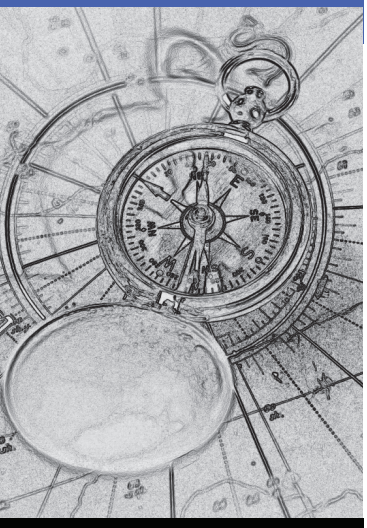

A newsletter for the Maritime Industries from:

FISHER MARITIME Consulting Group

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@fishermaritime.com
www.fishermaritime.com

Owner's Pre-Contract Responsibilities

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and passengers. The shipyard stated that the necessary fix was to increase the deck height of the first deck by 30 cm.

Initially the owner's team alleged that, because the shipyard was responsible for the HVAC design, it was also responsible for the incompatibility of the duct sizes with the owner's deckhouse structural design. After the shipyard challenged the owner to identify a smaller HVAC duct design that satisfied the performance requirement, the owner relented. The owner paid for the deckhouse extension to be raised sufficient to incorporate the minimum size ducts that satisfied the owner's performance requirements. The fundament problem was that the deck heights and the HVAC performance requirements, both part of the owner's technical package, were incompatible with one another.

Replacement Fan Foundations: A cruise ship owner's technical package required a shipyard to replace 14 fans in the ventilation system with new ones having the same brand name and model number as previously installed. When the shipyard sought to purchase the fans from the manufacturer, it was learned that the former model fan was no longer produced; a different model would have to be purchased. The owner's team consented. When the replacement fans arrived, it was discovered that the foundations required for the replacement fans were not the same as the existing ones. The shipyard claimed that the owner had to pay for the extra work to modify the fan foundations because it could not have known, when bidding the job, that such work would be required.

Initially, the owner's team argued that the shipyard should have checked with the fan manufacturer prior to bidding the job. In response, the shipyard pointed out that the owner's team had the opportunity to do so before completing the technical package. The owner's team conceded. The fundamental problem was that the owner's technical package required the impossible; it assumed that certain fans would be available, but in fact were no longer being manufactured.

LESSONS LEARNED

These examples, as well as many others that could be cited, serve to remind all participants in ship construction and conversion projects that significant professional efforts have to be completed before an owner's technical package is presented to bidding shipyards. Ship owner's representatives must remain mindful to ensure, during preparation of the owner's technical package for ship construction and conversion, that each element of information and requirements within the package is wholly compatible with all the others.▲

A Test is a Test

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construction of the vessel, the remote fuel cutoff would have been operable during the ensuing emergency, the fire would have been limited in duration and scope, the vessel would have been repairable, and the shipbuilder could have delivered the vessel, albeit late.

Unexpected Free-Run Launch: A shipyard regularly constructing mid-size work vessels (70m – 90m) launches them by using a tractor to push the nearly-completed vessel, jacked onto rails, onto a launching pontoon. The vessel is then launched by taking the pontoon to mid-harbor, and ballasting down the pontoon. During the vessel's transition from land to pontoon, the yard had always used a holdback winch, releasing it slowly so that the vessel could not roll onto the pontoon in an uncontrolled manner in the event the pontoon was not maintained completely level. After dozens of successful launches in which the holdback winch was never needed, the shipyard discontinued its use inasmuch as it slowed the launching process.

The seventh vessel launched after discontinuing use of the holdback winch was not so lucky. Midway through the transition onto the pontoon, the pontoon was not deballasted sufficiently rapidly, allowing the vessel to roll forward on its own account without the push of the tractor or the restraint of a holdback winch. The vessel broke the rail stops and kept going, sliding over the end of the pontoon. The two massive thrusters were broken off, the bottom of the hull structure was severely damaged, internal piping was damaged, and cables were stretched. The very costly corrections to bring the vessel back to an as-new condition would have been avoided by slowing down the launching process to include the use of the holdback winch.

It is realized that the shipyard not only did not use a safety device in the launching process, but in the interests of economy and schedule, it discontinued the use of a safety mechanism that was well thought out several years earlier. This is akin to discontinuing to use seat belts in cars because you have never needed them in the past. Both situations represent extreme optimism—that all will work well, and safety devices will not be needed.

LESSONS LEARNED

Safety devices are not expendable in the interests of short-term economies and time saving. There are significant risks being taken when disregarding the use of them during tests and processes. Often the persons making the decision to forego the use of safety devices are not the persons who will be in harm's way if an adverse event materializes. Since the conversion of a risk to an actual adverse event will have significant cost impacts, as well as possible injury to nearby personnel, the disregard of well-developed safety devices and safety procedures cannot be justified under any reasonable circumstances.▲

On-Site Contract Management Training Course

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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 210 times in 17 countries, in addition to another 170 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.fishermaritime.com/projecttraining/contractmanagement.html.

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a newsletter for the Maritime Industry
Mid-2014

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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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.fishermaritime.com

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Program Details can be seen at:
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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.

Halifax, NS, Canada	Tues.-Thurs.	Sept. 9 - 11, 2014
London, United Kingdom	Wed.-Fri.	Oct. 8 - 10, 2014
Perth, WA, Australia	Wed.-Fri.	Nov. 12 - 14, 2014
Auckland, New Zealand	Tues.-Thurs.	Nov. 18 - 20, 2014

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.	Oct. 28 - 30, 2014

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.