

Design Risk in Complex Shipbuilding Contracts: English Law Guidance for Shipowners and Shipyards

By William Cecil | September 29, 2026

RELATED PRACTICES Shipping Dispute Resolution, Ship Construction and Conversion, Offshore Oil and Gas, Offshore Oil and Gas Dispute Resolution, Shipping

Parties to first-of-a-kind shipbuilding projects must allocate design risk expressly and secure a workable design before construction starts. The increasing number of such projects is due to the pace of technological change in marine construction. For these projects, the question of who bears responsibility for design has become a key risk and a cause of costly disputes under English law.

With conventional vessels, the shipbuilding contract typically provides that the shipyard will assume full responsibility for the design of the vessel. With first-of-a-kind projects, where the vessel may incorporate complex patented equipment designed and supplied by specialist providers selected by the shipowner, a shipyard may not be prepared to accept the same level of responsibility. Parties must understand the design process, how risk can be allocated in a shipbuilding contract and ensure a workable design exists before construction starts.

Commonly used ways to try to allocate design risk include:

1. Shipyard conducts a feasibility study in advance of shipbuilding contract.
2. Shipyard grants a verification period after the shipbuilding contract has been signed.
3. Shipbuilding contract allocates responsibility for the basic design to the shipowner and the detailed design to the shipyard.
4. Engage the designer or equipment supplier of specialist equipment as the shipyard's subcontractor.
5. Novate the shipowner's design contract to the shipyard.
6. Treat standalone specialist equipment as owner-supplied items.

What Does English Law Say When the Contract is Silent?

When a shipbuilding contract does not allocate design responsibility, that design is normally treated as an aspect of the workmanship to be provided by the shipyard. In *Aktiebolaget Gotaverken v Westminster Corporation of Monrovia* (1971), a ship repair case, the court held that the post-delivery obligations to remedy defects in materials and workmanship extended to design errors. As the judge observed:

"The contract, as varied, required Gotaverken to supply watertight hatch covers. This required good workmanship both in the design and the execution, and, if there were design errors, I see no reason why these should not be characterised and attract liability as bad workmanship. The alternative view would be that Gotaverken escaped all liability ... which seems an improbable result for the parties to have intended."

Despite this general approach, it remains essential for design responsibility to be expressly addressed in the contract because English law interprets a contract by reference to all of its terms.

The Shipbuilders' Association of Japan Form does not specifically deal with the question of design responsibility, so parties using it should deal with the issue expressly.

What If the Promised Performance is Impossible?

When a shipyard contracts to build a vessel to achieve specified performance, it takes the risk that the design proves inadequate to achieve it. In the Scottish case of *Gillespie v James Howden* (1885), the shipyard contracted to build a vessel to specified dimensions and deadweight capacity. When the vessel failed to meet the deadweight specification, the shipyard argued that the design made compliance impossible. The court rejected this defence, holding that the shipyard had assumed the risk of inadequacy of the design. This was the decision even though the design (expressed in terms of a model) had been approved by the shipowner prior to construction.

Why Does the Design Spiral Complicate Risk Allocation?

When it comes to allocating design risk in the shipbuilding contract, understanding the stages of design is essential. Design defects can originate at any stage of the process. The typical design sequence runs from:

1. Basic Design: Establishes fundamental technical parameters, layouts and performance criteria.
2. Contract Design: The documentation forming part of the shipbuilding contract, fixing scope, standards and performance requirements.
3. Detailed Design: Fully coordinated engineering documents, including the 3D model.
4. Production Design: Workshop drawings, cutting lists and installation details from which the vessel is physically built.

This process is not linear. As the detailed design develops, it frequently becomes necessary to revisit and amend the basic design, including when equipment cannot physically fit in the intended space, a fact often only revealed when the 3D model is produced and clash checks are run during the detailed design. This iterative cycle is often described as the “design spiral”, where each pass around the spiral adds detail and corrects earlier assumptions so the process can continue until the design settles into a stable, workable solution.

The design spiral has important implications for contractual risk allocation. A contractual split (for example, making the shipowner responsible for the basic design and the shipyard responsible for the detailed design) appears straightforward in principle, but frequently gives rise to disputes. This is due to the boundary between the different design stages being crossed and re-crossed during the iterative process, making it difficult after the event to determine whether a particular problem originated in the basic design or in the detailed design.

Pressure to start fabrication before the detailed design has settled makes the problem worse. When changes are then required to areas where production design has already been completed and construction has begun, the consequences are severe: rework to already-constructed parts, cost overruns and delay.

What Approaches Can the Shipyard and Shipowner Adopt to Allocate Design Risk?

Should the shipyard assume full design responsibility after a separate feasibility study?

Where the contract design is not ready for a fixed-price shipbuilding contract, consider using a separate engineering or feasibility contract. Under such a contract, the parties develop and test the design, identify interfaces and address technical issues upfront. When the shipbuilding contract is subsequently signed, the shipyard has had an opportunity to understand and price the design before assuming full responsibility on a more informed basis.

When does a post-contract design verification period work?

Where commercial imperatives require the shipbuilding contract to be signed before the shipyard has fully reviewed the design, the contract can provide for a defined verification period. The shipyard should have a review obligation, a deadline for notifying defects and a change-order mechanism covering resulting time, cost and performance impacts. After expiry, unidentified defects are the shipyard's responsibility at its own time and cost. The period must allow for meaningful review. A period that is too short is in neither party's best interest, because the shipyard will seek to recoup the time and cost of later discovered design defects through other contractual routes.

Does splitting design responsibility reduce the shipyard's exposure?

A formal split assigns basic or contract design to the shipowner and detailed and production design to the shipyard. But, as already pointed out, the design spiral makes it difficult to attribute defects to one level of design. Where both parties have contributed to the design, the shipyard should not automatically be responsible for performance guarantees. If this model is adopted, a robust change order mechanism is essential to deal with design issues as they arise. Split responsibility introduces a significant source of risk for both parties.

How should specialist equipment be integrated?

Where the complexity lies in specialist equipment, the designer or equipment supplier can be engaged as a subcontractor of the shipyard. This is possible even though the designer/equipment supplier and the shipowner may have been working together to develop the design for some time before the shipbuilding contract is signed. Under this structure, the shipyard retains full design responsibility towards the shipowner while acquiring (so far as possible) back-to-back warranties against the subcontractor. A significant additional advantage is that this structure addresses interface risk: the shipyard has control over the integration of specialist equipment with the rest of the vessel, avoiding the difficulties that arise when different parties are responsible for components that must work together. However, a liability gap remains in most cases, because the shipyard's exposure under the shipbuilding contract typically exceeds what it can recover under the subcontract.

Is there an option to novate the shipowner's design contract to the shipyard?

Where the shipowner enters into a design contract with the designer or specialist supplier, this can be novated to the shipyard at the point of entering into the shipbuilding contract. The shipyard assumes full design responsibility but also acquires the benefit of the designer's obligations and warranties. This mirrors the approach commonly used for long-lead items. As with the subcontract structure, a liability gap may persist and the shipyard must still verify the adequacy of the design.

Do owner-supplied items call for a different approach?

For smaller, standalone specialist equipment with little or no interface with the rest of the vessel, the simplest solution is to treat the equipment as an owner-supplied item. The shipowner contracts

directly with the supplier, so the shipyard's obligation is limited to proper storage and installation. Where this approach is adopted, the contract should address the consequences of equipment failure, including damage to shipyard-supplied equipment during testing, and expressly carve out warranty and performance guarantee issues if they may be affected by the specialist equipment.

Whichever approach is adopted, if a project suffers from major design issues, the shipbuilding contract will not save a failing project. At best, it will only limit the financial damage.