

DESIGN LIABILITY:

REASONABLE SKILL AND CARE OR FITNESS FOR PURPOSE

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A. Introduction

1. This paper reviews the question of whether the design duty of a contractor will be one of fitness for purpose or reasonable skill and care in light of the recent authority of *Mt Højgaard A/S v E.ON Climate and Renewables*.
2. It is not unusual for construction contracts to contain obligations on the one hand of reasonable skill and care in relation to design and on the other hand stricter obligations in relation to workmanship and complying with the Employer's Requirements or other performance specifications.
3. The relationship between these two types of obligation can give rise to a number of difficulties.
4. Firstly, from the employer's point of view, it might seem that the stricter the obligation the better. In many cases where there is a breach of a performance specification, there will also be a breach of the duty of reasonable skill and care¹, particularly where that standard is clarified as being the standard to be expected of a properly qualified designer experienced in projects of a similar size, scope and complexity. However, a failure to comply with a performance specification is likely to be much easier, quicker and cheaper to prove than a breach of the duty of reasonable skill and care.
5. However, the advantage to the employer in having the strict obligation may be undone if the solvency and insurance position of the contractor is in issue. To take full advantage of the strict obligation, the employer will need to be sure that any judgment based upon a breach of the strict obligation will be met. For example, professional indemnity policies will not usually respond to claims based on any obligation stricter than reasonable skill and care
6. Secondly, the contractor may well sub-contract the design to a professional. It is very likely that the contract between the professional and the contractor

¹ See, for example, *IBA v EMI & BICC Construction* (1980) 14 BLR 1.

will only impose an obligation of reasonable skill and care. Therefore, the contractor may have difficulty in passing on a claim from the employer which is based on a failure to comply with a strict obligation to meet a performance specification to the professional where it is necessary to prove negligence.

7. Obviously, the contractor will wish to limit its design obligation to one of reasonable skill and care. This will be for a number of reasons:
 - 7.1. Lower standard, more difficult to prove breach;
 - 7.2. Availability of insurance; and/or
 - 7.3. Easier to pass on the claim to any relevant professional;
 - 7.4. Availability of contributory negligence as a defence.
8. The Courts have addressed the issue in a number of cases over the years.
9. In *Viking Grain Storage v TH White Installations*², Judge John Davies QC held that there was no good reason for the duty in relation to design to be of any different to the standard in relation to the quality of materials.
10. However, in *Trebor Bassett Holdings v ADT*³, the Court of Appeal found that in a contract to design and install fire protection system the obligation with respect to design was one of reasonable skill and care and not fitness for purpose.
11. In the recent case of *MT Hojgaard v Robin Rigg*, the English courts were able to reconsider the approach to the question of the standard of duty owed by a contractor.

² (1985) 33 BLR 103.

³ [2012] EWCA Civ 1158 (CA).

B. MT Hojgaard A/S v E.ON Climate and Renewables UK Robin Rigg East Limited [2014] EWHC 1088 (TCC)

(1) The facts

12. In 2006, the claimant contractor entered into an agreement with the defendant employer for the design, fabrication and installation of the foundations for 60 wind turbine generators (*"the turbines"*) for the Robin Rigg offshore wind farm in the Solway Firth.
13. The turbine foundations consisted of a monopile and a transition piece. The monopile is a cylindrical steel pile driven into the seabed. It had a diameter of just over 4m. The transition piece was also a steel cylinder. It had a slightly larger diameter and fitted over the top of the monopile. It was about 8m long and weighed about 120 tonnes.
14. The transition piece is held in place by a grouted connection. The connection was 6.45m long.
15. In 2004, an independent classification and certification agency produced an international standard (known as *"J101"*) for the design of offshore wind turbines and grouted connections.
16. Unfortunately, J101 contained an error. The value attributed to a variable used in one of the equations in J101 was underestimated by a factor of about 10.
17. The claimant's designer, like everyone else at the time, was unaware of this error when it carried out its design.
18. The design was carried out in accordance with the J101. The turbines, including the foundations were then fabricated and installed in accordance with the design.

19. Following installation, it was discovered that movement was taking place in the grouted connections. This was because of the error in J101 which had been followed in the design and then in the fabrication and installation.
20. The defendant held the claimant responsible for the failure of the connections on two bases:
 - 20.1. That under the agreement the claimant warranted that the wind turbine foundations would have a service life of 20 years;
 - 20.2. If the only obligation was one of reasonable skill and care, then it failed in at least three respects.

(2) The terms of the contract

21. As with many contracts for construction or supply of complex structures or goods, this contract comprised a number of different documents.
22. By Part C of the Contract (List of Definitions):

“‘Fit for Purpose’ means fitness for the purpose in accordance with, and as may properly be inferred from, the Employer’s Requirements.

‘Good Industry Practice’ means in relation to any particular undertaking or task ... those standards, practices, methods and procedures ... to be performed with the exercise of skill, diligence, prudence and foresight that can ordinarily be expected from a fully skilled contractor who is engaged in a similar type of undertaking or task in similar circumstances consistent with recognised international standards.”

23. The Conditions included the following clauses:

“8.1 GENERAL OBLIGATIONS

The Contractor shall, in accordance with this Agreement, design, manufacture, test, deliver and install and complete the Works:

(i) with due care and diligence expected of appropriately qualified and experienced designers, engineers and constructors (as the case may be).

...

(iv) in a professional manner ... in accordance with ... Good Industry Practice

...

(viii) so that the Works, when completed, comply with the requirements of the Agreement.

...

(x) so that each item of Plant and the Works as a whole shall be fit for its purpose as determined in accordance with the Specification using Good Industry Practice.

...

(xv) so that the design of the Works and the Works when completed by the Contractor shall be wholly in accordance with this Agreement and shall satisfy any performance specifications or requirements of the Employer as set out in this Agreement, and

....

30.2 MAKING GOOD DEFECTS

The Contractor shall be responsible for making good any defect in or damage to any part of the Works including spares held in the Employers inventory which may appear or occur before or during the Defects Liability Period and which arises from, any of the following:

a) any defective materials, workmanship or design, or

...

...

- d) Works not being Fit For Purpose providing that the Employer has substantially complied with the requirements of the Operations and Maintenance manuals and 'Defect' shall be construed accordingly. The Contractor shall forthwith make good the defect or damage including replacing all defective inventory and at his own cost in the minimum time practicable."

24. Part I of the Employer's Requirements, in Section 1, contained the General Description of Works and Scope of Supply. This contained the following provisions:

"1.6 Key Functional Requirements

The Wind Farms are to be designed, constructed and operated to provide the lowest lifetime cost option capable of meeting the full requirements of this Specification. ... All main works items shall be of a design that has demonstrated successful service elsewhere, preferably in an offshore environment, and the Contractor shall complete Schedule 1.3, which provides details of such service. ... The Works elements shall be designed for a minimum site specific 'design life' of twenty (20) years without major retrofits or refurbishments; all elements shall be designed to operate safely and reliably in the environmental conditions that exist on the site for at least this lifetime. ..."

25. Part I of the Employer's Requirements, in Section 3, contained the Technical Requirements ("TR") for the Design Basis (Wind Turbine Foundations). Section 3.1, Introduction, contained the following provisions:

"It is stressed that the requirements contained in this section and the environmental conditions given are the MINIMUM requirements of the Employer to be taken into account in the design. It shall be the responsibility of the Contractor to identify any areas where the Works need to be designed to any additional or more rigorous requirements or parameters."

and

“The Contractor shall undertake the detailed engineering design of all structures, fixtures and fittings required to comply with the requirements of this Agreement and the Conditions of Contract. The Contractor shall assume full responsibility for design and installation of the structures.”

26. Section 3.2.2, General Design Conditions, contained the following provisions:

“3.2.2.2 Detailed Design Stage

The detailed design of the foundation structures shall be according to the method of design by direct simulation of the combined load effect of simultaneous load processes (ref: DNV-OS-J101). Such a method is referred to throughout this document as an ‘integrated analysis’

The design of the foundations shall ensure a lifetime of 20 years in every aspect without planned replacement. ...

3.2.3.2 Document Hierarchy

Subject to current legislation, the Contractors design shall be in accordance with international and national rules, circulars, EU directives executive orders and standards applying to the Site. Unless otherwise specified in the Contract, the following hierarchy of standards shall apply (1 highest and 8 lowest):..

1. IEC 61400-3 (if formally published). See note below regarding draft standards.
2. [J101] ...
7. Other standards....

Where conflict arises between standards, the standard with the highest priority as indicated above shall take precedence.

...

Where aspects of the foundation design are not covered explicitly by standards, or the Contractor's design departs from standard (i.e. the implementation of recent research papers to effect economies) such aspects and departures shall be specifically stated as part of the tender documentation or the detailed design documentation, as appropriate"

27. In fact, as IEC 61400-3 remained in draft form at all relevant times, ("J101") was the primary standard.

28. Section 3.2.6 of the TR, Life, contained the following provision:

"All parts of the Works, except wear parts and consumables shall be designed for a minimum service life of 20 years."

29. Section 3b of the TR, Design Basis for Offshore Substations & Meteorological Mast, contained similar provisions about the life of the structures. These were as follows:

"3b.5.1 Scope

The design of the structures addressed by this Design Basis shall ensure a lifetime of 20 years in every aspect without planned replacement. The choice of structure, materials, corrosion protection system operation and inspection programme shall be made accordingly.

...

3b.5.6 Service Life

All parts of the Works, except wear parts and consumables shall be designed for a minimum service life of 20 years."

(iii) The argument as to contractual interpretation

30. The parties disagreed as to whether Clause 8.1 of the Conditions when read with TR Clauses 3.2.2.2 and 3.b.5.1, imposed a strict obligation to achieve a service life of 20 years or merely an obligation to design the foundations on the basis of the 20 year design life in accordance with J101.
31. The contractor's submission was that its essential obligation was to exercise Good Industry Practice to produce a design compliant with J101 and that it did not take the risk that J101 might contain a fundamental error.
32. However, Edwards-Stuart J held that although the contractor was under an express obligation to design in accordance with J101, it had also assumed full responsibility for the design of the turbines (section 3.1) and that the contractor had warranted that the foundations would have a service life of 20 years.
33. The obligation to design in accordance with J101 was not inconsistent with the warranty of service life of 20 years, even though designing in accordance with J101 (and in particular its error) meant that the service life of 20 years would not be achieved.
34. In arriving at his conclusions, Edwards-Stuart J referred to two Canadian cases:
- 34.1. *The Steel Company of Canada Ltd v Willand Management Ltd*⁴; and
- 34.2. *Greater Vancouver Water District v North American Pipe and Steel Ltd*⁵.
35. In *The Steel Company* case, the Supreme Court approved the following statement from Hudson's Building and Engineering Contract, 8th Edition:

⁴ [1966] SCR 746.

⁵ [2012] BCCA 337.

“Sometimes, again, a contractor will expressly undertake to carry out work which will perform a certain duty or function in conformity with plans and specifications, and it turns out that the work constructed in accordance with the plans and specifications will not perform that duty or function. It would appear that generally the express obligation to construct a work capable of carrying out the duty in question overrides the obligation to comply with the plans and specifications, and the contractor will be liable for the failure of the work notwithstanding that it is carried out in accordance with the plans and specification. Nor will he be entitled to extra payment for amending the work so that it will perform the stipulated duty.”

36. In the *Greater Vancouver* case, the claimant agreed to supply water pipes to the water authority. The water authority specified the pipe and how it was to be protectively coated. The pipes proved to be defective. The contract included the following terms at 4.4.3 and 4.4.4:

“4.4.3 The Supply Contractor warrants ... that the Goods ... will conform to all applicable Specifications ... and unless otherwise specified will be fit for the purpose for which they are to be used ...

4.4.4 The Supply Contractor warrants and guarantees that the Goods are free from all defects arising at any time from faulty design in any part of the Goods.”

37. The British Columbia Court of Appeal approved the following statement of law:

“The general rule is that defects caused by an owner’s specification are not the responsibility of the contractor, unless the contractor expressly guarantees that the construction would be fit for a specific purpose, or a warranty can be implied by the owner’s actual reliance on the contractor’s skill and judgment.”

38. It went on to hold:

“Clause 4.4.4 is clear and unambiguous. Reference to authorities that deal with difficulties construing contractual provisions that may contain an

implied warranty are of no assistance in this case. North American guaranteed that the pipes would not have defects arising from faulty design. The trial judge held that the pipes did have defects arising from faulty design. In my view, on the plain language of the contract, North American is liable for any damages that resulted from those defects. It does not matter whose design gave rise to the defects. There is no such qualification in clause 4.4.4.”

39. Having considered these cases, Edwards-Stuart J held:

“74. If, for the purpose of this case, one treats J101 as “an owner’s specification”, then these decisions are authority for the proposition that the existence of an express warranty of fitness for purpose by the contractor can trump the obligation to comply with the specification even though that specification may contain an error.

...

77. It is not uncommon for construction and engineering contracts to contain obligations both to exercise reasonable care, or to do the work in a workmanlike manner, and to achieve a particular result. Indeed, where the contractor has a design obligation, terms as to fitness for purpose of the completed work are sometimes implied: such contracts are likely to include also the lesser obligation to carry out the design with reasonable care and skill. The two obligations are not mutually incompatible.”

40. In summary, Edwards-Stuart J concluded as follows:

- 40.1. Paragraph 3.2.2.2(2) of the Technical Requirements required the contractor to achieve a result, namely foundations with a service life of 20 years. This was additional to, but not inconsistent with, the contractor’s less onerous obligations such as compliance with J101;
- 40.2. the contractor was in breach of clause 8.1 of the contract conditions read in conjunction with paragraph 3.2.2.2(2) of the Technical Requirements because the foundations did not have a service life of 20 years;

- 40.3. the design of the grouted connections was not negligence as it was reasonable to comply with J101;
- 40.4. the contractor was not in breach of the other specific terms upon which the employer relied.

C. MT Hojgaard A/S v E.ON Climate and Renewables UK Robin Rigg East Limited [2015] EWCA Civ 407

(1) Introduction

- 41. The contractor was dissatisfied with the judgment of Edwards-Stuart J and appealed to the Court of Appeal. Jackson LJ, with whom Underhill and Patten LJ agreed, gave the leading judgment.

(2) The judgment of the Court of Appeal

- 42. As noted above, one of the features of the contract at issue (as with so many construction contracts) was the number of different documents which formed the contract.
- 43. In this regard, Jackson LJ relied upon the guidance given by the Supreme Court in *Re Sigma Corp (in administrative receivership)* [2009] UKSC 2; [2010] 1 All ER 571. At paragraph 12, Lord Mance had said:

“... the resolution of an issue of interpretation in a case like the present is an iterative process, involving *"checking each of the rival meanings against other provisions of the document and investigating its commercial consequences"* ... I also think that caution is appropriate about the weight capable of being placed on the consideration that this was a long and carefully drafted document, containing sentences or phrases which it can, with hindsight, be seen could have been made clearer, had the meaning now sought to be attached to them been specifically in mind Even the most skilled drafters sometimes fail to see the wood for the trees, and the present document on any view contains certain infelicities Of much greater

importance in my view, in the ascertainment of the meaning that the Deed would convey to a reasonable person with the relevant background knowledge, is an understanding of its overall scheme and a reading of its individual sentences and phrases which places them in the context of that overall scheme.”

44. Similarly at paragraph 35, Lord Collins SCJ had said:

“In complex documents of the kind in issue there are bound to be ambiguities, infelicities and inconsistencies. An over-literal interpretation of one provision without regard to the whole may distort or frustrate the commercial purpose. This is one of those too frequent cases where a document has been subjected to the type of textual analysis more appropriate to the interpretation of tax legislation which has been the subject of detailed scrutiny at all committee stages than to an instrument securing commercial obligations ...”

45. Having identified these key principles of interpretation, the Court of Appeal went on to apply them to the contract between the parties.
46. Jackson LJ drew a distinction between the obligation to ensure a lifetime of 20 years (TR paragraph 3.2.2.2(2)) and an obligation to provide a structure with a “*design life*” of 20 years. If a structure has a design life of 20 years, that does not mean that it will inevitably function for 20 years (although it probably will). A number of the provisions of the TR required a design life of 20 years, rather than an obligation to ensure a lifetime of 20 years (see TR paragraphs 1.6 and 3.2.6).
47. By virtue of Clause 5.3, the contract conditions took precedence over the other contractual documents. Clause 8.1 of the contract conditions set out the contractor’s obligations. Jackson LJ held that if the parties intended to impose an absolute warranty of quality on the contractor then it would have been found in clear terms in clause 8.1. In fact, according to Jackson LJ, the

obligations expressly imposed by clause 8.1 were inconsistent with an absolute warranty of quality. Jackson LJ relied upon the absence of such free standing warranty or guarantee to distinguish the *Steel Company of Canada Limited* and *Vancouver Water District* cases, upon which Edwards-Stuart J had relied.

48. Even the obligation that the works as a whole should be fit for purpose was qualified by the phrase “*as determined in accordance with the Specification using Good Industry Practice*”.

49. The phrase “*Good Industry Practice*” was defined in the List of Definitions as:

“those standards, practices, methods and procedures conforming to all Legal Requirements to be performed with the exercise of skill, diligence, prudence and foresight that can ordinarily and reasonably be expected from a fully skilled contractor who is engaged in a similar type of undertaking or task in similar circumstances in a manner consistent with recognized international standards.”

50. For these reasons, Jackson LJ concluded that a reasonable person in the position of the parties would know that the normal standard required in the construction of offshore wind farms was compliance with J101 and that such compliance was expected, but not absolutely guaranteed, to produce a life of 20 years. Adopting an iterative approach to the construction of TR paragraphs 3.2.2.2(2) and 3b.5.1, it did not make sense to regard them as overriding all other provisions of the contract. There was an inconsistency within the contract but taken as a whole the contract did not impose an obligation to guarantee 20 year life.

D. Discussion

51. The approach of the Court of Appeal may give rise to the following issues:

51.1. Why is there is said to be an inconsistency between an obligation of reasonable skill and care and one of fitness for purpose? The fact

that there were clear references to reasonable skill and care does not mean that it would not be possible also to have a strict obligation;

- 51.2. The Court of Appeal placed great emphasis on the lack of express warranties in Clause 8, even though there were obligations in Clause 8.1 which could support a strict obligation.
52. The judgments in the *Robin Rigg* case highlight the need for both employers and contractors to consider very carefully the wording of the obligations in relation to design and the relationship between an obligation to take reasonable skill and care and any warranty of fitness for purpose or other stricter obligation.

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