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The Supreme Court of Canada lays down a new test for applying a "faulty or improper design" exclusion

Introduction

On November 21st, the Supreme Court of Canada released a crucial decision on the interpretation of the "faulty or improper design" exclusion in all-risks builders' insurance policies.

By a bare (4 to 3) majority, the Court adopted a comparative standard requiring insurers to show that an impugned design failed to meet "the highest standards of the day" for the exclusion to apply. A test based on the prima facie failure of the design to meet its intended purpose was rejected by the majority, but was preferred by the three dissenting justices.

In all, from the trial through to the judgement of the Supreme Court of Canada, eleven judges considered the exclusion. The trial judge, one judge of the Ontario Court of Appeal and the four majority judges of the Supreme Court found that the exclusion did not apply. Two Court of Appeal judges and three dissenting Supreme Court judges disagreed.

Background

In the mid-80s, Canadian National Railway ("CN") planned the construction of a new, state-of-the-art tunnel under the St.-Clair River capable of accommodating contemporary railway equipment, including double-stack container cars.

The project was an engineering challenge which required the use of the largest tunnel boring machine ("TBM") ever built. The TBM had to be capable of moving underground while excavating a hole with a diameter of 9.5 meters and withstanding overhead pressure of up to 6,000 metric tonnes. It was designed and built for the single purpose of boring this one tunnel.

The Design Challenge and Failure

Considerable expertise was brought together to design and build the TBM, including the cumulative expertise of engineers previously involved in the design of 124 other TBMs.

Differential deflection of the cutting head, a known facet of TBMs, was considered and accounted for in the design. The TBM was designed with a 6-millimetre deflection tolerance between the rotating head and the front shield, accommodated by 26 joints under hydraulic lubricant counter-pressure. The design team believed it had taken any possible differential deflection into account to a redundant level. It was acknowledged at all levels that the design team had discharged their duties in accordance with state-of-the-art standards.

In spite of this, differential deflection in excess of the engineering expectations occurred, causing the TBM to fail after completing only 14% of its work. Changes to the design were made and carried out at a relatively low cost. However, the resulting claim was worth some $23 million.

Insurance Coverage

CN had purchased an "all risks" policy from the respondent insurers. The insuring agreement provided coverage against "ALL RISKS of direct physical loss or damage [...] to [...] all real and personal property of every kind and quality including but not limited to the [TBM]". The policy included a standard exclusion which read as follows:

> This policy does not insure:
>
> [...]
>
> (d) the cost of making good...
>
> i. faulty or improper material
> ii. faulty or improper construction or workmanship
> iii. faulty or improper design

Ontario Superior Court of Justice[1]

At trial, Justice Ground relied heavily on CN's expert testimony that the "excess" differential deflection that took place was not only unexpected but also unpredictable considering the state of knowledge at the time the machine was designed. The designers were found to have accommodated all foreseeable risks, even those that were unlikely or remote The Court therefore held that they had met the required standard to avoid the application of the exclusion. The insurers were ordered to pay CN $29,582,638.91 (including interest and costs).

Ontario Court of Appeal[2]

The Ontario Court of Appeal (in a 2 to 1 split decision) allowed the appeal. The majority agreed with the test used by the trial judge, but found that "[…] contrary to the findings of the trial judge, the design of the TBM was inadequate to meet a known risk of possible failure of the TBM." The "known risk" the Court of Appeal relied upon was failure due to the differential deflection that took place. The majority thus found that the TBM had in fact been faulty within the meaning of the exclusion.

Supreme Court of Canada[3]

Writing for the majority, Justice Binnie defined the issue as follows:

> The key question that divided the Court of Appeal majority and the trial judge was how to define the scope of the "faulty or improper design" exclusion within the context of an "all risks" insurance policy which must be read as a whole. (Paragraph 32)

For the majority, "[t]he concept of a "faulty or improper design" implies a comparative standard against which the impugned design falls short […]" (Paragraph 51)

Both the majority and dissenting decisions considered in great detail whether a "negligence standard" was appropriate. Under a negligence standard, the Court would assess whether the designers acted in accordance with the standard of care for prudent design engineers in similar circumstances. Neither the majority nor the dissent followed this approach.

Although the majority found that the exclusion should receive a narrow interpretation, it concluded that a very stringent comparative test must be used. The key holding is at paragraph 55:

> […] a design that survives a negligence test is not, on that account, of a calibre sufficient to deny the insurers the benefit of the exception. The insurers are entitled to the benefit of the exemption unless the design met the very highest of standards of the day and failure occurred simply because engineering knowledge was inadequate to the task at hand.

The Court continued at paragraph 56:

> I do not believe that where, as here, the risk is broadly defined ("metal deflects under stress"), and the design addresses that risk with state of the art diligence and expertise (as here), the insurers are entitled to the exclusion just because, with the benefit of hindsight, it turns out that "engineering knowledge and practice lacked a proper appreciation" […] of the design problem. A narrower interpretation of the exclusion, it seems to me, best accords with the intentions of the parties based on the plain meaning of the words used, namely "faulty or improper". If the insurers wished to negotiate an exclusion of costs associated with simple "design failure" or "design failure in conditions of foreseeable risk", it was open to them to have tried to do so but that is not the wording of the policy and *this* exclusion clause should not, in my opinion, be given that effect.

Hence, for the majority, the "residual" risk of design failure due to gaps in the state of the science at the time of the design, does not fall within the "faulty or improper design" exclusion of the policy. Otherwise, the exclusion would require design perfection from the perspective of hindsight.

The dissenting opinion, written by Justice Rothstein, concludes that the applicable standard is not comparative. For the dissenting judges, "[…] a 'faulty design' is a design that contains faults, is imperfect or is unsound for its purpose and an 'improper design' is a design that is unsuited or ill-adapted to its purpose. In other words, a design that is faulty and improper is one that does not work for the purpose for which it was intended to be used." (Paragraph 87)

Conclusion

The ruling of the majority of the Supreme Court will require insurers relying on a faulty and improper design exclusion to prove that the design was not created with state-of-the-art diligence. The evidentiary contest at trial will turn on that point. There may be a commercial spinoff effect, in that purchasers of design services may attempt to impose this high standard on their designers.

Much emphasis was placed on the "unique" aspect of the project and equipment. The majority used such phrases as "this particular project", the "risk of failure on this job", "this design", "the circumstances" and "this project" throughout its reasons. While it is not uncommon for large construction projects to have unique features requiring novel machinery or applications, in many instances parties are not dealing with any unique design.

The Supreme Court decision offers some guidance to the insurance industry. To stay clear of the issue which arose in this matter, insurers may wish to avoid the use of the expression “faulty or improper design” and exclude coverage for "design failure" or "design failure in conditions of foreseeable risk".

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1 - [2004] O.J. No. 4086 (Ground J.)
2 - (2007), 222 O.A.C. 129 (Rosenberg, Cronk and Lang JJ.A.)
3 - 2008 S.C.C. 66