

**Foreseeable Dissent: A Review of *Canadian National Railway Co.*  
*vs. Royal and SunAlliance Insurance Co. of Canada*\***

Lawlor Rochester\*\*

The purpose of this review is to highlight the history of the standard of proof an insurer must show to successfully argue the “faulty or improper design” exclusion in an insurance policy and to examine Lang, J.A.’s, dissenting opinion in this case.

A giant tunnel boring machine (TBM) designed and built by Lovat Tunnel Equipment Inc. commenced tunneling for a new Canadian National Railway (CNR) tunnel under the St. Clair River between Sarnia, Ontario and Port Huron, Michigan in November 1993, but broke down two months later as a result of “excess differential deflection” between two major components of the TBM. As a result, the project completion date was delayed 229 days.

The CNR and other allied companies commenced an action against their insurers Royal and SunAlliance Insurance Company of Canada and others under a builder’s risk policy. The insurers denied liability claiming under the policy’s exclusion for “the cost of making good . . . faulty or improper design”.

At the trial of this action, based on *Foundation Co. of Canada Limited v. American Home Assurance Co.* (1995), 25 O.R. (3d) 36 (Gen. Div.); aff’d [1997] O.J. No. 2332 (C.A.) (*Foundation*) and *Algonquin Power (Long Sault) Partnership v. Chubb Insurance Co. of Canada*, [2003] O.J. No. 2019 (Ont. S.C.J.) (*Algonquin*), the Court held “that the insured property must be designed so it accommodated all foreseeable risks”. Accordingly, the trial judge concluded that the cause of failure of the TBM was excess differential deflection between components of the TBM, damaging the sealing system, thereby allowing soil contamination into the main bearing, which was not foreseeable and therefore the design of the TBM was not faulty or improper. Judgment in the amount of \$20,966,947 was awarded, exclusive of interest and costs.

On appeal, the majority approved the trial judge’s formulation of the foreseeability standard which required “proof that all foreseeable risks had been identi-

---

\* (2007), 85 O.R. (3d) 186, 59 C.L.R. (3d) 169 (C.A.); additional reasons at 2007 CarswellOnt 4449 (Ont. C.A.); leave to appeal allowed, 2007 CarswellOnt 6921, 2007 CarswellOnt 6922 (S.C.C.).

\*\* Glaholt LLP, Toronto.

fied and addressed in the design in question". They stated further at paragraph 62:

A mere recognition of a foreseeable risk is insufficient. "Accounting" for a foreseeable risk contemplates both that the risk is identified and that provision or allowance is made in the impugned design to meet the identified risk. On the foreseeability standard, anything less will not establish a fault-free and proper design. Nor, in our opinion, does designing against a foreseeable risk convert the risk into an unforeseeable one. It simply means that the applicable design provided for the risk, that is, the risk was identified and addressed in the design with a view to forestalling its occurrence, thus meeting the foreseeability standard. In this context, we agree that the foreseeability standard mandates that the relevant design "take into account", "accommodate", "provide for" and "withstand" all foreseeable risks.

Further at paragraphs 106 and 107, they noted that the controlling issue to be determined at the trial was whether the type of risk of failure of the TBM that materialized was foreseeable. They noted that the trial judge failed to focus on the foreseeability of the failure risk in issue, that is, the risk of differential deflection affecting the integrity of the TBM's sealing system.

The majority stated further that as noted by CNR's expert, while the failure mechanism was the combination of the risk of damaging differential deflection with the inadequacy of the measures taken to address or accommodate it in the TBM design, and while this combination may have been unforeseeable, this was not tantamount to a conclusion that the risk itself was unforeseeable.

They did not read the trial judge as indicating that he was satisfied that the risk of excess differential deflection was identified and taken into account in the TBM design. The majority held that the trial judge erred by failing to distinguish between foreseeability of the type of risk of failure that occurred in this case and the foreseeability of the mechanism by which the risk might materialize. They concluded that like *Algonquin*, the type of risk that materialized in this case, that is, the risk that the TBM protective seal gap could be compromised by a differential deflection leading to corruption of the critical main bearing was known, and by virtue of the analysis performed, believed that the known risk was adequately addressed by the design of the TBM. So the type of risk was foreseeable and foreseen, but the designer Lovat was mistaken in its belief that the TBM sealing system would withstand the differential deflection that might occur. At paragraph 114, they noted:

Consequently, this risk was not accommodated by the design of the TBM, in the sense that the design lacked those features or attributes necessary to meet this foreseeable risk. Instead, the design of the TBM was not fit for its intended purpose and the failure of the TBM was the result of a foreseeable and foreseen causative event. The design of the TBM, therefore, was faulty within the meaning of the Policy.

Lang, J.A. in her dissenting opinion, noted that this case turned primarily on the interpretation and application of the “faulty design” exclusion and that the onus was on the insurer to prove the exclusion.

At paragraph 153, she confirmed that the appropriate test and governing standard was that found in *Foundation*, which standard required the designer to take all foreseeable risks into account. She stated as follows:

Regarding the appropriate test, in my view, the governing standard is that adopted by this court in *Foundation Company of Canada Limited v. American Home Assurance Company* (1995), 25 O.R. (3d) 36 (Gen. Div.); aff'd [1997] O.J. No. 2332 (C.A.). That standard requires the designer to take all foreseeable risks into account. As was stated in *Foundation*, the resolution of this issue necessitates a comparative analysis of the design under attack against some standard.

The use of the words “into account” by Madam Justice Lang, rather than the word “accommodates” are significant as they do not presume success or failure.

Accordingly, she noted in paragraph 154 that the majority in their decision have altered the standard found in *Foundation*:

However, in my view, my colleagues' reasons alter the *Foundation* standard in two important ways. First, the standard as formulated in their reasons requires not only that all foreseeable risks be taken into account in the design, but also that the design succeeds in accommodating those risks. Second, their reasons do not consider the essential comparative component of the *Foundation* test. In making these two alterations to the standard, my colleagues adopt a standard that is significantly closer to the results-focused standard set out in *Manufacturers' Mutual Insurance Co. v. Queensland Government Railways* (1968), [1969] 1 Lloyd's Rep. 214 (Australia H.C.). The Queensland standard was rejected by this court in *Foundation*.

This altered standard, in her opinion, required in addition, that the design must succeed in accommodating those risks and as noted, then became a “results-focused” standard.

Lang, J.A. noted that the trial judge in this case found that the insured TBM was designed to take into account all foreseeable risks, as he noted that a world-wide committee of experts had been retained to approve the design and oversee its manufacture. Further, an experienced manufacturer, who had previously successfully manufactured 124 TBMs, some with outside earth pressures greater than those experienced on this project, was contracted to build this TBM. The manufacturer undertook an analysis to insure the design took into account all foreseeable risks.

Justice Lang confirmed that the trial judge was mindful of and applied the general principles of interpretation of an insurance contract:

- (i) Once the insured proved the loss the onus shifted to the insurer to establish, on a balance of probabilities, that the loss came within the policy exclusion;
- (ii) The exclusion provisions were to be construed narrowly against the insurer;
- (iii) In the face of ambiguity, namely the meaning of “faulty design”, the Court looked to an interpretation consistent with commercial reality and the true intent of the parties in accordance with the purpose of the coverage and of the exclusions;
- (iv) Coverage was only provided for fortuitous losses in the sense of being random or unexpected.

The owner CNR’s need for a TBM that would dig a very large tunnel and for insurance in case that TBM failed or the tunnel collapsed meant that the risks were very high and potential losses significant. A well known engineering consultant retained by CNR in 1992 commented on the “Failure of Main Bearings” under the heading “Unexpected Events”. The insurers were aware that the main bearing of the TBM was the most likely component to fail and that it was a critical component as it was exposed to the loose bored tunnel soil material and would be most susceptible to damage.

The premium of the policy was fixed at \$890,000.00 and the risk was spread among six insurers. The policy not only insured against specific perils but also against all risks including soil conditions and the mechanical breakdown of the TBM (excluding such parts as belts, screens, cutting blades etc.) The insurers did not exclude the mechanical breakdown of the main bearing of the TBM, nor leakage of soil through the seals and therefore could be presumed to bear those risks.

Prior to 1968, the applicability of the faulty design exclusion depended on the insurer showing negligence of the designer. This changed with the *Queensland* case previously referred to where the insurer proved faulty design by establishing only that the design of the bridge piers, which failed to withstand an unanticipated level of flood waters, was therefore defective for its intended purpose. So while a finding of negligence against the designer might help to reach a finding of defective design, the exclusion for faulty design applied even if the designer met all professional standards.

This standard was applied successfully to exclude coverage in the following three cases:

- (i) *Willowbrook Homes (1964) Ltd. v. Simcoe and Erie General Insurance Co.*, [1980] A.J. No. 855 (C.A.), where although the

site walls were braced in accordance with industry standards, the walls collapsed when exposed to unexpected wind velocity;

- (ii) *Collavino Inc. v. Employers Mutual Liability Co. of Wisconsin*, [1984] O.J. No. 1011 (H.C.); aff'd [1985] O.J. No. 227 (C.A.), where a trestle collapsed from normal spring ice flows. Here the designer had ignored the consulting engineers' recommendation to investigate ice pressures;
- (iii) *B.C. Rail Ltd. v. American Home Assurance Co.* (1991), 79 D.L.R. (4th) 729 (B.C. C.A.), where a track embankment collapsed as a result of unstable underlying soil. Here too the designer was negligent for failing to perform soil tests, resulting in inaccurate assumptions in its design.

This *Queensland* standard as well as the standard of reasonable foreseeability were rejected in *Foundation*. Wilson, J., noted at paragraph 148 that the above four cases shared a common element:

The design of the structure itself was inadequate to meet the demands of extreme but foreseeable circumstances.

In her groundbreaking decision, Wilson J. rejected using a standard of reasonable foreseeability and adopted the standard of simple foreseeability. This standard, as noted by Lang, J. A., at paragraph 178:

... requires the insurer to establish that the designer failed to take into account all foreseeable risks.

In the *Foundation* case, the rare combination of localized gas in a shale pocket and an unusually wet silty soil (slickenslide) caused a "blow in" of the steel sheet piling cofferdam (constructed for bridge pier footing number 3 over the Peace River), which caused flooding and damage to the cofferdam and the work therein.

Wilson, J. found that this rare combination of gas and slickenslide was unforeseeable and it was unlikely that further borehole tests would have identified the potential problem and therefore, all foreseeable risks had been taken into account in the design of the cofferdam. She noted that the standard required a comparison of the design to some standard and so to find "faulty or defective" design, a judge was required to conclude that the design was below that comparative standard. While the prevailing industry standard might be persuasive to rebut allegations of faulty design, it was not, in her opinion, determinative of the issue. She stated further at paragraph 154:

All foreseeable risks rather than reasonably foreseeable risks must be taken into account in the design.

The Court of Appeal in *Foundation* approved and endorsed this foreseeability standard as applied by the trial judge and noted this standard was more onerous

than the negligence standard. They did not decide to what extent, if at all, the less onerous negligence standard might apply in determining whether a design was “faulty or defective”.

In *Algonquin*, which involved the collapse of an earthfill dam connecting a river abutment to the powerhouse structure on a hydroelectric project on the Abitibi River during the final commissioning of the project, the insurer Chubb was able to exclude coverage by proving that the existing soil conditions in the abutment made hydraulic piping possible and since the designer had failed to perform soil tests in the abutment and had not taken into account this foreseeable risk, the design was faulty and coverage was excluded.

In discussing this standard in this case, Lang, J.A., believed that the trial judge simply misspoke when he used the words “accommodates all foreseeable risks” rather than the words “take into account all foreseeable risks”. She listed four reasons why the use of the word “accommodates” is inconsistent with the trial judge’s adoption of the *Foundation* and *Algonquin* standard and concluded that the trial judge did not intend to change the standard. These four reasons are as follows:

- (i) The trial judge’s use of the word “accommodate” was unintentional;
- (ii) While using the word “accommodate”, the trial judge also indicated that he was adopting the *Foundation* and *Algonquin* standard which did not use this word;
- (iii) Where the trial judge used “accommodate”, he specifically rejected the *Queensland* standard which is a results-focused standard and close to a standard of failure to accommodate;
- (iv) The trial judge’s use of the word “accommodate” was inconsistent with his application of the standard of foreseeability to the facts of this case.

Therefore in her opinion, a standard that required the designer to “accommodate all foreseeable risks” would ignore principles of interpretation requiring a narrow construction of exclusions, would result in an interpretation that would significantly raise the bar in favour of the insurer, and the design would be required to meet a standard of perfection with respect to those risks.

She noted further at paragraph 195:

Rather, in my view, the governing standard only requires the insured to take all foreseeable risks into account. This is consistent with the *Foundation* standard that calls for a comparative analysis, an analysis that considers the human component of the design, and asks what the designer anticipated, or should have anticipated, would be the risks arising from the design and whether the designer took those risks into account. If the insurer can show,

on a balance of probabilities, that the designer failed to meet this standard, the insurer will have succeeded in proving the exclusion. If the insurer fails to meet that onus, the insured is entitled to coverage.

Accordingly, she noted that this standard of foreseeability achieved an important goal of providing insurance coverage consistent with the designers' and the insurers' reasonable expectations and the insurer would not be required to cover the insured for shoddy design even if it met industry standards. It also reached a fair balance of allocation of risk, imposing a high standard on the insured but not as high as the standard of perfection implicit in the use of the word "accommodate". It was unnecessary to carry out a comparative standard suggested in the *Foundation* case in this case, as she noted there was no evidence accepted by the trial judge that any other designer would have undertaken any different analysis and further, that the facts supported a finding that the designer Lovat was a "most prudent designer".

While the majority distinguished *Foundation* from this case on the basis that the cofferdam's failure occurred as a result of external causes and the causes of the soil contamination of the main bearing was internal (that is, failure of the sealing system from excess differential deflection), Lang, J.A. could see no difference between "unforeseeable internal causes" and "unforeseeable external causes".

She concluded that the trial judge properly applied the standard and found that the designer of the TBM took into account all foreseeable risks.

In summary, once the insured had proved the loss, the onus shifted to the insurer to establish, on a balance of probabilities, that the loss came within the exclusion. The majority concluded that the design of the TBM was faulty within the meaning of the Policy. However, these questions remain:

- (a) If the standard is that found in *Foundation* and *Algonquin*, that is, that all foreseeable risks must be taken into account by the designer, is that standard altered to a higher results-focused standard by the substitution of the word "accommodated" for "taken into account"?
- (b) Should the fact that the failure mechanism of the TBM was unforeseeable (i.e. a combination of factors) influence or contribute to the determination of the controlling issue, that is, the foreseeability of the type of risk of failure of the TBM that actually materialized (excess differential deflection)?
- (c) In what circumstances, if any, will the Court apply the less onerous negligence standard (i.e. reasonably foreseeable risk) in determining whether a design was "faulty or defective"?
- (d) How much weight should be given by the Court to the second part of the test, namely, the comparison of the design to some

standard? If, as noted by Wilson, J., the prevailing industry standard was not determinative of the issue, what standard should the Court use? Lang, J.A. described the analysis as one that considered the human component of the design, and the designers' anticipation of the risks.

- (e) Are the modifications made to the damaged property after the breakdown relevant to the issue of foreseeability of the design prior to the breakdown?
- (f) Does failure from external causes (*Foundation's* cofferdam failure) create a different standard of foreseeability than failure from internal causes (CNR's TBM excess differential deflection)?